

# National Institute of Health Sciences Research Bulletin

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# Glycaemic Control Improves after Continuous Subcutaneous Insulin Infusion Therapy - Results from an Irish Regional Centre for Paediatric Type 1 Diabetes Mellitus

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## INTRODUCTION

The use of continuous subcutaneous insulin infusion therapy (CSII) in the management of paediatric patients with type 1 diabetes mellitus (T1DM) has increased substantially in the last decades, and has been shown to contribute to improved glycaemic control particularly in younger age groups.

## OBJECTIVES

The aim of this study was to evaluate glycaemic control in a population of patients two years after commencing CSII, compared to their pre-CSII glycaemic control.

## METHODOLOGY

Retrospective study of prospectively collected data, including 45 eligible paediatric patients with T1DM commenced on CSII during the study period. Pre and post CSII factors compared included glycosylated haemoglobin (HbA1c), body mass index, insulin dose and severe hypoglycaemic episodes. Parameters were compared in the 6 months prior to CSII to two years post CSII, with data collected in 6 month blocks. Complete data were available on 34/45 patients (13 male, 21 female).

## RESULTS

Mean HbA1c 6months pre-CSII  $8.66 \pm 0.94\%$  (71mmol/mol), compared to  $7.66 \pm 0.64\%$  (60.2mmol/mol) within 6 months post CSII ( $p < 0.001$ ).  $7.86 \pm 0.95\%$  (62.4mmol/mol) at 7 to 12 months ( $p = 0.001$ ),  $7.800 \pm 0.77\%$  (61.7mmol/mol) at 13 to 18 months CSII ( $p = 0.002$ ),  $7.87 \pm 0.78\%$  (63mmol/mol) at 19 to 24 months CSII ( $p = 0.001$ ).

When gender, age, time since diagnosis and time on pump are added as factors and covariates to the repeated measures model the trend became non-significant and age appears to have a significant influence on the values ( $p = 0.03$ ). Time since diagnosis ( $p = 0.061$ , almost significant) and gender ( $p = 0.096$ , almost significant) appear to be having an effect on the values seen. For BMI after adjustment for multiple comparisons only the difference between the 0-6m pre-distribution and the 13-18 m post-distribution was significant ( $p = 0.024$ ).

## CONCLUSION

The use of CSII has significant overall improvement within the first 2 years with a trend of quick reduction in the first 6 months, then transient increase followed by slow reduction over the second year. The reduction of HbA1c following CSII is influenced by age, gender and time since diagnosis. No effect on BMI seen in the first year after CSII.

## Approach to Hyponatraemia in a Hospital Inpatient Cohort

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### INTRODUCTION

Hyponatraemia is the most common disorder of body fluid and electrolyte balance encountered in clinical practice. It can lead to a wide spectrum of clinical symptoms, from subtle to severe or even life-threatening, and is associated with increased mortality, morbidity, and length of hospital stay in patients presenting with a range of conditions.

### OBJECTIVE

The primary aim of this project was to establish if variation in practice exists in terms of investigation and management of patients with hyponatraemia. A second aim was to develop local guidance for the investigation and management of hyponatraemia if variation in practice is established. The standard for hyponatremia management was based on the Clinical Practice Guideline for the diagnosis and treatment of hyponatraemia.<sup>1</sup>

### METHODOLOGY

This was a retrospective audit (January 1st, 2017 to December 31st, 2017). Inpatients under the care of a hospital medical team were included in the study. Inclusion criteria; Patients with at least one serum Sodium result <128 mmol/L. Data was collected from the Laboratory Information System and review of patient charts. The following key areas of patient investigation and management were evaluated:-

- Was hyponatraemia documented in the patient problem list?
- Was the volume status of the patient assessed?
- Was serum/urine osmolality and urine sodium measurement performed?
- Was hyponatraemia and its ongoing plan of management included in the patient's discharge summary?

### RESULTS

Hyponatremia assessment and evaluation is often incomplete. Of the 25 patients who had Sodium < 128 mEq/L only five had the volume status documented. Although in about 15 patients the hyponatremia was mentioned on the problem list, urine and plasma osmolality (as initial work up) was checked in 11 patients only (44%). Strikingly, hyponatremia was not documented in most of the discharge summaries and it was documented in only 24% of the charts reviewed. Given the above results we prepared a document to aid NCHDs in the management of patients with hyponatremia as below;

**Table 1- Checklist for the Management of Hyponatremia for NCHDs**

Any symptoms of acute or severe hyponatraemia?	
Volume status identified (hypo-, hyper- or euvolaemic)?	
Hyponatraemia added to the patient problem list?	
Serum Osmolality requested?	
Urine Na and Osmolality requested?	
Comorbidities contributing to hyponatraemia checked	
AKI/CKD checked?	
Is patient on diuretics?	
Determine whether further testing is required to identify the cause of hyponatremia (SIADH, Hypothyroidism, Addison's, etc.)	
Hyponatraemia documented in discharge summary?	

### CONCLUSION

Incorrect evaluation and management may be associated with prolonged inpatient stay and increased readmission rates in an already vulnerable group of patients with a high background mortality risk. This audit has shown that the assessment and management of patients with hyponatremia is often incomplete. By producing and implementing our checklist for hyponatremia we hope to improve the investigation and management of patients in our unit. We aim to re-audit in six months time to assess the impact of this checklist.

### REFERENCES

Available on request.



## Pulmonary Rehabilitation in Primary Care and Secondary Care, Does the Setting Impact on Outcome?

Ward, M.

Physiotherapy,  
Respiratory  
Integrated Care,  
Sligo/Leitrim

### INTRODUCTION

Pulmonary Rehabilitation (PR) is widely accepted as the cornerstone of Chronic Obstructive Pulmonary Disease (COPD) management, and has been shown to improve exercise capacity, health-related quality of life and reduce breathlessness, fatigue and healthcare utilisation.<sup>1</sup>

To date PR in Ireland has generally been carried out in secondary care. Respiratory Integrated Care (RIC) physiotherapists have been employed through the COPD Clinical Care Programme to deliver PR in primary care.

### OBJECTIVE

The main aim of this study was to retrospectively analyse patients' outcomes after completing PR in the hospital setting and two different community settings.

### METHODOLOGY

Statistical analysis was carried out to compare baseline characteristics between the three groups and to analyse outcomes between the three groups. There were 16 patients in the hospital group and there were 19 patients in each of the community groups.

### RESULTS

Retrospective analysis was carried out on the outcomes of patients in PR in the hospital setting and two community settings, one near the hospital and another setting 55km away. Baseline characteristics between the three groups were similar, mean age was 68, 67, 68 and gender  $p=0.37$ .

There was no statistically significant difference between the three groups for mean clinical important difference (MCID) for the six minute walk test, the COPD Assessment Tool (CAT) or the anxiety subscore of the Hospital Anxiety and Depression Scale (HADS). The hospital group had a statistically significant improvement over one of the community groups as regards improvement in the MCID in the depression subscore of the HADS,  $p=0.0226$  but not over the other community group  $p=0.069$ .

### CONCLUSION

Community based PR is feasible and achieves similar improvements in outcome compared to PR in hospital settings as demonstrated in this retrospective analysis. The groups were very small. Thus, the results should be viewed with caution, particularly the statistically significant difference for improvement in depression between the hospital group and one of the community groups. Feedback via patient experience questionnaires favoured the community setting as having easier access facilities.

### REFERENCES

Available on request.

## Respiratory Integrated Care - Pulmonary Rehabilitation in the Community Setting

Ward, M.,<sup>1</sup>  
 Baily-Scanlan, C.,<sup>2</sup>  
 Deering, B.,<sup>3</sup>  
 Cooper, T.,<sup>4</sup>  
 Davis, P.,<sup>5</sup>  
 Fitzgibbon, B.,<sup>6</sup>  
 Nic Dhonncha, E.,<sup>7</sup>  
 O'Riley, M.,<sup>8</sup>  
 Sorohan, M.,<sup>9</sup>  
 Tansey J.,<sup>10</sup>  
 Ward E.<sup>9</sup>

Respiratory  
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 Sligo/Leitrim<sup>1</sup>  
 Tallaght, Dublin 24<sup>2</sup>  
 Dublin 8<sup>3</sup>  
 Donegal<sup>4</sup>  
 Dublin  
 South/Wicklow<sup>5</sup>  
 Carlow/Kilkenny<sup>6</sup>  
 Galway<sup>7</sup>  
 Wexford<sup>8</sup>  
 Dublin North West<sup>9</sup>  
 Mayo<sup>10</sup>

### INTRODUCTION

Pulmonary Rehabilitation (PR) is proven to be clinically effective and is one of the most cost-effective and high value treatment options available for Chronic Obstructive Pulmonary Disorder (COPD), reducing both the number of bed days and hospital admissions.<sup>1</sup> PR has been demonstrated to improve exercise capacity, health-related quality of life and decrease breathlessness.

Nine Senior Physiotherapists commenced employment in Respiratory Integrated Care (RIC) from April 2016 and June 2017 across nine sites nationally. Their main aim is to deliver PR in a community setting.

### OBJECTIVE

The main aim of this study was to retrospectively reflect on the data that the RIC Senior Physiotherapists have been collecting for the National Clinical Care Programme for COPD.

### METHODOLOGY

A questionnaire looking at various aspects of the RIC Pulmonary Rehabilitation Service was distributed to each site. The following overview is presented on the roll-out of programmes.

### RESULTS

A total of 1,448 patients have been referred to the service up to June 2018. Fifty four per cent (n=778) have been enrolled onto one of the 79 PR programmes delivered across 18 different venues nationally. Eight per cent (n=119) of patients were assessed and deemed not suitable for PR. The main reasons highlighted were lack of transport, musculoskeletal co-morbidities including poor mobility and medical co-morbidities.

There was a 75% (n=581) completion rate. Of those who completed PR, 56% achieved Mean Clinical Important Difference (MCID) on their exercise capacity test; 52% had a MCID in the COPD Assessment Tool (CAT); 42% had a MCID in the anxiety subscore in the Hospital Anxiety and Depression Scale (HADS) and 48% had a MCID in the depression subscore in the HADS.

The 25% dropout is relatively low in comparison to previous audits completed in the UK-38% and Scotland 55%.<sup>2</sup> The most common reasons for dropping out included; lack of transport, COPD exacerbation/patient acutely unwell or some patients had no interest in the PR programme once enrolled.

### CONCLUSION

RIC is delivering PR in the community setting and in some cases a sizeable distance away from acute/secondary care and in closer proximity to patients' homes. This perhaps may be one of the factors for the higher completion rates for RIC PR. The main findings of this retrospective review have found much higher PR completion rates of 75% in comparison to recent audits completed in the UK-62% completion rate and Scotland-45% completion rate.<sup>2</sup> Transport continues to be the main barrier preventing patients from attending a PR programme particularly in rural areas.

### REFERENCES

Available on request.

# The Iodine Status of Pregnant Women Attending Cork University Maternity Hospital

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Maternity  
Hospital

## INTRODUCTION

Iodine is an essential mineral used to produce thyroid hormones which are vital for neurological development in the foetus during pregnancy. Sufficient iodine intake in women of childbearing age and pregnancy is important because recent evidence suggests that even mild-to-moderate deficiency is associated with cognitive and neurodevelopmental impairment in the offspring. Concern has been expressed about iodine intake in pregnancy and there is sparse data on the iodine status of pregnant women in Ireland. The iodine status of pregnant women in Cork has never been investigated.

## OBJECTIVE

To determine the iodine status of a cohort of pregnant women attending Cork University Maternity Hospital (CUMH) and to relate this status to age, diet and the use of nutritional supplements.

## METHODOLOGY

One hundred pregnant women attending CUMH for their booking visit or first ultrasound scan were recruited to this cross-sectional study in summer 2016. Each participant provided a spot urine sample for the measurement of urinary iodine concentration (UIC) and creatinine concentration. Each participant also completed basic demographic information and a Food Frequency Questionnaire.

## RESULTS

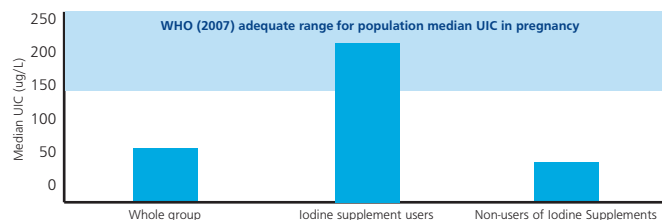
Fifty per cent of participants had a UIC below the limit of detection of 20µg/L. The remaining 50% had a median UIC of 69.30µg/L signifying that the group was iodine deficient as per World Health Organisation guidelines. UIC was significantly higher in those taking an iodine-containing supplement (n=29, p<0.001). Milk and egg intake were also found to be positively associated with UIC (p=0.028 and p=0.047 respectively).

Table 2 - Iodine:Creatinine Ratio According to Maternal Diet, n=50

	n (%)	median (IQR)	p-value
Use of iodine-containing supplement			
Yes	29 (58.0)	208.8 (86.5 to 277.0)	<0.001 <sup>a</sup>
No	21 (42.0)	51.0 (34.8 to 92.4)	
Daily milk intake			0.028 <sup>b,c</sup>
<140 ml	18 (36.0)	49.5 (32.7 to 174.2)	
140-280 ml	13 (26.0)	114.9 (51.9 to 203.1)	
>280 ml	19 (38.0)	133.0 (81.5 to 228.7)	
Weekly egg intake			0.018 <sup>b,d</sup>
<2	12 (24.0)	74.4 (41.5 to 110.3)	
2-3	19 (38.0)	81.5 (43.0 to 117.8)	
>3	19 (38.0)	217.3 (61.5 to 340.9)	

<sup>a</sup>from Mann-Whitney U test; <sup>b</sup>from Kruskal-Wallis test; <sup>c</sup><140ml and >280 groups significantly different; <sup>d</sup><2 and >3 groups significantly different

Figure 4 - Iodine Status by the Use of Iodine-Containing Supplements



## CONCLUSION

These findings are a public health concern and suggest that a national investigation of iodine status in pregnancy is warranted to properly inform antenatal advice on iodine intake.

## PRESENTED

As an oral presentation at the Atlantic Corridor Medical Student Research Conference in University College Cork on November 3rd, 2017 by Mr. Gerard Finn.

## FUNDING

This research was funded by a Health Research Board Summer Scholarship.

## Cardiac Rehabilitation - Are Age-Related Needs being MET?

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### INTRODUCTION

The benefit of cardiac patients participating in a cardiac rehabilitation (CR) programme is well established. Available research studying the comparative outcomes of an older population attending CR to a younger cohort does not examine the age-related differences in an Irish context. This was deemed to be an area worth further examination in light of the ageing local population.

### OBJECTIVE

The aim of this study was to compare measurable outcomes before and after participation in a phase III CR programme in Roscommon University Hospital (RUH) between patients aged  $\leq 60$  years and patients aged  $\geq 75$  years.

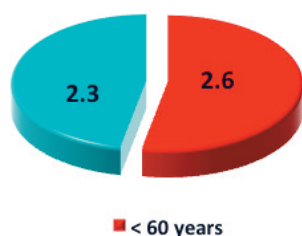
### METHODOLOGY

This was a single centre, retrospective, quantitative study of 172 patients' data comparing functional capacity and psychological scores at baseline and at discharge from an 8 week CR programme over a 5 year period (2012 to 2016). Patients were divided into two age groups,  $\leq 60$  years (n=111) versus  $\geq 75$  years (n=61).

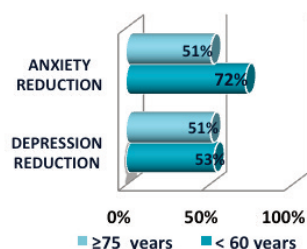
### RESULTS

- Functional capacity measured by Metabolic Equivalent of Tasks METs reached at peak exercise during a symptom-limited stress test and calculated from treadmill workload. The improvement in estimated peak metabolic equivalents was similar in both groups. MET is defined as a measurement to quantify the energy cost of activity. METs are used to describe the aerobic power or functional capacity of an individual. One MET is the resting metabolic rate – the amount of oxygen used at rest, 2 METs requires twice the metabolism, 3 METs three times the metabolism and so forth<sup>1</sup>
- 88% of the  $\leq 60$  year age group increased their METs level with an average 2.45 METs
- 90.6% of the  $\geq 75$  year age group increased their METs level, with an average increase of 2.3 METs
- A validated Hospital Anxiety and Depression Scale (HADS) was used to measure reported Anxiety and Depression Scores. Anxiety and depression Scores reduced in both cohorts – reductions were similar
- Anxiety Score reduced in 72.2% of  $\leq 60$  year age group and in 51.6% of those aged  $\geq 75$  years
- Depression Scores reduced in 53.4% in the  $\leq 60$  year age group and 51.55% in the  $\geq 75$  year age group
- Slightly higher reduction in Anxiety in under 60's and higher reduction in Depression Scores in over 75's
- Statistical analysis using an unpaired t-test found no statistical difference between improvements in both groups

MET Increase Achieved Post-CR



Reduction in Reported Anxiety and Depression on HADs Post-CR



### CONCLUSION

This study confirms previous findings and expands that knowledge within an Irish context. The older cohort studied benefited to almost the same degree as the younger cohort in both functional and psychological outcomes. This issue requires further consideration to ensure all age groups gain the most from CR participation.

### PRESENTED

- As a poster presentation at the Irish Association of Cardiac Rehabilitation (IACR) Annual Conference in Palmerstown House, Dublin on February 17th, 2018.
- As a poster presentation at the National Haemovigilance Office Conference in Dublin on October 24th, 2018. (Winner of Poster Competition).





# A Review of Monitoring and Awareness of Transfusion Associated Circulatory Overload Reactions in a Busy Acute Hospital

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## INTRODUCTION

A Transfusion Associated Circulatory Overload (TACO) transfusion reaction is characterised by the development of acute pulmonary oedema secondary to congestive heart failure as a result of a transfusion.<sup>1</sup>

At Hospital Transfusion Committee level, a TACO checklist was suggested to be added to the Blood Administration and Prescription Record as it has been recommended by the most recent Serious Hazards of Transfusion (SHOT) report.<sup>2</sup> Prior to the addition of a TACO checklist it was suggested to perform a TACO audit. The scope of this audit was to retrospectively review for any evidence of TACO for at least 20 transfusions and to confirm that patients are monitored during transfusions. In addition, the level of awareness among clinical area staff to recognise TACO reactions and understanding of their significance was assessed.

## METHODOLOGY

A total of 20 blood components (including red cells and platelets) which were transfused to individuals who were considered at high risk of TACO due to their clinical histories, such as patients with low weight, cardiac failure, renal disease or respiratory issues were audited. This included transfusions in disciplines such as Haematology, Respiratory, Infectious Diseases, Orthopaedics, General, Cardiology, Oncology and Urology.

Using an audit template, patient records were reviewed to confirm appropriate monitoring and documentation of relevant data pertaining to TACO transfusion reactions such as: reason for transfusion, patient weight, patient history, use of diuretics, fluid balance monitoring, patient transfusion rates and observations prior to, during and post-transfusions.

A brief anonymised questionnaire was sent to 20 nurses across these clinical areas to assess their broad knowledge and awareness of the significance of TACOs.

## RESULTS

Overall the audit findings indicate that patients were well monitored throughout transfusions. There was no evidence of TACO symptoms detected in the transfusions reviewed such as acute respiratory distress, tachycardia, increased blood pressure and fluid balance charts were well monitored.

However, it could not be determined from a review of patient records if the clinical staff monitoring patients during the transfusions were aware of the significance of a TACO.

Of 20 nurses surveyed, 65% were unaware that TACO is the highest cause of morbidity with regard to transfusion.

Eighty five per cent of nurses confirmed they would find a TACO checklist useful in the Blood Administration and Prescription Record.

## CONCLUSION

While patients are well monitored by clinical area staff during transfusions, a pre-transfusion TACO checklist would prove beneficial for clinical staff and should be implemented.

Findings suggest that there is a training need for clinical area staff in the recognition and management of TACOs. Haemovigilance staff should adjust training plans accordingly to ensure greater awareness among clinical area staff to better understand the significance and recognition of TACOs.

## REFERENCES

Available on request.

## PRESENTED

- As a poster presentation at the Biomedica Conference in the RDS, Dublin on April 25th, 2018.
- As a poster presentation at the National Haemovigilance Office Conference in Dublin on October 24th, 2018. (Winner of Poster Competition).



## A Collection of Impact Data from the End PJ Paralysis Campaign from St. Luke's General Hospital, Carlow-Kilkenny, April-June 2018

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### INTRODUCTION

#end pj paralysis is a simple concept. If people stay in their pyjamas longer than they need to, they have a higher risk of loss of mobility, fitness and strength and will ultimately stay in hospital longer. If we can help patients to get back to their normal routine as quickly as possible, including getting up and out of bed, this will mean a quicker recovery. It started as a tweet from Professor Brian Dolan and is now an international campaign supporting patients to get up, get dressed and get moving during their acute stay in hospital.

For an older person who is at threshold strength for climbing stairs at home, getting out of bed or even standing up from a toilet, even a 10% loss of strength may make the difference between dependence and independence and returning home. Deconditioning in hospitalised older patients can cause serious harm. Forty six per cent of people aged >85 die within 1 year of admission to hospital.<sup>1</sup>

It is well known that just 24 hours of bed rest reduces your muscle power by 2.9% and not just in your arms and legs, but also your heart and lungs. Professor Brian Dolan launched a 70 day challenge to commence on April 17th, 2018 and ending in line with the NHS 70 years of service celebrations on ending pj paralysis across the UK.

Subsequently we launched our own movement in St. Luke's in line with this to share impact with data and compare to the UK hospitals. As TILDA have reported 24% of the Irish older population aged 65 and over are frail, we decided to turn this campaign into a movement in St. Luke's and incorporate all age groups, specialities and wards with the exclusion of high dependency areas only (ICU, CCU).

### OBJECTIVES

The purpose of the #endpjparalysis movement:-

- To increase awareness of the harm and risks associated with staying in bed unnecessarily for long periods of an acute stay
- To reduce the length of stay of admitted patients
- To improve patient experience throughout their journey through the acute sector
- To enable patients to be involved productively in their own rehabilitation process
- To reduce risks of pressure ulcers and falls from deconditioning
- To analyse the data collected from the 70 day collection period, compare the impact from the previous 2 years and utilise it to spread the movement out of the acute sector and integrate it with community services
- To educate and influence healthcare staff to adopt a home first attitude with patients at the point of admission.

### METHODOLOGY

Members of higher executive management of the hospital were informed about the concept of the movement and the facts associated with the deconditioning side of people staying in their pyjamas in hospital for lengthy periods, offering a solution to falls, pressure sores and long bed days used. Nursing managers were approached at their monthly meeting to showcase the campaign and get them on board. A generic email was used to reach out to the wider staff of the hospital to include everybody in the process and offer a chance for people to share ideas.

The people up and dressed at noon for the first week were manually counted to show the staff how easy the process was. They were then supplied with a manual data collection poster for display on the wards for patients, staff and carers to see. A student and department administrative assistant were involved in assisting with the manual count at noon every day to ensure there was no missed data due to staff shortages and busy periods on the various wards. A prize for the overall best ward result was given based on the amount of beds in each area. This gave the concept of competition between areas and encouraged people to push the movement further which in turn had a good effect once the wards were emailed results on a weekly basis. A pyjama day was organised for the launch by presenting at grand rounds, nurse managers meeting and Health and Social Care Professionals' (SCP's) CPD days.

An information board was created in the lead up to the campaign to highlight the rationale for participating in the movement, the facts, the benefits and the future developments. This was updated weekly with results and findings of the data collection. The overall result was fun and creative with pictures of pyjamas and a Zimmer frame to attract the public to investigate the board further. Pledge cards were supplied for staff, patients and carers to fill in and put on the board and the Minister for Health Simon Harris was asked to pledge his support on a hospital visit in front of the board with the Zimmer.



The whole process was tweeted, tagging the hospital, founders of the campaign and created a social media window for the hospital to be recognised which has further helped other sites to participate and engage in the movement.

### RESULTS

- 46% of patients were dressed (increase of 19% from previous audit) and 54% up and moving (increase of 17% from previous audit) throughout the 70 days
- 7% reduction in length of stay for the over 85 year old population
- 64% reduction in hospital acquired pressure ulcers
- 20% reduction in falls, 50% of those from the surgical department alone
- Increase in discharges home, rehabilitation beds and transfers to other hospitals to deliver the right treatment in the right place
- Decrease in new long-term care transfers
- Decrease in overall readmissions under 30 days by 2%
- Identified areas of improvement within the hospital for further development
- Community outreach - GP surgery information, maternity and antenatal clinic information, scheduled surgery information with appointment cards, nursing home outreach information and guidance for admission to acute, presentation at agricultural shows in the community to highlight pre-admission, leaflet and posters for inpatient education.

### CONCLUSION

There was a significant increase in numbers from St. Luke's Hospital, Kilkenny due to making this concept a hospital-wide movement, instead of a focal point for one area or age category. It is in everybody's best interest to be up, dressed and moving.

# A Profile of the Impact of Arthritis on Sexual Activity and Relationships in Service Users Attending a Rheumatology Service

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## INTRODUCTION

Arthritis is recognised as having potential to disrupt participation and engagement. Limited research on impacts of arthritis on sexual activity and relationships exists, and no Irish research was identified.

## OBJECTIVES

This scoping study aimed to explore patients' perceptions of effects of arthritis on their sexual relationship and sexual activity; to establish causes of any difficulties; to identify perceived persons of support with these difficulties.

## METHODOLOGY

A self-report questionnaire was distributed to a random sample comprising return patients attending a rheumatology clinic over a consecutive four week period (May-June 2018). Eighty patients received an invitation to participate, self-report questionnaire and stamped-addressed envelope.

## RESULTS

Fourteen questionnaires were returned (response rate 17.5%), comprising 4 males and 10 females with an age range of 34-80 years. Conditions included inflammatory arthritis (n=10), musculoskeletal conditions (n=4).

- 28.5% (n=4) perceived that arthritis put a strain on their relationship
- 50% (n=7) reported arthritis altered their sexual relationship with qualitative data highlighting fatigue and reduced libido as contributing factors
- 50% (n=7) reported arthritis limited sexual intercourse due to mobility, pain and disinterest
- 78.5% (n=11) rated their sexual ability as important or very important

Many respondents did not discuss impacts of arthritis on sexual relationships with their partner and perceived lack of partner's understanding was reported.

Respondents were not asked about impacts of arthritis on sexual relationships by health professionals although 78.5% (n=11) would consider talking to someone about problems. Information leaflets (50%) and one-to-one appointments (57%) were identified as helpful supports.

## CONCLUSION

Findings highlight that this is a significant sensitive issue currently not addressed by rheumatology services.

## PRESENTED

As a poster presentation at the Irish Society for Rheumatology/Irish Rheumatology Health Professional Society Autumn Conference in Kildare, Naas, Co. Kildare from September 20th to 21st, 2018.

# Effect of Exercise Modality on Markers of Insulin Sensitivity and Blood Glucose Control in Pregnancies Complicated with Gestational Diabetes Mellitus - A Systematic Review

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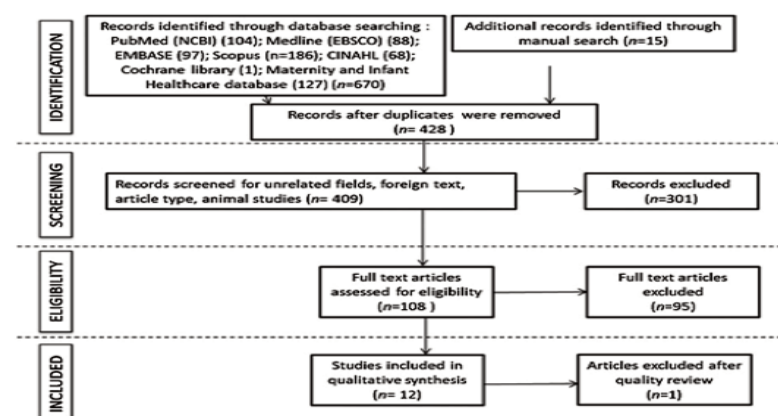
## ABSTRACT

Exercise can be used as a strategy to attenuate hyperglycaemia experienced during gestational diabetes mellitus (GDM). To maximise its use for clinical management, the most effective modality should be identified.

The purpose of this review is to elucidate the most effective modality of exercise on insulin sensitivity and blood glucose control in pregnant women with or at risk of GDM.

A search was undertaken in MEDLINE, PubMed, Scopus, CINAHL, the Cochrane Library, Embase and the Maternity & Infant Healthcare Database. Studies that met inclusion criteria were randomised controlled trials and case-controlled studies, which compared exercise interventions with standard care during pregnancy in women with, or at risk of, GDM.

**Figure 1 – PRISMA Showing Inclusion/Exclusion of Journal Articles Throughout Screening Procedures**



Two interventions using resistance training, eight using aerobic exercise and two using a combination of both modalities were included. The interventions showed consistently that requirements of insulin therapy, dosage, and latency to administration were improved in the exercise groups. Less consistent results were observed for capillary blood glucose measurements; however, both modalities and combination of modalities were effective at improving blood glucose control in already diagnosed patients and pregnant women with obesity. Discrepancies in the timing of intervention, GDM diagnostic criteria, and the different measures used to assess glucose metabolism make it difficult to draw clear recommendations.

Exercising three times per week for 40–60 minutes at 65–75% age-predicted heart rate maximum using cycling, walking or circuit training as a modality improved glycaemic control in GDM patients and reduced incidence of GDM in pregnant women with obesity. Further studies looking specifically at the effects of different modalities of exercise on glucose metabolism with combined strategies to enhance insulin sensitivity should be explored to maximize benefits for GDM pregnancies. Consistency in design and delivery of exercise-only interventions is required to make recommendations on a suitable exercise prescription in this population. In practice, adherence to consensus in diagnostic cut-offs for GDM diagnosis is fundamental for standardising future research.

## PRESENTED

As a poster presentation at DIP2017-The 9th International Symposium on Diabetes, Hypertension Metabolic Syndrome and Pregnancy, in Barcelona, Spain from March 8th to 12th, 2017.

## FUNDING

This research project was supported by the University of Limerick through an Education and Health Sciences Faculty Postgraduate Dean’s Scholarship, Graduate Entry Medical School Strategic Research Fund and Health Research Institute seed funding from the University of Limerick.

## SOURCE

Available at <https://onlinelibrary.wiley.com/doi/full/10.1002/osp4.283>



## The Association between Sensitisation to House Dust Mite and Food Allergy in Infants with Moderate to Severe Atopic Dermatitis

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### ABSTRACT

Early onset, severe atopic dermatitis (AD) is a recognised risk factor for food sensitisation and food allergy. However, not all infants with AD develop the same profile of food allergy. House Dust Mite (HDM) is known to stimulate both innate and adaptive responses promoting inflammation and barrier dysfunction. Early sensitisation to HDM is associated with development of asthma. We hypothesised that HDM sensitisation amplifies the development of food allergy in an already at risk population.

This aim of this study was to examine the effect of HDM sensitisation on food sensitisation profiles and the development of food allergy in infants with early onset AD.

This study was a retrospective, case-controlled study with age matched controls. The patient cohort was identified through laboratory records at Our Lady's Children's Hospital Crumlin. All patients with Specific Immunoglobulin E (sIgE) testing to HDM performed between 2012 and 2016 were identified. However, only patients that had attended for treatment of AD were included in the study. Relevant clinical information was gathered from patients' case notes.

The study population comprised 140 infants with moderate to severe AD aged 4 months to 2 years (13.8 months  $\pm$  5.8) of whom 59% were male and 41% were female. Onset of AD occurred before 3 months in 69% of infants and before 6 months in 93% of infants. No difference in either time of onset of AD or severity, as measured by SCORAD, was identified between the HDM sensitised and HDM non-sensitised populations. Seventy eight percent of the total population were food sensitised. Sensitisation to peanut, wheat and soy was significantly higher in the HDM sensitised cohort. An association between sensitisation to 2 or more foods and HDM sensitisation was demonstrated (OR 2.28,  $p=0.017$ ). Fifty six percent of the total population had a history of an allergic reaction to food. Infants with HDM sensitisation were more likely to have food allergy (OR 3.11,  $p=0.001$ ). Furthermore, the number of clinically diagnosed food allergies/per child was also increased. A significantly greater number of HDM sensitised patients (39 versus 23) had a history consistent with an allergic reaction to egg ( $p=0.006$ ).

HDM sensitisation in infants with moderate to severe AD is independently associated with a risk of food sensitisation and food allergy. Early HDM sensitisation may be a useful biomarker of infants to prioritise for early introduction of food allergens in order to prevent development of food allergy.

### PRESENTED

As an e-poster oral presentation at the Paediatric Asthma and Allergy Meeting (PAAM) of the European Academy of Allergy and Clinical Immunology (EAACI) London on October 27th, 2017 by Siobhán Pyper.

### SOURCE

Abstract only published in Clinical and Translational Allergy 2018, 8 (Suppl 2):D47.



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## Implementation of Targeted Routine Antenatal anti-D Prophylaxis by Foetal Genotyping - The First Irish Laboratory Experience

### INTRODUCTION

Between 1940 and the early 1960s, not only were the aetiology and immunological pathogenesis of Haemolytic Disease of the Foetus and Newborn (HDFN) elucidated,<sup>1</sup> a therapy was identified and prophylaxis introduced.<sup>2,3</sup> This represents one of the greatest successes in modern medicine.

Rhesus negative women carrying a Rhesus positive foetus may produce anti-D as a result of a foetal maternal haemorrhage and ultimately HDFN. In the UK in 1953, 1 in 2,180 babies died due to HDFN. In 1990, the figure had dropped to 1 in 62,500. This reduction was mainly due to Rhesus negative mothers receiving anti-D at birth if the baby was Rhesus positive. Further reductions in the incidence of HDFN were due to giving anti-D for potential sensitising events (PSEs) and the introduction of Routine Antenatal anti-D Prophylaxis (RAADP). RAADP is in operation in Ireland.

Currently, all Rhesus negative women at 28-32 weeks gestation receive anti-D prophylactically in Ireland. When it came to roll out a RAADP service to antenatal women in Portiuncula University Hospital (PUH), it was decided to roll out a targeted RAADP service, since up to 40% of Rhesus negative women carry a Rhesus negative foetus and do not require anti-D. A targeted RAADP programme would avoid unnecessary administration of anti-D. A year review was carried out to assess savings in cost and anti-D administered, accuracy of cell free foetal DNA (cffDNA) testing, appropriate requesting of anti-D and RAADP compliance.

### METHODOLOGY

A prospective study was carried out by the laboratory on all testing: ABO/Rhesus blood group, antibody screen, Acid Elution and cffDNA. Patient results were entered into the Laboratory Information Management System, anti-D requests, testing anomalies and transport costs were recorded. Data was collected for the period, June 30th, 2017 to June 29th, 2018.

### RESULTS

A total of 273 women were Rhesus negative, 168 (61.5%) carried a Rhesus positive foetus, 105 (38.5%) carried a Rhesus negative foetus. Table 1 shows the comparison for a targeted RAADP programme vs a RAADP programme; 406 doses of anti-D were administered in the targeted RAADP programme. If the RAADP programme was in operation, 557 would have been used.

**Table 1 - Running Costs for the Targeted RAADP Programme vs a RAADP Programme**

Targeted RAADP	Cost (€)	RAADP	Cost (€)
273 cffDNA Tests	6,896	Nil	
Inconclusive/Not Tested	420	Nil	
Transport/Courier	1,992	Nil	
168 TRAADP anti-D doses	12,138	273 doses of anti-D (RAADP)	19,724
168 anti-D doses at birth	12,138	168 doses of anti-D at birth	12,138
70 anti-D - PSEs	5,057	116 anti-D - PSEs	8,381
226 Acid Elution Tests	3,792	361 Acid Elution Tests	6,057
<b>Total</b>	<b>42,433</b>	<b>Total</b>	<b>46,300</b>

There was 100% compliance between cffDNA test results and cord blood results. Two patients received anti-D when not required (occurred in first month of study). Three point two per cent of cffDNA tests were inconclusive due to mother's sample <11<sup>+2</sup> weeks gestation, incomplete labelling, or EDD not performed by a scan. One patient did not receive her RAADP dose (possibly due to moving residence).

**CONCLUSION**

Comparing our targeted RAADP programme to a non-targeted programme; we have shown a real decrease in the number of anti-D injections given, 151 doses and a modest cost saving (€3,867). cffDNA testing was 100% accurate. A targeted RAADP programme allows the use of anti-D in a more precise and indicated way. This programme is almost two years running in PUH, has many benefits in particular to patients, is adaptable and could be implemented on a national scale.

**REFERENCES**

Available on request.

**PRESENTED**

As an oral presentation at Biomedica 2018 at the RDS, Dublin on April 25th, 2018 by Mr. Leo Mulvany.





## Audit of Post-Mortem Quality for Foetuses under 50g Confirms Value of Investigations at Extremes of Foetal Size

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### INTRODUCTION

The value of pregnancy loss investigations in small, macerated foetuses is sometimes questioned. To investigate, we chose to review the quality of post-mortems performed in our institution where foetuses weighed less than 50g.

### METHODOLOGY

Post-mortems on foetuses less than 50g, from spontaneous pregnancy losses, were identified from our records for the period 2014 to 2016. A modified Rushton scoring system was applied to provide a quantitative measure of quality. As per the Irish Histopathology Quality Improvement Programme, a minimum total of 310 points, out of a possible 500, was regarded as an acceptable score. Cases were also reviewed to establish if a cause of death was determined.

### RESULTS

Full or external only post-mortems were performed on 68 foetuses in that time. After excluding cases restricted to external only examinations (n=11), full post-mortems were performed on 57 foetuses weighing less than 50g. Foetal weights ranged from 6.75 to 49.54g with a mean weight of 24.52g. The mean Rushton score was 378.55 with a range of 277 to 422 points. Ninety six point five per cent of cases (n=55) met the adequacy threshold of 310 points. In the two cases that failed to meet this threshold the placenta was not available for pathological examination. A cause of death was determined in 61.4% of cases (n=35), with the remainder categorised as uncertain or unknown aetiology.

All external only examinations failed to meet the adequacy threshold; nevertheless a cause of death was determined in 9 of these 11 cases.

### CONCLUSION

This review shows that post-mortem investigations can be performed to an acceptable standard in foetuses weighing less than 50g. This would support our opinion, that the investigation of pregnancy loss through post-mortem should not be influenced by the second to third trimester threshold or categorisation as late miscarriage or stillbirth.

### PRESENTED

As a poster presentation at the International Stillbirth Alliance Conference 2017 in Cork from September 22nd to 24th, 2017 by Susan Dineen.



## Pain Assessment in Paediatric Post-Anaesthetic Care Unit

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### INTRODUCTION

Postoperative pain in children seems to be poorly treated, especially in preverbal and cognitively impaired children. Due to the subjective nature of the pain, assessment of pain is always difficult. Pain assessment is more challenging in the Post-Anaesthetic Care Unit (PACU) as patients are still under the effect of general anaesthesia and are unable to verbalise their pain. Therefore, it is essential that an appropriate pain assessment tool is used to ensure adequate pain management in this patient group. This study took place in a tertiary paediatric hospital, in which patients had a variety of surgeries including Neurosurgery, Craniofacial, Orthopaedic, General, ENT, Plastics among others. Research on this topic has been primarily conducted in the United States, but not before in Ireland. This project identified the research gap.

### OBJECTIVE

The aim of this study was to evaluate the effectiveness of the pain assessment tools used in PACU. This was done by assessing which pain assessment tools were used, which analgesia was administered as well as the patients' pain scores, age, surgery and length of stay in PACU. The findings were also compared to that of previously published research.

### METHODOLOGY

Prospective data was collected from 1,236 patients sequentially over 15 weeks, (March to June 2017). All post-operative children who had undergone elective and non-elective cases were included in this study. The age range was from 1 week to 16 years. Children with significant cognitive impairment comprised only 0.5%. Missing data was 1.6%. The different pain assessment tools used included behavioural observational tools such as the FLACC Scale, self-rated tools such as Wong-Baker FACES and Visual Analogue Scale. Pain scores were assessed on all patients on arrival to PACU and reassessed every 5 minutes. Pain scores were classified into mild, moderate and severe, and treated accordingly.

### RESULTS

One hundred and twenty six (10%) children had pain on admission to PACU. The FLACC Scale was used for 90.5% (114), Self-Rated for 8% (10) and Wong-Baker FACES for 1.5% (2). Pain scores were categorised into mild (0-3), moderate (4-6) and severe (7-10). The treatment of choice for mild pain was either NSAIDs or no analgesia and moderate pain was treated with NSAIDs/Opioids. Similarly, opioids were given for severe pain. The highest number of children, 49% had moderate pain, 43% had severe pain and 8% had mild pain in PACU. Sixty one per cent received Opioids and 28.5% were treated with NSAIDs/Opioids. The maximum number of patients who received opioids were under orthopaedic surgery, 33.3% (42). The age range was between 0 to 16 years, with 0-5 years (65%), 6-10 years (23%) and >10 years (12%). Children with significant cognitive impairment comprised only 0.5% and missing data was 1.6%. Pain scores, pre and post-analgesia were recorded for this study and demonstrated that when adequate analgesia is administered in PACU, pain score was reduced significantly. Ninety two per cent of patients had moderate to severe pain score during their stay in PACU. However, on transfer to ward, 87.3% had only mild pain.

### CONCLUSION

The Face, Legs, Activity, Cry and Consolability (FLACC) Scale is recommended as the most reliable and valid pain assessment tool for all postoperative children. Understanding the concept of pain and use of appropriate pain assessment tools is necessary to control pain. Regular pain assessment enhances the child's comfort and early recovery in PACU. The findings of this study support the effectiveness of the use of pain assessment tools, especially the FLACC Scale in the immediate postoperative period, to manage pain in children.

### PRESENTED

- As a poster presentation at the Irish Anaesthetic and Recovery Nurses' Association (IARNA) Conference in Kilkenny on September 30th, 2017 (Winner).
- As an oral presentation at the International Nurses' Day Celebrations, Temple Street Children's University Hospital on May 8th, 2018 by Ms. Betsy Antony.

### FUNDING

This research has received funding from Temple Street Children's University Hospital.

# Physical Function Performance and Recovery of Patients Undergoing Abdominal Surgery in Relation to Postoperative Complications - A Prospective Real World Study

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## INTRODUCTION

Complications are associated with significant costs in terms of morbidity, finance, psychological effects and impact on recovery. Many risk factors have been identified relating to surgical complications, however no single measure has been identified to predict complications in an abdominal surgery population, particularly in relation to physical function.

## OBJECTIVE

The primary aim of this study was to evaluate the physical function performance differences between those who develop complications, and those who do not, and determine their impact on recovery.

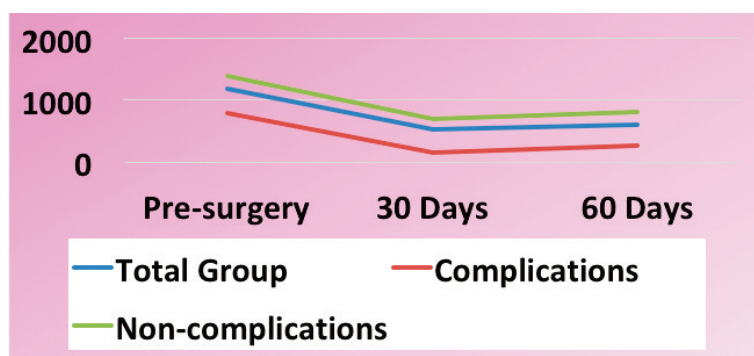
## METHODOLOGY

Forty nine participants were recruited via the pre-operative assessment unit in University Hospital Limerick. Data was collected relating to demographics, physical function, lung function, surgical parameters and recovery. Of the 49 participants, only 43 went on to have surgery.

## RESULTS

Complication rate was 48.84% overall (n=21), 41.9% (n=18) pre-discharge, 30.2% (n=13) at 30 days and 21% (n=9) at 60 days. Obesity (P=0.005\*), longer operating time (P=0.05\*), >2 co-morbidities (P=0.033\*), low activity levels (P=0.020\*), low VO<sub>2</sub>Peak (P=0.017\*) and lower 6 minute walk distance (P=0.019\*) were statistically different between groups. Complication led to increased length of stay from 8.5 hours to 2 nights (P<0.001\*). Activity levels reduced regardless of complications and did not return to baseline levels by 60 days post-surgery (P<0.001\*) See Figure 1. Complications increased sedentary time from a median of 5 to 7.5 hours daily (P=0.007\*). Groups reported almost 100% physical recovery at 60 days without complications and 75% with.

Figure 1 - Weekly MET Minutes - All Time Points



## CONCLUSION

These results show significant potentially modifiable differences between people who develop postoperative complications and those who don't. Physical activity levels remain significantly reduced for all who undergo abdominal surgery at 60 days and may lead to future medical diseases and complications if not addressed.

## REFERENCES

Available on request.

## PRESENTED

As a poster presentation at the Congress of Anaesthesia in Dublin Castle from May 24th to 25th, 2018.



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## Partial Nephrectomy for Renal Cell Carcinoma - Recurrence and Confirmation - Is Biopsy Essential?

### INTRODUCTION

Recurrence rates following curative treatment for Renal Cell Carcinoma (RCC) is 20-30%.<sup>1</sup> Therefore, postoperative surveillance is of utmost importance to ensure early detection of recurrences and improve patient survival.

### METHODOLOGY

A case study was conducted of three patients in University Hospital Limerick who had a partial nephrectomy for RCC. Postoperative surveillance imaging demonstrated a suspicious lesion for which a radical nephrectomy was performed as per multidisciplinary team guidance.

### RESULTS

Of these three patients who had a completion nephrectomy, none had disease recurrence on pathological examination.

### CONCLUSION

Positron Emission Tomography-Computed Tomography (PET-CT) may be of benefit in determining whether these suspicious lesions are local recurrence versus postoperative changes.



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## The Natural History of Acute Epididymoorchitis - The Fate of the Testes

### INTRODUCTION

The fate of the testes in acute epididymoorchitis (EO) is unknown. A review of patients with EO was undertaken to determine this.

### METHODOLOGY

A retrospective analysis was conducted of patients admitted with a clinical diagnosis of acute EO from 2012 to 2016.

### RESULTS

One hundred and ninety three patients were identified through HIPE with a diagnosis of EO. There was no bimodal age distribution. Ultrasound (US) was performed in 62% (119 patients). Left sided EO was more common than right, 38% (46 patients) and 26% (31 patients) respectively. Bilateral EO was present in 8% (9 patients). No abnormality was reported in 13% and 10% reported findings other than EO. Abscesses were detected in 9 patients (7%). A mid-stream urine was taken in 135 patients (70%) of which *E. coli* was the predominant organism. Fifty six per cent were sensitive to co-amoxiclav and the remainder to fluoroquinolones. One patient tested positive for Chlamydia.

To date, 82 patients have been further analysed. Eighty percent of these had localised symptoms only. Known risks for EO were seen in 45%. Ultimately, 6 patients (7%) underwent surgical intervention, 2 required an orchidectomy. Antibiotic treatment duration was recorded in 67 patients thus far, with the majority having treatment for 14 to 21 days (35 patients, 52%). Five patients were re-admitted within 6 months. One patient had testicular atrophy on follow-up (1.2%).

### CONCLUSION

The fate of the testes in EO is unknown. In this study, 7% of patients underwent surgical intervention, 2 of these resulting in orchidectomy. One patient had testicular atrophy on follow-up (1.2%).

### PRESENTED

As a poster presentation at the Irish Society of Urology Meeting 2018 in the Abbey Court Hotel, Roscommon.



## Robotic Versus Laparoscopic Adrenalectomy for Pheochromocytoma - Step by Step Technique of First Irish Experience

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### ABSTRACT

Recent evidence supports the use of minimally invasive robotic surgery for the surgical management of adrenal masses.

The aim of this research is to describe a current step by step technique of robotic adrenalectomy (RA) and to compare its outcomes with those of laparoscopic adrenalectomy (LA).

Within four years, four patients underwent LA and one RA for pheochromocytoma by the same surgeon. Data were retrospectively reviewed from a prospectively maintained database. The main steps of the current surgical technique for RA are described in the video lecture: patient positioning, port placement, and robot docking; exposure of the adrenal gland; identification and control of the adrenal vein; circumferential dissection of the adrenal gland; and specimen retrieval and closure. Demographic parameters and main surgical outcomes were assessed.

In both groups, skin to skin operative time, estimated blood loss less, and intra-operative hemodynamic parameters were similar. There was no conversion to open. There was no morbidity or mortality in either group. Operation time was longer by 20 minutes in the RA. Blood loss and length of stay were similar.

To the authors' knowledge, this is the first Irish experience comparing robotic versus laparoscopic resection of pheochromocytoma. The results show that the robotic approach is similar to the laparoscopic regarding safety and efficacy. The standardisation of each surgical step optimises the RA procedure.

### SOURCE

Mesentery Peritoneum 2018;2:AB003

doi:10.20137/map.2018.AB003



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## Robotic and Laparoscopic Partial Nephrectomy - A Matched-Pair Comparison of Single Surgeon's Irish Experience

### ABSTRACT

The objective of this research was to evaluate the relative advantages of robotically-assisted partial nephrectomy (RPN), using a matched-pair analysis, with laparoscopic partial nephrectomy (LPN) and to describe our technique in step by step approach.

Between July 2016 and October 2017, 25 patients had RPN for renal tumour; the outcomes were compared retrospectively with 25 matched patients who had LPN. Patients were matched for age, gender, American Society of Anesthesiologists (ASA) score, tumour side, size and location. Outcomes measures included operative time, estimated blood loss, warm ischaemia time, serum Creatinine before and after surgery, length of hospital stay, transfusion rate, operative and 30 day complications.

There was no significant difference between the two cohorts with respect to patient age, ASA score, preoperative serum Creatinine or tumour size. Median operative time for RPN was 180 vs. 220 minutes for LPN ( $P<0.05$ ). There was significant difference with respect to median warm ischemia time (18 vs. 25 minutes,  $P<0.05$ ), median length of hospital stay (4 vs. 6 days). Two patients in the LPN group had urine leak managed conservatively and two required blood transfusion.

RPN is more favourable than LPN in terms of shorter total operation time, warm ischemia time, shorter length of hospital stay and less complications.

### PRESENTED

As a poster presentation at the Irish Society of Urology 2018 Meeting in the Abbey Court Hotel, Roscommon.

### SOURCE

Mesentery Peritoneum 2018;2:AB015

doi:10.20137/map.2018.AB015



## Robotic Versus Laparoscopic Anderson-Hynes Pyeloplasty in Adults - A Single Surgeon Experience

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### ABSTRACT

Robotic reconstructive minimally invasive surgery is becoming a very attractive option because of easier intracorporeal suturing and shorter learning curve.

The aim of this study is to compare a similar cohort of patients undergoing robotic and laparoscopic Anderson-Hynes pyeloplasty for pelvi-ureteric junction obstruction (PUJO) in adults.

Prior to the arrival of the da Vinci® dual console robot we performed laparoscopic pyeloplasty for PUJO. Patients undergoing robotically-assisted laparoscopic pyeloplasty (RALP) were compared with a similar cohort of patients undergoing laparoscopic pyeloplasty (LP). A lateral trans-peritoneal approach was used in all cases. All anastomoses were stented antegrade. A diuretic renogram was obtained in all patients between 3 to 6 months after stent removal. Success was defined as a resolution of symptoms with non-obstructive outflow on the renogram. Data were collected from a prospectively maintained database.

Ten patients who underwent RALP were compared with a similar cohort of 10 patients who underwent LP. The robotic procedures were superior in terms of shorter operating time by 30 minutes on average. The minimum time taken for RALP and LP was 110 minutes and 170 minutes respectively. One patient in the LP group had a urine leak and failed compared to none in the RALP group. The surgeon reported subjective ergonomic benefits with the use of the robot.

Robotic assistance helps to decrease the operative time for laparoscopic pyeloplasty and helps in better anastomosis. It seems ergonomically superior for the surgeon.

### SOURCE

Mesentery Peritoneum 2018;2

doi 10.21037/map.2018



## Expanding Indications of Robotic Urological Surgeries beyond Prostate - Irish Experience with a Dual-Console Xi da Vinci<sup>®</sup> Surgical System

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### ABSTRACT

The landscape of the surgical management of urologic conditions has dramatically changed over the past 2 decades, both for benign and malignant pathologies. The benefits of Robotically-Assisted Radical Prostatectomy have been well documented but little has been published regarding the benefits of robotically-assisted urologic procedures beyond radical prostatectomy. We report our experience with a variety of non-prostatic urological procedures including first radical cystectomy for bladder cancer performed in Ireland utilising a dual-console da Vinci Xi<sup>®</sup> surgical system.

This study began on September 1st, 2017 and ended on August 1st, 2018. We analysed our robotically-assisted urology cases from a prospectively maintained database. Data were collected by independent third party. The dual-console da Vinci Xi<sup>®</sup> Surgical Robot (Intuitive Surgical Ltd., CA, USA) was utilised for all cases. The type and number of procedures were recorded, along with patient demographics, length of stay, morbidities and mortalities as per the Clavien-Dindo classification. A total of 69 urological procedures were performed so far in just over 12 months. The median patient age was 62. The median ASA score was 2 and postoperative length of stay was 4 days. There were 26 partial nephrectomies, 26 nephrectomies, 8 Anderson Hynes pyeloplasties, 4 nephroureterectomy with bladder cuff, 2 trans-peritoneal and one retro-peritoneal adrenalectomy, one marsupialisation of renal cyst and one radical cystectomy with total abdominal hysterectomy, bilateral salpingo-oophorectomy and bilateral pelvic lymph node dissection. The median estimated blood loss was less than 100ml. One procedure was converted to open. Three patients experienced Clavien-Dindo Grade 2 complications. There were no Grade 3 or more complications.

This study shows that robotic-assisted surgery can be safely implemented beyond radical prostatectomy to a wide spectrum of urological conditions requiring surgical intervention including complex procedures such as radical cystectomy with total abdominal hysterectomy, bilateral salpingo-oophorectomy, and bilateral pelvic lymph-node dissection and beyond.

### SOURCE

Mesentery Peritoneum 2018;2:AB014

doi:10.21037/map.2018.AB014



## What is the Impact of 40% Dextrose Gel for Neonatal Hypoglycaemia on Neonatal Admission Rates? A Systematic Review

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### INTRODUCTION

Neonatal hypoglycaemia is the leading cause of admissions to the neonatal unit and it affects 15% of neonates, of these 50% have risk factors, and is one of the most commonly encountered problems in the first 48 hours of a baby's life.<sup>1</sup>

### OBJECTIVE

The objective of this systematic review is to ascertain what is the impact of 40% dextrose gel for neonatal hypoglycaemia on neonatal admission rates?

### METHODOLOGY

A systematic review (SR) was carried out of quantitative studies in medical databases including; PubMed, The Cochrane Library, The Cumulative Index to Nursing and Allied Health Literature, Embase and SCOPUS. Search terms included were; dextrose gel, glucose gel, neonate, hypoglycaemia and admission.

### RESULTS

Five studies were identified and included. Two randomised control trials (RCTs) were analysed through RevMan 5.3 software and the meta-analysis shows that the use of 40% dextrose gel for neonatal hypoglycaemia decreases admission rates for at-risk infants. Three quantitative studies of other designs also reported a decrease in admission rates for hypoglycaemia in these infants. High Neonatal Intensive Care Unit (NICU) admissions put more strain on an already busy maternity hospital. Clear findings in the studies show that admissions can be reduced by up to 73%<sup>2</sup> by using buccal 40% dextrose gel. This study was completed over a 14 month period. Although the primary outcome of The Sugar Babies Trial<sup>3</sup> was not to reduce admission rates its findings concluded this as a secondary outcome. Increased rates of exclusive breastfeeding were also consistently linked and reported on with regard to oral dextrose gel across the five studies.

### CONCLUSION

Forty percent dextrose gel can be safely used within a hospital guideline as a method of treating neonatal hypoglycaemia in at-risk infants. On completing this systematic review a quality improvement plan was implemented in the neonatal unit and the guideline on management of hypoglycaemia was reviewed and updated. An audit of the admission rates will be undertaken to review the new changes to practice.

### REFERENCES

Available on request.

## Maternal Antenatal Body Mass Index and Degree of Glucose Intolerance in Pregnancies Affected by Gestational Diabetes Mellitus

Cremona, A.,<sup>1,2,4</sup>  
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### INTRODUCTION

Gestational diabetes mellitus (GDM) is a condition of transient glucose intolerance presenting in pregnancy. GDM has increased in prevalence worldwide and is a growing public health concern due to its consequences for mother and infant during and after pregnancy. Diagnostic criteria are currently based on excursions from the norms of thresholds set out around a 75g Oral Glucose Tolerance Test (OGTT) procedure according to International Association of the Diabetes and Pregnancy Study Groups (IADPSG) guidelines, at 28 weeks gestation. Data from this retrospective cohort study aims to present the degree of glucose intolerance in pregnancies affected by GDM.

### METHODOLOGY

Data were abstracted from patient medical records. Records of singleton pregnancies affected by GDM born in 2016 at the University Maternity Hospital Limerick (UMHL) who were not treated with insulin were included. Data was recorded during routine hospital visits by medics and allied health professionals. Demographic data was acquired by facilitated questionnaires; anthropometrics measured at the first antenatal appointment; and blood biochemistry through laboratory diagnostic tests. Post risk stratification, patients underwent a 75g-OGTT as a diagnostic test for GDM. Plasma glucose area under the curve (PG-AUC) was calculated from OGTT results as an index of glucose intolerance.

### RESULTS

OGTT results of 216 pregnant women aged between 18.2-44.0 years, diagnosed with GDM were described (Figure 1). Seventy nine percent were diagnosed on one raised value, 17% on two and only 4% of GDM patients had three raised values of blood plasma glucose indicating diagnosis of GDM. Maternal antenatal BMI (15.9-48.2 kg.m<sup>-2</sup>) and OGTT results from 28 weeks gestation are presented. PG-AUC did not correlate with maternal BMI (PG-AUC 23.9 ± 3.8 mmol.h/L, BMI 28.3±6.2 kg.m<sup>-2</sup>, r<sub>s</sub>(216)=0.064, p=0.358).

### CONCLUSION

Body mass index (BMI) is used as one of the risk stratifications for identifying those patients with greater risk of developing GDM. However, insight into the body composition of pregnant women can potentially be of diagnostic importance in detecting GDM at an earlier stage in gestation.

**Figure 1 - 75g-OGTT results at fasted (median 4.7mmol/L, CI 4.6-4.8), 1 hour post ingestion (10.2mmol/L, CI 10.2-9.5-10.0) and 2 hour post ingestion (6.7mmol/L CI 6.6-7.1). Red boxes indicate OGTT readings beyond diagnostic threshold values set out by IADPSG (2010) for GDM: FPG = 5.1-6.9 mmol/L; 1-h post 75g oral glucose load ≥ 10.0 mmol/L; 2-h post 75g oral glucose load ≥8.5 – 11.0 mmol/L**

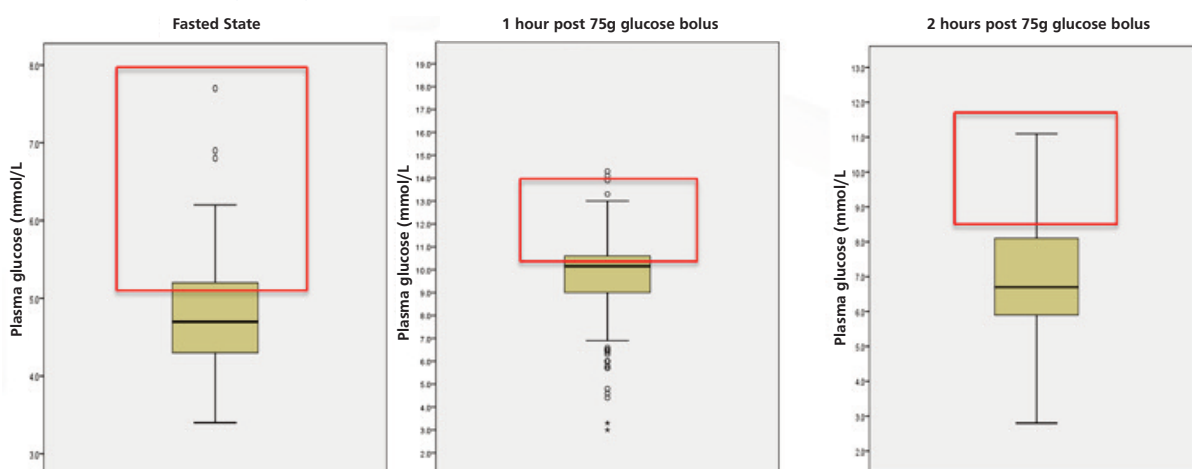
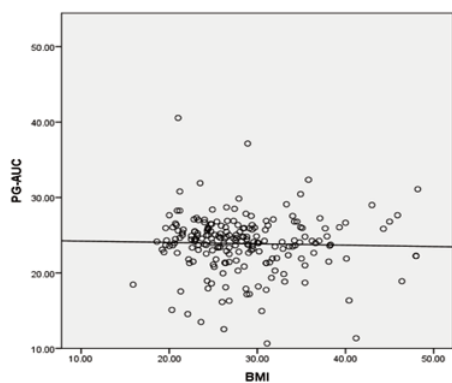




Figure 2- BMI and PG-AUC were not normally distributed, as assessed by Shapiro-Wilk's test ( $p < 0.0001$ ). Non-parametric Spearman's rank-order correlation was run to assess the relationship between BMI and PG-AUC. There was no correlation between BMI and PG-AUC,  $r_s(216) = -0.064$ ,  $p = 0.358$



#### REFERENCES

Available on request.

#### PRESENTED

As an oral presentation at the Health Research Symposium in the Clinical Education and Research Building at University Hospital Limerick on November 17th, 2017 by Alexandra Cremona.

#### FUNDING

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# 'Addressing Employment' - A Profile of the Demographics and Work-Related Status of Working-Aged Clients Referred to Rheumatology Occupational Therapy Services in Ireland

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## INTRODUCTION

Impacts of rheumatic and musculoskeletal diseases (RMDs) on work ability and the role of occupational therapy (OT) to support work retention is recognised. However, variances remain in how rheumatology services address work problems in Ireland. A dearth in OT resources is reported as being central to the problem.<sup>1</sup> Progressing provision of additional posts is hampered by limited Irish data<sup>2</sup>.

## OBJECTIVE

To determine the number of working-aged clients currently in employment seen in OT; clients' work status and ability; numbers work-disabled due to RMDs, extent of work difficulties; whether work needs are detected by referrers.

## METHODOLOGY

Rheumatology OTs in Ireland were invited to participate through the AOTI MSD&CP Advisory Group. Retrospective OT chart review of clients referred 1/12/2017-31/5/2018 was completed. Clients aged 18-65, and >65s currently working, were included.

Demographics and work data (Global Health Scale, Work Ability Scale, Work Instability Scale, worker role) were recorded on a data collection tool and saved on a spreadsheet unique to each site.

## RESULTS

Eleven sites participated and yielded a sample of 587. Age range was 18-65 and >65 (n=11).

Worker-role data was configured into the International Standard of Occupations Classification (ISCO-08) and analysed to highlight RMDs work instability within the classification and direct potential targeted work interventions.

**Table 1 - Main Findings**

<b>Demographics</b>				
Gender	Males (n=152)	Females (n=435)		
Diagnosis	Inflammatory Arthritis (n=285)	Osteoarthritis (n=152)	Regional MSK & FMS (n=145)	Other (n=5)
Length since diagnosis (months)	Range (0-720)	Average 49.35		
<b>Work Status</b>				
Currently Working	Total (n=349)	Full-time (n=221)	Part-time (n=128)	
Currently not working but want to work	Yes (n=117)			
Number with self-reported work difficulties	Yes (n=384)	(No=203)		
Work Disabled	Yes (n=193)	No (n=365)	Blank (n=29)	



<b>Work Ability</b>				
Work Instability Scores	Range: 0-23	Average 10.6		
	Total (n=328)	Low Risk (score 0-9) (n=149)	Medium Risk (score 10-17) (n=118)	High Risk (score 18-23) (n=61)
Work Ability Scores	Range: 0-10 Total (n=414)	Average 5.3		
Global Health Scores	Range: 0-10 Total (n=574)	Average 5.22		
<b>Detecting Work Needs</b>				
Number asked about work by referrer	Yes (n=235)			
Number with self-report work difficulties addressed by referrer and referred to OT for work support	Yes (n=148)			
Work Vulnerable-Number Currently Working:	WIS of 10-23 (n=30) Of which: Full-time (n=83), Part-time (n=47)	WAS of 0-5 (n=176)		

## CONCLUSION

Findings recognise discrepancies in numbers of those with self-report work difficulties and those seeking return to work, compared with those referred to OT for work support. Results emphasise work needs of clients attending OT rheumatology services and highlight unmet needs of those without access to OT.

## REFERENCES

Available on request.

## PRESENTED

At the Irish Society for Rheumatology and Irish Rheumatology Health Professional Society Autumn Meeting 2018 on September 20th in the Kilashee Hotel, Naas, Co. Kildare by Yvonne Codd.



# 'Smarter Working' - Refining a Multisite Interdisciplinary Integrated Care Pathway for Conservative Management of Carpometacarpal Joint Osteoarthritis

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## OBJECTIVE

To develop an integrated care pathway (ICP) for patients with carpometacarpal (CMC) joint osteoarthritis (OA) that delivers interdisciplinary, evidence-based, person-centred care in an efficient, collaborative way.

## METHODOLOGY

Following collaborative planning meetings, an OA CMC clinic was established with protected occupational therapy (OT) and physiotherapy time slots. Patients referred with multiple musculoskeletal problems were seen separately for their thumb at the OA CMC clinic. A common assessment template was employed. A patient information leaflet was developed and this, plus outcome measures, were posted out with the initial appointment letter. A data-collection tool was developed and saved on a shared access drive unique to each site.

Resources including initial assessment form, appointment letter, patient information leaflet, data-collection tool, exercise programme template, and joint protection group format, were shared across sites. A pathway feature was a joint protection group co-facilitated by OTs.

This initiative was exempt from ethics according to organisational research ethics committee policy.

## RESULTS

A cross-site review of the ICP was completed at quarterly intervals for one year.

Establishment of designated clinic slots had a positive impact on waiting times for this cohort. The average overall improvement in function was statistically significant.<sup>1</sup>

Communication channels were improved between disciplines across the two sites with streamlined administrative and clinical practices, facilitating a smooth flow of referral management within the service, with clear expectations and roles for all team members.

Anecdotal evidence suggested patient satisfaction with the ICP.

## CONCLUSION

This ICP facilitates efficient, quality interdisciplinary, conservative management of CMC joint OA.

## REFERENCES

Available on request.

## PRESENTED

As a poster presentation at the Irish Society for Rheumatology and Irish Rheumatology Health Professional Society Autumn Meeting 2018, 20th to 21st September Kiltashee, Naas, Co. Kildare and also 9th to 10th November 2018, at the Irish Society of Chartered Physiotherapists Annual Conference, Sligo.

## Acknowledgement

The authors wish to acknowledge the assistance of Eimear Flood Occupational Therapist, Naas General Hospital for her role in implementing the pathway with some of the patient cohort.



## A Profile of Elderly Fallers and Fall-Related Fragility Fractures Attending an Irish Emergency Department

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### INTRODUCTION

Falls are the most common reason why an elderly adult presents to the Emergency Department (ED) in Ireland.<sup>1</sup> The Health Service Executive's Strategy to Prevent Falls and Fractures in Ireland's Ageing Population (2008) estimates that 35,000 elderly adults present to ED or Primary Care with fall related injuries per year. Fragility fractures are often a consequence of these falls or 'low level trauma'. Between 2000 and 2014 the absolute number of all fragility fracture admissions to Irish hospitals increased by 30%,<sup>2</sup> this is predicted to further increase as the population grows.<sup>3</sup> A profile of these elderly fallers with fragility fractures could identify gaps in current healthcare provision and form the basis for the creation of appropriate pathways.

### OBJECTIVE

The aim of this research was to profile a sample of elderly fallers and fallers with fragility fractures attending the ED service who were reviewed by the Frailty Intervention Team (FIT) physiotherapist. Our objectives were to determine the prevalence and circumstances of the falls, the prevalence of fragility fractures and their locations, and the discharge destination upon leaving the ED.

### METHODOLOGY

A review was conducted over a 6 month period in the ED of Connolly Hospital, Blanchardstown. This review captured the number of patients screened in the six month period, the number of fallers and fallers sustaining fragility fractures. It also captured individual Rockwood Clinical Frailty Scores, falls circumstances, location of fractures and the discharge destination from ED. The FIT physiotherapist recorded this information upon completion of a comprehensive geriatric assessment. This information was used to form an electronic database.

### RESULTS

Two hundred and seventy three patients over the age of 65 were reviewed by the FIT physiotherapist within the six month period. One hundred and eighteen of these patients were fallers. The main determinant of the falls was categorised as follows: mechanical (76), collapse (16), infection (10), neurological (10), alcohol (6). Forty two (35.6%) of these fallers sustained fragility fractures. The most common fracture sites identified were: pubic ramus (12), Vertebrae (11), Humerus (7), ribs (4) and radius/ulna (3). Following FIT assessment 11 (25%) of these 42 patients sustaining fragility fractures were discharged directly home from ED. The remaining 75% of patients with fragility fractures required high healthcare follow-up. Five patients were discharged to convalescence without rehabilitation; 6 patients were discharged to convalescence with three days rehabilitation/week; 3 patients were admitted for referral to a five day rehabilitation service; 17 patients required admission for medical reasons.

### CONCLUSION

This review identified a high percentage of elderly fallers sustaining fragility fractures. This cohort of patients have high healthcare needs as indicated by the high percentage requiring follow-up care after ED. The findings of this study could form the basis of a fragility fracture prevention programme and appropriate pathways of care from the ED setting.

### PRESENTED

As a poster presentation at the Affinity Falls and Bone Health Symposium in Dublin Castle on October 30th, 2018.



## Use of Cognitive Remediation and Functional Skills Training to Address Deficits in Occupational Performance in Older Adults with Mild Cognitive Impairment in the Community

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### INTRODUCTION

Older adults with Mild Cognitive Impairment (MCI) have cognitive impairments that exceed expectations for their age and education level and are otherwise normally functioning older adults.<sup>1</sup> MCI occurs between normal ageing cognitive decline and dementia.<sup>2</sup> It is estimated that 5% to 20% of over 65s will develop MCI.<sup>3</sup> Cognitive remediation training (CRT) involves behavioural interventions to improve cognitive processes through a series of neuropsychological exercises.<sup>4</sup> CRT has been shown to be reasonably successful with people suffering from a moderate degree of memory impairment. But little is known about the generalisations of these gains in addressing everyday functional tasks that require attention, planning, initiation, problem-solving, mental flexibility and memory. Studies including that of Johansson (2015) and Belleville et al. (2018) concluded that combined approaches with functional skills training (FST) rather than a single approach of CRT alone could potentially improve or maintain mental abilities in people with MCI.

### OBJECTIVE

The aim of this research was to establish the cognitive profiles of MCI participants aged 65 and over, in order to guide CRT and FST interventions and conclude with the reassessment of cognitive and functional status following interventions.

### METHODOLOGY

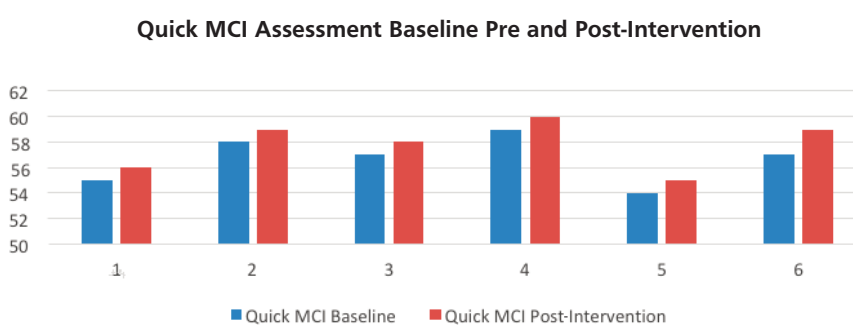
The study was a Single Case Experimental Design (SCED) with ABA Design. Participants aged 65 and over with MCI indicated by MMSE Scores of 27 or 25 where educational level is less than 13 years were screened and recruited. Cognition and functional baseline are assessed using Quick Mild Cognitive Impairment Test (QMCI),<sup>5</sup> Rivermead Behavioural Memory Test III (RBMT-3),<sup>6</sup> Independent Living Scales (ILS),<sup>7</sup> Quality of Life in Alzheimer's Disease (QOL-AD)<sup>8</sup> and Goal Attainment Scaling (GAS).<sup>9</sup> Participants' goals were set using Goal Attainment Scaling (GAS) followed by 6 weeks individualised intervention using CRT and FST. Assessments were re-administered post-intervention.

### RESULTS

Preliminary results indicate achievements for the participants on GAS, ILS, QOL-AD and QMCI scales, but indicate no significant changes in the outcomes of RBMT-3. The study is ongoing and fifteen single cases are completed. An additional eight participants dropped out due to other age associated co-morbidities and general reasons.

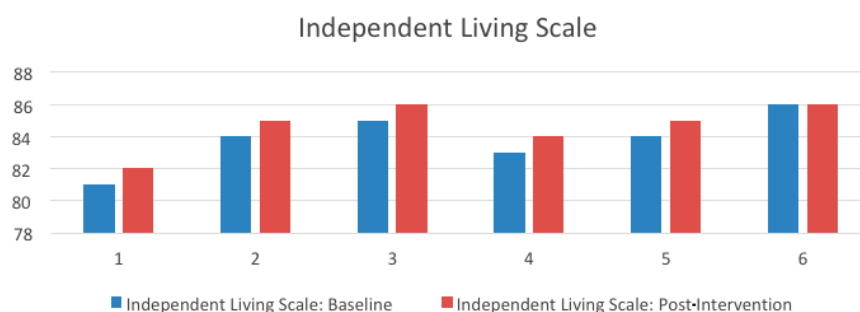
Examples of the goals addressed include memory strategies, orientation, problem-solving, money management, self-care, accessing transportation, community access, health and safety awareness, medication management and leisure participation. In addition, self-regulation, stress and anxiety management were significant during the generalisation stage and were therefore addressed.

Figure 1 - QMCI Scores Pre and Post-Intervention

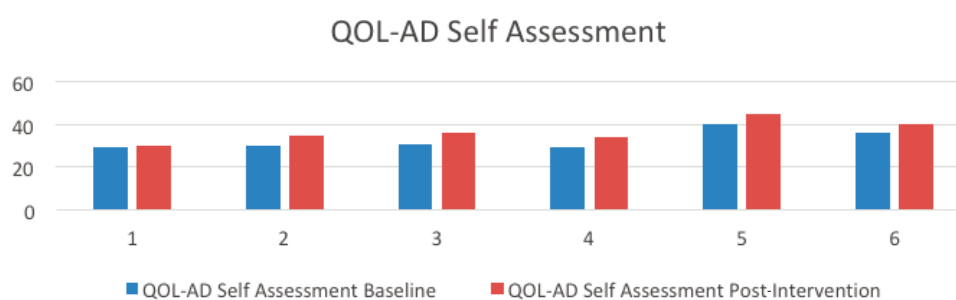




**Figure 2 - ILS Scale Assessing Functional Independent Skills Pre and Post-Intervention**



**Figure 3 - QOL-AD Self-Perceived QoL Scores Pre and Post-Intervention**



## CONCLUSIONS

Though there were no significant changes to the cognitive battery of RBMT-3 scores, CRT proved effective when combined with FST. Furthermore, the achievements on ILS and individual GAS goals reflected the generalisation of gains into real life domains with the completed cases. The study and data analysis are ongoing and large-scale studies are required to verify these findings. A longitudinal study is required to clarify whether strategies put in place while participants are in MCI are robust and continue to be effective if MCI evolves into dementia and, if so, for how long this is maintained. It is suggested that provision of a structured CRT programme together with FST and built-in generalisation is standard practice in the early treatment of seniors presenting at the early stages of cognitive problems. These preliminary results suggest that this approach shows promise in facilitating people with MCI in maintaining independence, QoL and meaningful daily participation. It also supports the notion of strategies and routines being in place prior to deterioration.

## REFERENCES

Available on request.

## PRESENTED

1. As a poster presentation at the Council of Occupational Therapies for the European Countries (COTEC) - European Network of Occupational Therapy in Higher Education (ENOTHE) Congress in Galway from June 15th to 19th, 2018.
2. As an oral presentation at the Association of Occupational Therapists in Ireland (AOTI) Mental Health Advisory Group Study Day in St. James's Hospital, Dublin on May 4th, 2018 by Abiola dé Mojeed.
3. As both an oral and poster presentation at the Neuropsychological Rehabilitation Special Interest Conference in Prague from July 18th to 21st, 2018 by Abiola dé Mojeed.



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## Improvements in Goal Protein Achieved Following a Change from Propofol 1% to Propofol 2% and a Change in Enteral Feeding Protocol in the ICU

### ABSTRACT

Adequate protein intake is of critical importance in Intensive Care Unit (ICU) patients. This study explores a strategy to optimise delivery of protein in enterally fed patients. The present study compares percentage goal protein achieved between 2016 and 2017 in the ICU following a change from using propofol 1% to propofol 2% and an increase in protein in the enteral feeding protocol

Propofol 1% was changed to propofol 2%. The ICU enteral feeding protocol (used when a dietitian is unavailable), was made specific to a patient's weight and changed from a standard to a high protein feed. A consecutive sample of all adult patients commenced on enteral feeding was included in the study and data was analysed prospectively for up to 8 days (79 patients in 2016, 75 in 2017). Daily total protein, total calories and calories from propofol were recorded. Percentage goal calories and percentage goal protein were calculated. A Mann-Whitney U test was used to test statistical significance.

Patient average daily calories from propofol was reduced from a median value of 111.3 in 2016 to 60.0 in 2017 ( $p=0.01$ ).

When the GI intolerant and re-feeding patients were removed from the analysis, the mean daily percentage goal calories from propofol dropped from a median of 9.72% in 2016 to 4.6% in 2017 ( $p=0.012$ ). The average daily percentage of goal protein reached increased significantly with a median of 0.61 IQR (0.39, 0.71) for 2016 and 0.7 IQR (0.52, 0.85) for 2017 ( $p=0.042$ ). The daily percentage goal protein was consistently higher in 2017.

Between the years 2016 and 2017 there has been a significant decrease in percentage goal calories from propofol. This, in addition to higher protein in our enteral feeding protocol, has led to a significant increase in percentage goal protein achieved by enterally fed patients in ICU.

### PRESENTED

As a poster presentation at the 40th European Society of Parenteral and Enteral Nutrition (ESPEN) Congress on Clinical Nutrition and Metabolism in Madrid from September 1st to 4th, 2018.

### SOURCE

Journal of Clinical Nutrition, Abstract Supplement. Volume 37, Supplement 1, September 2018, S55.

# Pregnancy Risk and Neonatal Complications amongst Neonates Born to Mothers with Gestational Diabetes Mellitus admitted to the University Maternity Hospital Limerick

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## INTRODUCTION

The prevalence of pregnancies complicated with gestational-diabetes-mellitus (GDM) is increasing and is associated with an increased risk of complications in both mother and foetus.

## OBJECTIVE

The aim of this research is to describe the neonatal complications of GDM in an Irish cohort.

## METHODOLOGY

Preliminary data from a retrospective observational cohort of pregnancies affected by GDM born in 2016 at University Maternity Hospital Limerick (UMHL) are presented. Inclusion criteria were singleton pregnancies with no treatment with insulin. Data were abstracted from maternal medical records. Pregnancy risk was defined as maternal age (high risk >35 years), delivery method, obstetric history, family history of diabetes, pre-existing insulin-resistant condition and GDM in previous pregnancy. Neonatal complications described were large for gestational age (LGA; weight >90th percentile for gestation), macrosomia, admission to neonatal high dependency unit (NICU), neonatal hypoglycaemia (plasma glucose <2.2mmol/L), neonatal jaundice, pre-term delivery (<37 weeks), respiratory distress and low APGAR score (<7 at 1 or 5 minutes).

## RESULTS

Data from 152 pregnancies and 152 neonates were included 79(52.0%) male and 73(48.0%) female. Maternal age at birth was 32.8 years (range; 18.2-44.0 years), forty-three (7.2%) mothers were aged >35 years. Their BMI ranged from 18.6-48.2kgm.<sup>-2</sup> Twenty-eight (18.42%) women previously had GDM, and 10(6.6%) mothers had a parity of ≥3. Fifty seven (37.5%) mothers reported a family history of diabetes, and 12(7.9%) had a pre-existing insulin resistant condition. Sixty neonates (39.5%) were born by caesarean section, amongst these 17(11.2%) were emergencies. Mean gestational age was 38.6±1.2weeks; 16(10.5%) neonates were born <37weeks. Mean birth weight was 3.415±0.5 kg, 13 (8.6%) born LGA, and 16 (11%) macrocosmic (birth weight >4kg). Thirty five (23.0%) neonates were admitted to the NICU. Complications included hypoglycaemia, experienced by 21(13.8%) neonates, 7(4.6%) suffered neonatal respiratory distress and 37(24.3%) experienced neonatal jaundice. Low APGAR Score was reported in 7(4.6%) neonates.

**Table 1 - Parameters Defining Pregnancy Risk**

Pregnancy risk	Definition
Maternal age	≥35 years
Delivery method	Emergency LCSC
Body Mass Index (BMI)	≥30 kg.m <sup>-2</sup>
Multiparous	Parity ≥3
Family history of diabetes	If present then higher risk
Pre-existing insulin resistant condition	(PCOS, hypothyroidism, endometriosis & fibroids)
GDM in previous pregnancy	If previously present higher risk

**Table 2 - Definition of Neonatal Complications**

Neonatal complications	Definition
Large for gestational age (LGA)	Birth weight > 90 <sup>th</sup> percentile for gestational age.
Macrosomia	Birth weight >4kg
Admission to Neonatal Intensive Care Unit (NICU)	Admission to NICU
Neonatal hypoglycaemia	Plasma glucose <2.2mmol/L
Neonatal jaundice (Hyperbilirubinaemia)	Serum Billirubin level plotted on Phototherapy Chart-AAP
Pre-term delivery	Born ≤ 37 weeks
Respiratory distress	Respiratory distress requiring medical intervention
Low APGAR score	APGAR score of <7 at 1 or 5 minutes

**Figure 1 - Flow Chart of Included Patient Cases**

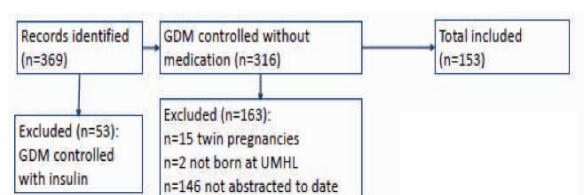




Table 3 - Pregnancy Risk in Cohort with GDM

Pregnancy risk	n (152)	%
Maternal age	43	7.2
Delivery method		
Emergency LCSC	17	11.2
Elective LCSC	43	28.3
BMI	57	27.0
Previous GDM	28	28.4
Multiparous	10	6.6
Family history diabetes	57	37.5
Pre-existing insulin resistant condition	12	7.9

Table 4 - Neonatal Complication of Neonates Born to Mothers with GDM

Neonatal complications	n (152)	%
LGA	13	8.6
Macrosomia	16	11
NICU admission	35	23.0
Hypoglycaemia	21	13.8
Neonatal jaundice	37	24.3
Preterm delivery	16	10.5
Respiratory distress	7	4.6
Low APGAR score	7	4.6

### CONCLUSION

Neonates born to mothers with diet controlled GDM in this study had higher rates of delivery by caesarean section, admission to NICU, incidence of hypoglycaemia, macrosomia, neonatal jaundice and respiratory distress syndrome when compared to healthy pregnancies. These data suggest significant neonatal morbidity related to maternal diet controlled GDM.

### REFERENCES

Available on request.

### PRESENTED

As a poster presentation;-

- At the Health Research Symposium in the Clinical Education and Research Building at University Hospital Limerick on November 17th, 2017.
- At the Irish Paediatric Association (IPA) Annual Meeting from November 8th to 9th, 2017. (Shortlisted for Presidential Walk)

### FUNDING

This research project was supported by the University of Limerick through an Education and Health Sciences Faculty Postgraduate Dean's Scholarship, Graduate Entry Medical School Strategic Research Fund and Health Research Institute Seed Funding from the University of Limerick.



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## Primary Care Multidisciplinary Paediatric Weight Management Programme in Tallaght - Intervention and Outcomes over Five Years

### INTRODUCTION

Childhood obesity is one of the most serious public health challenges of the 21st century with far-reaching and enduring adverse consequences for health outcomes.<sup>1</sup> A community based, multidisciplinary paediatric weight management programme commenced in Tallaght in 2013 in response to local need. Since 2013, 84 families have been accepted onto the programme. Between 2013 and 2017 the programme has run annually.

### METHODOLOGY

Families initially undergo dietary, anthropometric and fitness assessment with the Dietitian and Physiotherapist. Preliminary dietary and lifestyle goals are set at this appointment. Children are invited to a 6 week exercise programme run by Physiotherapy and parents to a 6 week group education programme facilitated by the Dietitian and Psychologist. Reassessment takes place 3-6 months after the intervention phase whereupon families are discharged. The following tabulated results are based on children with greater than 50% participation in the programme, for whom pre and post-intervention information was collected.

### RESULTS

**Table 1 - Profile of Children (n=34)**

Mean Age (range)	Girls %(n)	Boys %(n)	BMI >98th Centile %(n)
9.2 years (5-15)	44 (15)	56 (19)	100 (34)

**Table 2 - Referral sources (n=34)**

Referrer	% (n)
Hospital	38 (13)
GP	12 (4)
Community	35 (12)
Other e.g. self referral	15 (5)

Of the above 34 families, over five programmes, 76% (26) participated fully (75-100% attendance) in all interventions and 24% (8) participated partially (50-74% attendance) and were reassessed.

**Table 3 - Baseline and Post-Intervention Measures (n=34)**

	Baseline	Post-Intervention
BMI (kg/m <sup>2</sup> )	27.6	26.5
Fitness percentile	15th	23rd

Retention rate following baseline assessment over five years was just over 40%. Greater participation was associated with better outcomes.

### CONCLUSION

The high level of multidisciplinary support required for modest improvements illustrates the challenge of addressing childhood obesity.

### REFERENCES

Available on request.



Ryan, H.,  
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## Reported Physical and Psychosocial Complications in Obese Children Enrolled in a Primary Care Multidisciplinary Paediatric Weight Management Programme in Tallaght

### INTRODUCTION

A growing body of evidence focuses on negative psychological and psychosocial consequences of childhood obesity.<sup>1</sup>

### METHODOLOGY

As part of the initial assessment for a multidisciplinary paediatric weight management programme families complete a standardised interview assisted questionnaire, with the assistance of the Dietitian and Physiotherapist. Parents report on shortness of breath (at various levels of exertion) and any pain experienced by their children. They are also asked if their child has experienced teasing related to weight.

### RESULTS

The following results are based on 19 children assessed in 2016 and 2017 for whom pre and post-intervention information is available. All of these children had a BMI >98th centile at baseline assessment; 84% (n=16) had a BMI >99.6th centile.

**Table 1 - Profile of Children (n=19)**

Mean age (range)	Girls %(n)	Boys %(n)
10.7 years (7-15)	53 (10)	47 (9)

Over half (53%, n=10) of the parents reported that their children experienced pain. Types of pain reported included knee pain, foot pain, lower back pain, sore feet when walking and leg pain.

When questioned, 79% (n=15) of parents reported that their children experienced shortness of breath when climbing stairs, walking 100 metres or doing the same level of physical activity as peers. Mean fitness percentile (assessed using a six minute walk test) at baseline was 15th, over half (53%, n=10) had a fitness percentile <10th. When asked about teasing 84% (n=16) of parents reported that their children had been teased about weight at school, or by children in the neighbourhood, siblings or other family members.

### CONCLUSION

Physical limitations experienced by obese children such as pain and low exercise tolerance together with the stigmatisation associated with obesity reduce self-esteem and quality of life and may be associated with serious psychological issues such as depression.<sup>1</sup>

### REFERENCES

Available on request.



Hynes, P.,  
Gomes, M.,  
Woods, F.

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## 'Getting it Right from the Start'- Reviewing and Actualising a Care Pathway for Children with Autism Spectrum Disorder in a Children's Disability Service

### INTRODUCTION

A care pathway is defined as a complex intervention for mutual decision-making and organisation of the care process within a defined period and for a defined group,<sup>1</sup> and should be based on best practice and evidence-based practice. In the context of a children's disability service, care pathways help reduce variations in service that children and families receive within services. "There are often unacceptable variations in the quality and outcomes of services for families and children."<sup>2</sup> To address this, care pathways can be used as a means to incorporate local, national and international guidelines into everyday practice, addressing the inconsistencies that may occur in service provision, thus adding to the quality and standardisation of service delivery. Research on care pathways is more extensive in healthcare settings with limited research available pertaining to disability settings.

When working with families and children who have Autism Spectrum Disorder (ASD) in a children's disability service, it is important to work in a manner that supports client-centred and family-centred practice, which includes consultation with children on all matters that affect them. This is imperative given that many children's disability services purport to work in a family-centred manner. Furthermore, the Council of Europe (2011) defines "child-friendly healthcare" as healthcare policy and practice that centres on children's rights, needs, characteristics, assets and evolving capacities, taking into account the child's opinion. While care pathways exist, it is important to routinely update them by being cognisant of current research, guidelines, trends, family and child needs, and consultation with children and families.

### OBJECTIVES

This paper aims to seek best practice guidelines and literature on the establishment of a family-centred care pathway for children with ASD, taking into account how the care pathways can be child and family-centred.

### METHODOLOGY

This paper explored literature regarding the efficacy of care pathways, family-centred practice, child-friendly healthcare, research and theory apropos supporting children who have ASD. Findings from the literature, and how these findings influenced evidence-based practice at a children's disability service by the interdisciplinary team are reported.

### RESULTS

Care pathways have a purpose of providing the correct support by the correct person at the correct time.<sup>3</sup> Furthermore the Royal College of Psychiatrists (2014) assert that central principles of care pathways include improving care, efficiency, and improving patient care and safety. Care pathways provide an outline of the care linked to evidence-based assessments and interventions in the care of children who present with a disability or a specific condition, and their families, based on available resources. Care pathways should provide an unambiguous statement of the goals and key elements of evidence-based practice that meet the expectations of the child and family.

It is essential to facilitate communication between the professionals on the disability team, and the child and their family. A care pathway needs to determine what the journey of the facility and child will be in the care process. Care pathways should be structured and organised by the stages of care which should include evidence-based assessments and interventions, and include outcome measurements. With regard to the assessment process within the care pathway for ASD, team-based ASD assessments and diagnosis based on best practice guideline<sup>4,5</sup> are an appropriate component of the care pathway.

Involving children in decisions that impact their healthcare is important. Donnelly and Kilkelly (2011) assert that participation in healthcare decision-making is important, with Coyne and Harder (2011) further asserting that involving children in decision-making is complex. Participation Works Partnership (2016) highlight that child participation is a central part of citizenship and a method by which children and young people can influence decision-making which affects their lives. The interconnectedness of family-centred practice with the care pathways cannot be underestimated. The American Academy of Pediatrics (2012) state that Family-Centred Care (FCC) is a necessary component of clinical decision-making and families should collaborate with healthcare professionals in all aspects of care, which allow them to participate at the level they choose. Furthermore, The Institute for Patient and Family Centered Care (2018) offers guidance on advancing the practice of FCC care, by developing direct engagement with patients and families in all aspects of their healthcare



**CONCLUSION**

There are several factors to be considered when translating the research findings into current clinical practice. The care pathway needs to be responsive to the resources available, the needs of the family and the child, and be clear and unambiguous in its nature. While "adults may protect children from information and participation in decision-making from a general perspective of children not being fully competent,"<sup>6</sup> it is important that children are allowed to have a say in matters that affect them. It can be argued that in order to have a care pathway for children with ASD, there is a need to ensure that children are consulted on what that care pathway should involve. It is essential that care pathways are not too rigid as it is necessary for the care pathway to have the flexibility to accommodate complex family and child needs.

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Woods, F.,  
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## The Impact of Bilingual Exposure on Language Development in Children with Autism Spectrum Disorder

### INTRODUCTION

Bilingualism is increasingly prevalent in Ireland. Given that children with Autism Spectrum Disorder (ASD) present with social communication impairment,<sup>1</sup> families and professionals struggle to understand whether deficits or increased deficits in speech and language of children with ASD may be attributed to bilingual exposure. With little research specific to bilingualism in children with a diagnosis of ASD, professionals struggle to provide parents with informed language recommendations that may benefit their children in their speech and language development and their communication and interaction skills. This lack of knowledge on whether to support or not support bilingual language development in children with ASD places both professionals and families in limbo.

### OBJECTIVE

To review the existing literature on ASD and bilingually-exposed children in order to facilitate evidence-based practice. It is hoped that the issues discussed will help families and professionals in meeting the needs of children with ASD who are bilingually-exposed.

### METHODOLOGY

A total of 5 articles were reviewed for this study. Two of these articles presented a systematic review of the literature, looking at language development in bilingual-exposed children with ASD and monolingual-exposed children with ASD. Three comparative studies analysed the differences in language development between bilingual children with ASD and their monolingual peers.

### CONCLUSION

From this review, it is concluded that (1) bilingualism does not negatively affect language development in young children with autism spectrum disorder, and (2) that children from bilingual environments do not experience additional delay in language when compared to children from monolingual environments. In addition, other positive factors related to bilingual exposure for children with ASD were discussed. These suggest, first, that parent-child interactions in bilingual families promote higher levels of thinking, learning and behaving in children with ASD when these happen in their native language, and, second, bilingual-exposed children with ASD are more likely to participate and communicate in their important educational, social and cultural contexts. It is important that professionals working with children with ASD are well-informed of the nature of bilingualism.

In order to gain a richer understanding of the impact of bilingual exposure on language development in children with ASD, future research is encouraged to confer with bilingual families with a child with ASD. These families should be consulted concerning their child's speech and language development, their child's exposure to both their native language and English as a second language and the relationship between the child's ASD diagnosis and these two languages. Continued research in this area will provide parents with informed language recommendations that may assist their children in their speech and language development and their communication and interaction skills.

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# A Review of the Impact of Influenza PCR Turnaround Time on the Management of Patients Presenting to a Public Hospital in Ireland with Suspected Influenza Virus Infection

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## INTRODUCTION

In January 2018 influenza virus samples from University Hospital Kerry (UHK) were processed off-site. Patients admitted with a high suspicion of influenza were treated empirically with oseltamivir<sup>1,2</sup> and, where possible, were isolated while awaiting results.

## METHODOLOGY

Laboratory data showed the number of samples screened and the average turnaround time. Inpatient records established the proportion of patients hospitalised and their length of stay. Oseltamivir consumption was quantified using pharmacy data and inpatient records. Infection Control recorded isolation precautions taken.

## RESULTS

Of 101 UHK influenza virus samples processed in January 2018, 40% were positive (40/101). The average turnaround time was 7.2 days (range=4-22 days). Of those tested, 95% were admitted (96/101), with an average length of stay of 9.7 nights (range=1-116 nights). Isolation beds were allocated on 198 nights. Only 41% (15/37) of admitted influenza positives were fully isolated; positive patients were not isolated on 66 nights. If on-site influenza tests were resulted within 24 hours, 67 isolation nights could have been saved in influenza negative patients.

**Table 1 - Clinical Management of Inpatients Screened for Influenza, UHK, January 2018**

	% Influenza positive	% Influenza negative	% total
Isolated	51 (19/37)	41 (24/59)	45
Oseltamivir dispensed (number of 5 day courses)	35 (18/52)	37 (19/52)	71
Oseltamivir prescribed*	57 (21/37)	31 (18/59)	41
Isolated & Oseltamivir prescribed	35 (13/37)	19 (11/59)	25
Isolated & Oseltamivir NOT prescribed	16 (6/37)	22 (13/59)	20
Screened but NOT isolated & Oseltamivir NOT prescribed	27 (10/37)	48 (28/59)	40
<b>TOTAL</b>	<b>39 (37/96)</b>	<b>61 (59/96)</b>	

\* also prescribed for all 5 patients tested but not admitted

## CONCLUSIONS

These findings suggest that the delayed diagnosis of influenza resulted in the unnecessary use of oseltamivir and the inappropriate allocation of isolation facilities. They also showed a significant clinical risk of influenza exposure associated with unisolated influenza positive patients. These data suggest that a 24 hour turnaround for influenza testing would enable a reduction in oseltamivir use and full isolation of influenza positive patients, without requiring additional isolation resources.

## REFERENCES

Available on request.



# Introduction of a Real Time PCR Assay for the Detection of Human Metapneumovirus in Respiratory Samples at University Hospital Limerick

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## INTRODUCTION

Human metapneumovirus (hMPV) is a contagious viral pathogen that primarily infects children and immunocompromised adults. Currently, at University Hospital Limerick, hMPV is not part of the viral diagnostic scope. When requested by clinicians, respiratory samples are referred to the National Viral Reference Laboratory (NVRL), where they are analysed as part of an extended viral screen. This is, however, associated with a delayed turnaround time of five working days.

## OBJECTIVE

This study aimed to introduce molecular testing for metapneumovirus at the Serology Laboratory that is suitably sensitive and specific, but also reduces turnaround time.

## METHODOLOGY

A total of 138 nasopharyngeal swabs were analysed over a ten week period. RNA was extracted from samples using the Roche *MagNa pure* compact. Post extraction the eluate was amplified using the Roche *lightcycler 480 II*®. Two master mixes were trialled, Lightcycler Multiplex Viral RNA master mix, which consisted of primers and probes for the detection of metapneumovirus only and Quadruplex RSV/hMPV PCR Kit, which contained primers and probes for the detection of both metapneumovirus and respiratory syncytial virus.

## RESULTS

The sensitivity, specificity, negative predictive value and positive predictive value of the assay was 100% for both master mixes. The method was proven to be rapid, with results available within three hours and scientist hands-on time was minimal. The assay was also proven to be cost-effective, less expensive than testing at the NVRL.

## CONCLUSION

Overall it was concluded that the introduction of the *lightcycler 480 II*® for metapneumonvirus testing would improve patient care without impacting negatively on the laboratory.



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## Use of Matrix-Assisted Laser/Desorption Ionisation Time-of-Flight Mass Spectrometry to Type Vancomycin Resistant Enterococci as a Tool for Epidemiological Analysis

### INTRODUCTION

Vancomycin Resistant Enterococci (VRE) have become one of the most problematic groups of multi-resistant organisms causing healthcare associated infections globally. Since 2008, reports from the European Antimicrobial Resistance Surveillance Network (EARS-NET) reveal that Irish hospitals hold the highest incidence of VRE *E. faecium* bloodstream infections in Europe.<sup>1</sup> The availability of typing facilities for VRE isolates within University Hospital Limerick (UHL) is currently very limited as there is no in-house facility available, and there is no national reference laboratory. The availability of VRE typing data would be valuable to assist with outbreak management and infection control strategies. Presently, within UHL, a limited number of VRE isolates are referred to the Public Health England (PHE) Laboratory in Colindale, London for Pulsed-Field Gel Electrophoresis (PFGE) typing.

### OBJECTIVE

This project explores the ability of Matrix-Assisted Laser/Desorption Ionisation Time-of-Flight Mass Spectrometry (MALDI-TOF MS) to subtype VRE isolates. MALDI-TOF MS is a fast and easy to use method for bacterial species identification. MALDI-TOF MS is a technique that has revolutionised the workflow of the Microbiology Laboratory of UHL. It measures the exact molecular mass of peptides from whole bacterial cells and compares them to a library of reference spectra to generate organism identification at species level. Development of this procedure as a technique for VRE strain typing could be a potentially valuable and rapid alternative to the more expensive and demanding typing methods, such as PFGE.

### METHODOLOGY

Forty five VRE patient isolates from February 2011 to December 2016 previously typed by PFGE were used to assess the ability of the MALDI-TOF MS to type VRE by comparing results to PFGE.

MALDI-TOF MS typing: The VRE isolates were typed using the Microflex™ LT mass spectrometer. Using the Bruker FlexControl™ software mass spectra (MS) were generated for each isolate. Visual inspection of the MS peaks was used to identify similar and discriminating peaks between samples. Similar peaks were excluded and discriminating peaks were identified in an effort to type isolates together.

### RESULTS

Comparative analysis: Simpson's Index of Diversity was calculated to measure the discriminatory ability of the two typing systems. MALDI typing (ID, 0.823) had a lower discriminatory power when compared to PFGE typing (ID, 0.904). The Adjusted Wallace Coefficient was calculated as a measure of congruence between the two typing methods. There was a 93.6% probability of a PFGE type to correlate with a MALDI type, and only a 46.3% probability for a MALDI type to correlate with a PFGE type. This demonstrated further that the PFGE typing method has a higher discriminatory power as PFGE typing subdivides the MALDI types. The Adjusted Rand Coefficient value of agreement between the two typing methods was 61.9%. This rather low value shows there was poor concordance between the two methods.

Epidemiological analysis: No epidemiological links were found between inpatient locations and VRE MALDI typing.

### CONCLUSION

Manual mass spectral analysis of each isolate to find discriminating peaks is laborious and cumbersome, so the development of a fully automated accurate method would be necessary before MALDI typing could be incorporated into the routine workflow of the clinical microbiology laboratory. The use of MALDI typing was proven possible as VRE isolates were clustered into different groups, but due to the poor concordance with the PFGE typing results, and the lower discriminatory power, the use of MALDI-TOF MS as a typing tool is limited.



## Detection of *Neisseria Meningitidis* in a Paediatric Patient with Septic Arthritis using Multiplexed Diagnostic PCR Targeting Meningitis/Encephalitis

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### ABSTRACT

*Neisseria meningitidis* is associated with meningitis and septicaemia. Septic meningococcal arthritis is relatively uncommon and its diagnosis is associated with clinical and microbiological challenges. Early recognition and treatment is required to prevent joint destruction.

We describe a case of an eleven year old boy with septic arthritis and the first reported use of a multiplexed diagnostic PCR test, capable of simultaneous rapid detection of 14 pathogens directly from CSF samples, to determine presence of *N. meningitidis* in a synovial fluid sample.

In this case, blood cultures and an aspiration of the joint fluid were negative for microbial growth, but leucocytes were present. Analysis of samples using the multiplexed FilmArray® meningitis/encephalitis panel (MEP) proved positive for *N. meningitidis*. In parallel, samples forwarded to an accredited reference laboratory confirmed the findings by bacterial 16S rRNA gene amplification and sequencing. Subsequent to these results, empiric treatment with intravenous flucloxacillin was discontinued and oral amoxicillin administered for 1 month. The status of the patient improved with etiology-based antimicrobial therapy.

This case demonstrates difficulties associated with clinical and microbiological diagnosis of primary septic meningococcal arthritis. We describe the first successful use of the FilmArray® MEP assay in detection of *N. meningitidis* in that context.

### SOURCE

Annals of Clinical Microbiology and Antimicrobials. 2018 Mar 23;17(1):14.

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## Towards a Novel Task to Assess Listening Effort - A Pilot Study in Normal Hearing

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### ABSTRACT

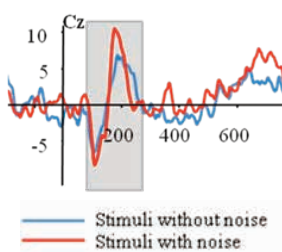
Cochlear Implants (CIs) have helped to restore auditory perception in an estimated 400,000+ patients worldwide.<sup>1</sup> Listening in a noisy environment however, continues to be demanding for CI users. Cognitive load and listening effort (LE) are critical concepts in comprehending verbal communication: listening to degraded speech is a taxing task that requires listeners to devote additional cognitive resources for successful understanding. Ageing poses an additional challenge on this because of hearing impairment and a general cognitive decline.<sup>2,3</sup> Despite the frequently reported experience that listening is effortful, objective measures of LE have not been standardised for clinical use.<sup>4</sup>

The purpose of our project is to use behavioural and electroencephalographic (EEG) measures to identify biomarkers of LE by means of a novel bimodal task.

Sixteen normal hearing (NH) controls (11 females, mean age=38.7 years) participated in this study. Due to technical issues, 6 participants were removed from the analysis. The task consisted of digits randomly presented either aurally or visually. All participants were asked to make a button press with the right middle finger in response to standard events, i.e. whenever a stimulus was presented, and a second button press with the right index finger to deviant events, i.e. everytime the digit matched the one previously presented. The task was conducted in two bimodal conditions (Audio-Visual) with and without background noise (low LE and high LE, respectively). EEG data were recorded from 32 scalp electrodes. Response Times (RTs) and accuracies were calculated and repeated measures ANOVA was performed on both behavioural and electrophysiological data.

A significant effect of LE was observed in the most prominent negative deflection around 100 minutes after the stimulus onset: its amplitude was enhanced when auditory stimuli were presented with background noise as well as the following positive phase, reflecting changes in neural activity that might be due to an increase in attentional effort (Figure 1).

**Figure 1 - Single Participant EEG Data during both Low (blue line) and High (red line) LE Tasks**



Behavioural data also confirmed an effect of LE resulting in prolonged RTs and reduced accuracies for the high LE condition.

Results showed that our novel bimodal task is able to capture the effect of LE on NH participants. Overall, EEG waveforms showed differences that can be further investigated as physiological correlates of workload: in particular, peak latencies and amplitudes of the above mentioned waves may be salient markers of aspects of neuro-cognitive function in the context of ageing and CIs that will be explored in the foreseeable future.

The ultimate goal of this research is to gain further insight into cognitive processing in older CI recipients objectively assessing LE, since an increased understanding of the cognitive processes required for speech comprehension will help us to not only maximise speech recognition, but to reduce cognitive load and effort in CI users.

### REFERENCES

Available on request.

### PRESENTED

As a poster presentation at:-

- The Annual Research Day of the Royal College of Surgeons in Ireland, Dublin on March 7th, 2018.
- The 15th International Conference on Cochlear Implants and Other Implantable Auditory Technology (Ci2018) in Antwerp, Belgium from June 27th to 30th, 2018.

### FUNDING

This study was supported by a Cochlear Research and Development Limited (Grant No. 2132).

### SOURCE

Di Nardi, C., Simoes-Franklin, C. and Viani, L., 2018. Towards a novel task to assess listening effort: a pilot study in normal hearing. *Journal of Hearing Science*, 8(2).



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## Living in the Moment - The Psychological Benefits of Mindfulness Based Cognitive Therapy for Older Adults

### INTRODUCTION

Mindfulness Based Cognitive Therapy (MBCT) is a group based treatment which simultaneously combines mindfulness practice with elements of Cognitive Behavioural Therapy (CBT).<sup>1</sup> Older adults can face various difficulties associated with the ageing process, such as health concerns, bereavement and social isolation.<sup>2</sup> Previous literature suggests that there is limited research investigating the benefits of MBCT for older adults despite preliminary evidence suggesting cognitive, emotional, physiological and psychological benefits.<sup>3</sup>

### OBJECTIVE

This study aimed to add to the research base and address this gap in the literature by investigating older adult mental health service users' (n=7) experiences and perceived benefits of MBCT as a therapeutic intervention.

### METHODOLOGY

The study employed a mixed methods methodology. The quantitative phase examined older adults' perceived levels of depression, self-compassion, stress, mindfulness use and quality of life at baseline and following eight weeks of MBCT. The qualitative phase employed semi-structured interviews examining older adults' experiences of taking part in the MBCT group. Thematic analysis<sup>4</sup> was used to analyse the qualitative data and descriptive statistics were used to analyse the quantitative phase.

### RESULTS

Descriptive analysis showed an improvement in the levels of depression, self-compassion, stress, mindfulness use and quality of life following the eight week programme. Prior to the mindfulness group, participants reported seeking *"something that wasn't medication that might help"*, as well as curiosity and the motivation to develop new skills that might help to *"get over those agitating moments."* Participants retrospectively viewed their experiences as vastly positive, with *"the sense of universality, acquisition of knowledge, feelings of connectedness and the development of mindfulness skills"* predominately favoured. Perceived benefits of mindfulness practice include the *"calming of the mind, acceptance of the ageing process, self-compassion, gratitude, the importance of self-care, feelings of awareness and the ability to be in the present moment."* Post-group, the participants reported continued mindfulness use, both regularly and as a responsive technique.

### CONCLUSION

This study showed the effectiveness of MBCT as a beneficial psychological intervention for older adults. Future studies should include a larger sample of older adults and could extend the study to adopt a longitudinal approach. Recommendations for practice are discussed within the context of therapeutic interventions for older adult mental health service users.

### REFERENCES

Available on request.





# A Randomised Comparison of Two 'Stress Control' Programmes - Progressive Muscle Relaxation versus Mindfulness Body Scan

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## INTRODUCTION

We all experience stress from time to time. While a certain amount of stress can be beneficial such as motivating us to prepare for work or exams, long-term stress may become a health burden both physically and mentally. One of the biggest challenges facing mental health services is to reduce the impact of stress on those facing difficult challenges in daily life through flexible, innovative and cost-effective treatment initiatives. The Stress Control Programme<sup>1</sup> is a six week adult education class which uses cognitive behavioural techniques to tackle mental health issues such as anxiety and depression, two of the most common responses to high levels of stress.

## OBJECTIVE

This research examines the relationship between treatment outcome and intervention type, by exploring the benefits of the Stress Control Programme when combined with either Progressive Muscle Relaxation or Mindfulness Body Scan.

## METHODOLOGY

The experiment was conducted in a rural Irish community setting, inviting participation from the general public (n=86). All participants attended the standard six week Stress Control intervention. Participants in Intervention Group A received Stress Control augmented with a 15 minute Progressive Muscle Relaxation audio recording for home use between classes, while participants in Intervention Group B received Stress Control augmented with a 15 minute Mindfulness Body Scan audio recording for home use between classes.

All participants completed the Depression, Anxiety and Stress Questionnaire (DASS 21), the General Health Questionnaire (GHQ 12) and the Coping Strategies Indicator (CSI) at pre-intervention, post-intervention, and at three month follow-up.

## RESULTS

The results of this study found a statistically significant improvement for both Intervention Group A and Intervention Group B on levels of psychological wellbeing, stress and anxiety. Furthermore, participants in intervention Group B (Stress Control with Mindfulness Body Scan) demonstrated significant improvement in levels of depression. The findings suggest that when treatment approaches are specifically tailored to target specific symptoms, the results lead to a greater degree of intervention effectiveness.

## CONCLUSION

This study set out to explore the effectiveness of a Cognitive Behavioural Therapy (CBT) - based large group intervention, and to investigate whether two different approaches (Stress Control with Progressive Muscle Relaxation versus Stress Control with Mindfulness Body Scan) would enhance treatment outcome. The findings are extremely encouraging with significant reduction in symptoms of stress, anxiety and depression from pre-intervention to post-intervention and at three month follow-up, as well as a significant improvement in overall psychological wellbeing.

This research provides valuable information on not only the effectiveness of 'Stress Control' as an intervention for anxiety and depression, but its usefulness as a stepped care service to provide easily accessible psychological therapy to communities. The results of this study provide support for the development and expansion of community mental health services, which are cost-effective and easily accessible. The benefits for rural, 'hard to reach', socially isolated populations are particularly promising in an Irish context.

## REFERENCES

Available on request.

## Understanding and Experiences of Co-Production among Nurses in Specialist Roles in an Irish Forensic Mental Health Service

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### INTRODUCTION

Co-production within mental health is defined as “a relationship where professionals and citizens share power to plan and deliver support together, recognising that both partners have vital contributions to make in order to improve quality of life for people and communities.”<sup>1</sup> Service users in forensic settings should be part of an informed, active partnership with their treating professionals.<sup>2</sup> This, in essence, requires co-production between professionals and service users in forensic settings. Co-production within mental health requires trust, exchange of power and autonomy.<sup>3</sup> Although working together presents possibilities, it also presents challenges posed by the culture and environment of mental health services.<sup>4</sup> However, a co-production model empowers professionals to utilise their expertise in making decisions with service users.<sup>5</sup>

Studies show that co-production has better outcomes for service users. When service users are in care for long periods, such as in forensic settings, co-productive activities are particularly necessary for them to reach their recovery goals and to build skills to aid rehabilitation. The Irish forensic mental health service has expanded its service in recent years, both within the inpatient and community setting. Service users now have more opportunities to engage in educational, vocational, recreational and therapeutic activities. The majority of these areas are managed by non-unit based nurses at Clinical Nurse Manager 1 and 2 levels. These nurses have up-skilled themselves in their area of work through relevant training and educational qualifications. They actively engage in co-productive activities on a daily basis away from the constraints of the units. Therefore, it is important to capture their understanding and experiences of co-production.

### METHODOLOGY

A qualitative exploratory research design was adopted for this study. Data was collected using semi-structured interviews guided by an interview schedule from ten mental health nurses in specialist roles, selected using a purposive sampling technique. Transcribed data was analysed using thematic content analysis.

### RESULTS

Themes and sub-themes which emerged from the findings are given in Table 1.

**Table 1 - Themes and Sub-Themes derived from Thematic Analysis**

Themes	Sub-themes
Co-production in a forensic mental health setting	Understandings of co-production Co-produced activities in mental health
Implementing co-production in a forensic mental health setting	Guided co-production Co-production and therapeutic security Relational security in co-production
Benefits of co-production	Recovery of service users Rehabilitation of service users Benefits to the service
Future considerations for co-production	Funding and resources Update on co-production Evaluation of co-production

Findings suggest that participants recognised co-production in mental health as engaging in equal partnerships with service users, and giving them choice. They provided an extensive list of co-productive activities service users are engaged in (Table 2) that aid in recovery. Their perceived benefits include increasing service users' self-confidence, self-esteem, motivation, empowerment, social skills, autonomy, and feeling valued and it also has physical health benefits. Nevertheless, participants identified the importance of 'guided co-production' in forensic settings where co-production is guided by the mental health legislations and multidisciplinary risk management.



**Table 2 - Co-Productive Activities**

Co-productive Activities	
Animal husbandry-collecting eggs, caring for animals, and course in conjunction with donkey sanctuary for service users and staff	Football practice
Arts and crafts produced for Christmas market	Garden party
Art groups	Guitar classes
Accompanying service users on community leave	Gymnasium
Band practice	Horticulture activities- planting, potting, seed germination, harvesting fruit and vegetables, each service user is given their own plot to grow what they wish
Bee keeping- making candles and collecting honey	Indoor games
Carer support group	Jogging group
Carpentry- making and restoring furniture for service users, family members, woodturning, assisting other projects by making things such as beehive, rabbit hutch, and chicken hut; Making gifts for family members-bowls, vases, lamps, fairy doors; Showcase work at Christmas show and garden party	Music, drama, and poetry group
Choir practice	Orchestra
Christmas market and show	Painting a mural annually
Cooking groups	Recording music and making CDs
Cricket practice	Service user as DJ at discos
Discos	Service user as electrical engineer for light and sound at band practice/discos
Drum lessons	Song writing
Family and friends group	Sports day
Fitness trainer	Ukulele group
	Walking group
	Yoga

## CONCLUSION

Relational security is essential in implementing co-production in forensic settings. This may be achieved by increasing staff to service user ratio and continuous risk assessment and management. Guided co-production in all levels of security (acute, medium and low) is important. Further research is recommended to evaluate the effectiveness of co-production from the service users' perspective.

## REFERENCES

Available on request.



Burke, J.,<sup>1,2</sup>  
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## Satisfaction, Stress and Reflective Functioning in Parents attending a Single Session Drop-in Primary Care Intervention

### INTRODUCTION

Single session interventions (SST) have been implemented in various formats in clinical psychology, attracting attention in the research given their utility as an accessible and effective intervention for services managing long waiting lists.<sup>1</sup> Stress and reflective functioning (RF), the capacity to understand behaviour in the context of underlying mental states, are important components related to child adjustment.<sup>2</sup> Few studies have examined the relationship between stress and RF within a population presenting to an SST psychology clinic for parenting difficulties. The single session walk-in clinic offers parents a 45 minute session with a psychologist to discuss concerns and queries they have about a child's behaviour.

The aim of the drop-in is to provide an accessible service offering appropriate strategies in a timely manner that foregoes long waiting lists in an attempt to reduce the need for more long-term, individual interventions.<sup>3</sup>

### OBJECTIVE

The aim of the present study is to evaluate client satisfaction, RF and perceived stress levels in attendees of a walk-in SST within a primary care child psychology service in the Irish health service.

### METHODOLOGY

Fourteen participants were interviewed in a brief research session directly after the walk-in session had been completed. All participants were parents who attended a walk-in SST within a primary care child psychology service in the Irish health service due to concerns about a child in their care. Quantitative measures including the 8 item Reflective Functioning Questionnaire,<sup>4</sup> 10 item Perceived Stress Scale<sup>5</sup> and Experience of Service Questionnaire<sup>6</sup> were administered to explore satisfaction, RF and perceived stress levels in attendees respectively. In addition, a semi-structured interview was conducted to obtain more in-depth understanding of parents' experiences of the drop-in clinic.

### RESULTS

Results revealed that all 14 parents were very satisfied with the service they received. Quantitative data revealed a descriptive profile for attendees of moderate levels of perceived stress and impairments in RF, whereby parents overestimate the certainty with which they can understand the mental states of their children. Thematic analysis elucidated four important themes to understand the participants' experience of attending the walk-in clinic. These were defined as: Experience of the Relationship; Facilitating Understanding; Implementing Change and Emotional Containment.

### CONCLUSIONS

The study provides valuable information about the profile of attendees to the drop-in clinic. With the knowledge that most parents attending are stressed and are having difficulties in keeping the 'child in mind', clinicians may be able to provide more tailored strategies to improve these important aspects of parenting during the drop-in session. These adjustments would improve what is already perceived by attendees as a very useful service. The challenge to provide sufficient emotional containment in a brief psychological session that attempts to find a resolution to difficult problems in a short period of time was evident throughout participants' narratives during the research interview. However, the sessions made parents feel more capable of implementing change, having attended. This provides promising support for the potential of drop-in clinics to reduce the need for more long-term, resource-intensive interventions at a later stage.

### REFERENCES

Available on request.



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## The Use of a Music Therapy Choir to Improve Mood, Quality of Life and Cognition in Older Adults

### ABSTRACT

Depression is a major public health burden and the most frequent mental health problem among older populations. It is often unrecognised and untreated in older populations due to societal attitudes and the fact that depression is masked by dementia or comorbid with other health conditions. In older populations music therapy has a growing body of evidence as an effective clinical intervention for depression and age-related conditions. Music therapy uses music and its elements as the therapeutic agent to address clinical goals and improve overall functioning in patients. Individual and group music therapy involving singing with older adults are well documented; however the more formalised arrangement of choir interventions within music therapy and related disciplines has only recently emerged from the literature. There remains a need for further research investigating the effectiveness of choral interventions with older adults and, in particular, with music therapist-led choirs.

This randomised controlled trial sought to assess if participation in a music therapy choir intervention could reduce depressive symptoms and improve quality of life and cognitive functioning in older adults.

In this study, 40 participants at a HSE residential care unit and day care centre were randomly assigned to two groups; a treatment (choir) group (n=20) who would actively participate in the choir for 12 weeks and a control group (n=20) who would receive standard nursing care. Both groups were assessed pre and post-intervention for depressive symptoms (Cornell Scale), quality of life (QOL) (Cornell Brown) and cognitive functioning (Mini Mental State Examination (MMSE)). The treatment group were also given intervention evaluation questionnaires to complete after the study. The choir sessions were planned and led by an accredited music therapist and included: mindfulness relaxation and meditation, vocal improvisation, singing and articulation exercises and learning and singing varied repertoire.

Demographic characteristics for the two groups were well matched with a non-significant difference between the pre-treatment test scores. Post-treatment mean depressive symptoms in the choir group were reduced by 54% (p=0.004). Furthermore, while 8/17 (47%) displayed depressive symptoms at the beginning of the study with a score of 8 or more on the scale, after the intervention no choir member displayed depressive symptoms of more than 8. The mean quality of life score in the choir group improved by 57% (p= 0.0004) and 76% of the group had some increase in QOL score. While the MMSE mean pre-scores in both groups were not different, there was a significant increase in cognitive functioning from 25.4 to 26.27 (p=0.011) and more than half (9/17) had an increase in cognitive functioning. Results from self-administered questionnaires highlighted perceived benefits of the intervention. Sixty seven per cent (n=17) reported improved mood, while 40% reported physical gains such as speech and breath control. Other themes included increased social interaction and memory improvement.

When asked how participants felt after a session, some comments included: "I feel happy, I feel part of the community", "happy, the songs brighten me up", "I feel good; I really like the feeling of having achieved something", "You forget all your worries when you're singing." When asked what the choir means to participants, comments included: "I really enjoy it. If you sing more often you don't feel depressed", "It's good for your health", "Social wellbeing and interactive benefits", "It's the best thing that has happened to us. It makes us feel important", "it's a kind of musical family."

The results of this controlled study indicate that the intervention significantly reduced depressive symptoms, improved quality of life and increased cognitive functioning. A music therapist-led choir is an efficient and cost-effective treatment option to support older adults with depressive symptoms in residential and community settings, which may be a more desirable alternative to pharmacological interventions.

### PRESENTED

As an oral presentation at the 8th European Music Therapy Congress in Cádiz, Spain on May 6th, 2010 by Bill Ahessy.

### FUNDING

The study was funded by the Meath Foundation (Adelaide and Meath Hospital Incorporating the National Children's Hospital, Dublin).

### SOURCE

Music and Medicine. 2016;8(1):17-28.



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## Smoke and Mirrors - An Audit of Smoking Habits and Cessation Advice in an Inpatient Population

### INTRODUCTION

Smoking is a well recognised risk factor for many diseases, including cardiovascular disease, lung cancer, peripheral vascular disease (PVD), pulmonary arterial disease (PAD), diabetes, stroke and chronic obstructive pulmonary disorder (COPD). It has been recognised that smoking cessation interventions are a cost-effective life-saving intervention and hospital contact is an ideal time to advise patients and provide support to those who want to quit. From a clinical perspective locally it was noted that smoking status was not always readily documented in patients' notes, patients were not routinely offered nicotine replacement therapy (NRT) or smoking cessation advice and staff appeared to lack knowledge on the role of NRT and the local availability of a smoking cessation officer.

### METHODOLOGY

A retrospective chart review was conducted on inpatients in the surgical and medical wards. A total of 20 charts were reviewed at random. An audit collection tool was used to extract data, which was subsequently stored on a password protected Excel file, with no patient identifiers. Excel was used to perform basic statistical analysis.

### RESULTS

A total of 20 hospital records were reviewed at random. Seventeen patients were medical, 3 surgical, of which there were 11 female. The average age was 65 years. Smoking status was documented in 16/20 (80%), 8 of which were current smokers. Cumulative pack years were correctly documented in 6/16 (37.5%). Of the 8 current smokers, smoking cessation advice was offered in 1 case. No patient was prescribed NRT and no one was referred to the smoking cessation officer. One patient was actively smoking, with COPD and on home long term oxygen therapy (LTOT), whilst two more were new lung cancer cases, of which only one was offered smoking cessation advice, but NRT was not prescribed.

### CONCLUSION

The prevalence of smoking remains high, while there is also poor recording of smoking status in patients' clinical notes. The majority of current smokers are not being offered smoking cessation advice, NRT or referral to smoking cessation services. While this may represent an under recording of verbal advice, it does highlight a significant missed opportunity to intervene. The overall findings from this audit make it clear that current adherence to national standards in smoking cessation is lacking and that there is much to do to improve smoking cessation treatment for patients in the Mercy University Hospital in Cork.



## Primary Care Team Profiling Across Co. Donegal

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### INTRODUCTION

Primary Care Team (PCT) Profiles across Co. Donegal give facts on health within the area, aiming to inform health professionals, local authorities and the general public and enable them to improve health services and reduce health inequalities through collaborative working.

The main objectives are to:-

- Provide a consistent, comparable yet concise overview of the population's demography, health and wellbeing
- Inform the Co. Donegal Needs Analysis Project
- Empower the Community Health Fora, Community Health Network, HSE and other agencies which may have an impact on health in addition to the wider community
- Consider how each PCT area compares to various geographical levels inclusive of Co. Donegal, Community Healthcare Organisation Area (CHO 1) and nationally

### METHODOLOGY

The PCT Profiles have been developed utilising data from the Census of Population, conducted by the Central Statistics Office (CSO) making comparisons within the population structure between the Census of Population for 2011 and 2016, by aggregating data, for micro geographies encompassing Electoral Divisions (EDs) level (which are the smallest legally defined administrative areas in the State) to compose the PCT geographical area. The profiles cover a wide range of objective and self-reported data with a strong focus on overall population change, demographics including age and gender, deprivation, nationality, family structure and self-reported health indicators.

### RESULTS

A total of 159,192 people were living in Co. Donegal according to the latest Census of Population undertaken in 2016, despite the population declining between 2011 and 2016; it grew by 8.1% over the past 10 years. Co. Donegal is composed of 18 Primary Care Teams (PCTs), ranging in population size from Derrybeg with a population of 4,038 to Letterkenny, 26,144 persons, (covering 3 PCTs).

### CONCLUSIONS

These profiles provide comparable, standardised information covering all 18 PCTs in Co. Donegal with plans to roll them out for other areas to enable health and social care professionals to identify health inequalities and provide the data necessary for service planning and delivery.

### PRESENTED

As a poster presentation at 'Translating Health and Social Care Professions' Research into Policy and Practice' on November 14th, 2018 at the Conference Centre in Dublin Castle.



## Smoking-Related Hospitalisations in Ireland, 2016

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### INTRODUCTION

Smoking contributes to a wide range of health conditions, leading to significant use of hospital services. An estimate of the number of hospital admissions attributable to smoking was undertaken in 2013.<sup>1</sup>

### OBJECTIVE

To facilitate ongoing monitoring, this study aimed to build on this previous work, and quantify the number of day case admissions, inpatient admissions and resulting bed days for conditions related to smoking and exposure to second hand smoke (SHS) in Irish hospitals in 2016.

### METHODOLOGY

Using age-specific and gender-specific rates for current smoking and ex-smoking, from the Healthy Ireland Survey 2015,<sup>2</sup> combined with an internationally recognised methodology for estimating the health burden of smoking,<sup>3</sup> the smoking-attributable proportion of 41 conditions, with a causal relationship with smoking, were calculated and then applied to data on hospitalisations sourced from the Hospital Inpatient Enquiry System (HIPE),<sup>4</sup> for 2016.

### RESULTS

In 2016, there were estimated to be approximately 34,000 inpatient hospital admissions consuming approximately 309,000 bed days, and 21,500 day case admissions attributable to smoking and exposure to SHS. Approximately 1% of these inpatient admissions, bed days and day case admissions were as a result of exposure to SHS.

Overall, in 2016, 5% of all inpatient admissions, 2% of all day case admissions, and 8% of inpatient bed days were attributable to smoking and SHS. By clinical grouping, one in five inpatient admissions for respiratory diseases, circulatory diseases and cancers were estimated to be attributable to smoking and SHS.

Further analysis of these hospitalisations revealed that almost 60% of inpatient admissions for respiratory conditions known to be caused by smoking, and half of admissions related to cancers that are known to be caused by smoking, were estimated to be attributable to smoking and exposure to SHS.

### CONCLUSIONS

These data provide valuable information on the extent of smoking-related diseases treated in Irish hospitals during 2016, and highlight the potential savings to our health service if Ireland was tobacco-free. In addition, for those who continue to smoke, these hospital encounters should provide an opportunity for patients to engage with HSE smoking cessation services and make a supported quit attempt.

### REFERENCES

Available on request.

### PRESENTED

As an oral presentation at the Tobacco Free Partners Conference 2018 in Farmleigh House, Dublin on May 31st, 2018 by Dr. Paul Kavanagh.

### Acknowledgements

We wish to acknowledge the Healthcare Pricing Office, HSE for providing access to the HIPE dataset.



## Factors Associated with Attempting to Quit and Successful Quitting among Irish Adults - A Special Analysis of The Healthy Ireland Survey prepared on behalf of the Tobacco Free Ireland Programme

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### INTRODUCTION

A key component of the government's Tobacco Free Ireland Programme is to assist smokers to quit. However, little is known about quitting behaviour in an Irish context. Such information would help to develop and target interventions to further promote quitting.

### OBJECTIVE

This study aimed to measure the prevalence of smokers quitting intentions and behaviours, and the factors associated with quitting attempts and successfully quitting smoking.

### METHODOLOGY

The study analysed the 2015 Healthy Ireland Survey. This is a representative household survey of the health and wellbeing of the Irish population (15+). There were 7,539 respondents which corresponded to a response rate of 61%. The data was analysed in SPSS Version 25 and JMP statistical package. Multivariate analyses including logistic and ordinal regression modelling were undertaken using discretionary backward elimination. Ethical approval was obtained from the Department of Health, Dublin.

### RESULTS

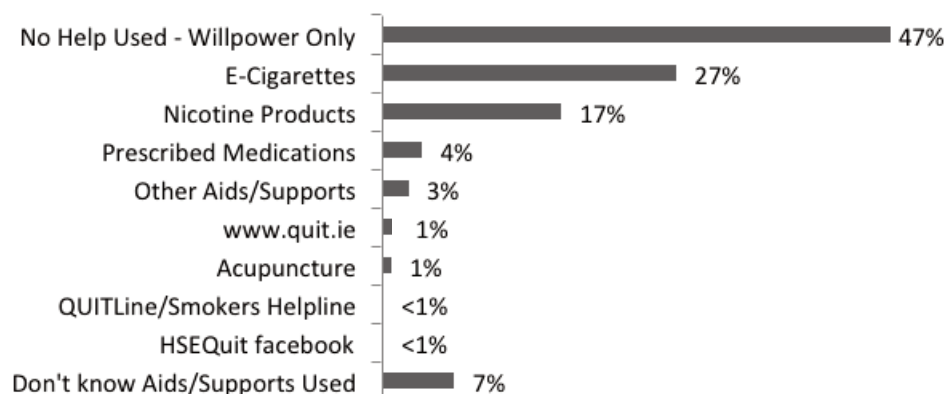
#### Smoking and Quitting Prevalence:

A total of 23% of the respondents were current smokers. Two-thirds of current smokers reported they were at least thinking about quitting smoking and almost half (45%) had stopped smoking for 1 day or longer during the last 12 months, because they were trying to quit smoking. A total of 28.5% of those who attempted to quit smoking, have quit successfully and have remained off smoking during this time.

#### Quitting aids and supports:

Almost half (47%) of those who attempted to quit smoking in the last 12 months used willpower alone to help them. Over a quarter (27%) used e-cigarettes while 17% used nicotine products.

**Figure 1 - Help and Quitting Aids used by those who Attempted to Quit Smoking**



#### Factors Associated with attempting to quit and successful quitting:

Those attempting to quit were more likely to have attended third level education (OR: 1.6,  $p < 0.05$ ), be under 35 years of age (OR: 1.6,  $p < 0.0001$ ), have a non-manual occupation (OR: 1.3,  $p < 0.05$ ) and be married (OR: 1.2,  $p < 0.05$ ). Similarly those who successfully quit were more likely to have attended secondary (OR: 7.3,  $p < 0.0001$ ) or third level education (OR: 7.2,  $p < 0.0001$ ), have a non-manual occupation (OR: 1.5  $p < 0.01$ ) and be under 35 years (OR: 1.4,  $p < 0.0001$ ).



## **CONCLUSION**

This study found that over a quarter of recent smokers had reported that they had successfully quit smoking and now were ex-smokers. There is scope, however, to improve the proportion of smokers who attempt to quit and who succeed at quitting. The factors associated with quit attempts and successful quitting highlight the existence of factors related to health inequalities. A targeted approach is needed focusing on older smokers, lower socioeconomic classes, and those with lower education levels to increase quit attempts and quitting among these groups.

## **REFERENCES**

Available on request.

## **PRESENTED**

This study is part of a report launched by the Health Service Executive at the Tobacco Free Ireland Partners Conference in Farmleigh, Dublin on May 31st, 2018.

## **Acknowledgements**

We wish to acknowledge the Department of Health for providing access to the Healthy Ireland dataset.



## The Impacts of Smoking on the Health and Wellbeing of Older Irish Adults - A Special Analysis of the Irish Longitudinal Study on Ageing prepared on behalf of the Tobacco Free Ireland Programme

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### INTRODUCTION

Although the health effects of smoking are well known, many people continue to smoke into old age and see little benefit in quitting smoking; the literature suggests that many people who smoke are living with conditions related to their smoking, and overall enjoy a poorer quality of life than their counterparts who do not smoke.

### OBJECTIVE

This analysis aims to describe the impacts of smoking on older adults in Ireland, in terms of prevalence of chronic diseases, mental ill-health, limitations in their daily activities and their healthcare utilisation.

### METHODOLOGY

This study utilised Wave 1 of the TILDA survey, a nationally representative sample of approximately 8,500 community-dwelling adults, aged 50 years and older, living in Ireland. It includes questions on socio-demographics, living standards, income, wealth, physical health, lifestyle and behaviours, social support and use of health and social care, as well as attitudes to ageing. All statistical analysis was undertaken using JMP, SAS (v12). Population weighting was employed to bring the profile of respondents in line with the population profile. Bivariate analysis using Pearson's Chi-Squared and Fisher's Exact Tests was used to compare proportions. Multivariate analyses including logistic regression modelling were utilised using discretionary backward elimination. Statistical significance was determined at the 0.05 level.

### RESULTS

Almost one in five (19%) older adults in Ireland were current smokers, 38% had smoked in the past, and 43% had never smoked. Current smokers had smoked on average for 39 years, while ex-smokers had smoked on average for 22 years before quitting.

Almost 40% of those with a smoking history reported having one or more self-reported doctor-diagnosed smoking-related chronic diseases (specific cancers, circulatory diseases and respiratory diseases); the prevalence of these diseases was significantly higher among ex-smokers compared to current smokers (37% versus 34%).

Compared to non-smokers, current smokers were 1.5 times more likely to have reported depressive symptoms (as measured by the CES-D depression scale), and ex-smokers were also more likely (1.1 times) than never smokers, to report depressive symptoms.

As a result of physical and mental health problems, those with a smoking history were 40% more likely to report some difficulties with activities of daily living compared to those who never smoked. Furthermore, current smokers were 62% more likely to have recently attended their General Practitioner (GP), when compared to non-smokers; these findings were independent of age, gender and social class.

### CONCLUSION

For people who currently smoke and for policymakers, the health impacts of smoking can appear remote and depersonalised. Ireland is committed to becoming tobacco-free by 2025; a range of policy measures are being taken by the Department of Health and the Health Service Executive to achieve this including further promoting smoking cessation. Through describing the relationship between smoking and health in the older Irish population, this work provides a catalyst for greater focus.

### REFERENCES

Available on request.

### PRESENTED

As an oral presentation at the Tobacco Free Ireland Partners Conference 2018 in Farnleigh House, Dublin on May 31st, 2018 by Dr. Paul Kavanagh.

### Acknowledgements

We wish to acknowledge ISSDA for providing access to the TILDA dataset.



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# Factors Associated with Youth Smoking in Ireland - A Special Analysis of the Health Behaviour in School-aged Children Study on Behalf of the Tobacco Free Ireland Programme

## INTRODUCTION

Most smokers start smoking during youth and continue into adulthood. Preventing youth initiation is therefore a key priority for the HSE Tobacco Free Ireland Programme. Information is limited in Ireland on smoking patterns among adolescents. It was determined that a detailed analysis of smoking patterns would prove valuable, particularly in terms of informing policy and developing initiatives to reduce smoking among adolescents.

## OBJECTIVE

The aim of the study was to better inform tobacco control policy and planning in Ireland to tackle smoking initiation in youth through an analysis of smoking patterns among secondary school children in Ireland.

## METHODOLOGY

The study analysed the 2014 Irish Health Behaviour in School-aged Children (HBSC) Survey. This is a cross-sectional survey undertaken every four years in 44 countries and regions in collaboration with the World Health Organisation. It focuses on young peoples' health, wellbeing, behaviours and their social context. The survey comprised a random stratified sample of 13,611 schoolchildren (aged 9-18). Data was disaggregated by smoking status for all children. A smoker was defined as anyone smoking tobacco monthly or more frequently. The data was analysed in SPSS Version 25 and JMP statistical package. Pearson's Chi-Square and independent t-tests were used to compare smokers and non-smokers in terms of key variables. Multivariate analyses including logistic and ordinal regression modelling were also undertaken using discretionary backward elimination.

## RESULTS

A total of 16% of respondents had smoked cigarettes in their lifetime. Almost half of lifetime smokers (48%) had smoked in the previous 30 days. Overall 5.9% of schoolchildren were classified as current smokers (6.6% boys and 5.8% girls). Prevalence is greatest for those 18 or older (20%) and those 15-17 (14%), with 1% under 12 years of age smoking. A larger proportion of smokers are from the lower social classes (14% of smokers versus 12% of non-smokers).

Controlling for age, gender and social class the study found that, compared to non-smokers, smokers were:

- Almost 12 times more likely to have consumed alcohol and almost 39 times more likely to have consumed cannabis in the last month, and almost seven times more likely to have reported ever having had sex
- 1.5 times more likely to report being on a diet and two times more likely to think that they were too fat
- Almost 3.5 times more likely to have reported fair/poor health or not be happy with life
- Almost 2.5 times more likely to have been bullied, 1.5 times more likely to have bullied others in the last month, and 1.5 times more likely to have been in a fight in the last 12 months
- 3.5 times more likely to report disliking school, 0.5 times less likely to report being encouraged to express their views in classes and 1.7 times more likely to report less positive views about students in their class
- Two times more likely to have difficulty speaking to parents in the last month
- Less likely to have good knowledge of the health risks of smoking
- Almost 4 times more likely to agree that smoking looked cool, and were less likely to agree that smoking looked disgusting and that smoking looked boring
- Almost 4 times more likely to report that they had no household smoking restrictions
- Over 2.5 times more likely to find it easy to purchase cigarettes (themselves or getting someone else)

## CONCLUSIONS

Children are an important group to target in terms of reducing tobacco consumption in Ireland. The study demonstrates the challenges faced by children who smoke. This requires a broad-base response to meet these childrens' needs, which includes tackling their smoking in conjunction with wider supports.

## PRESENTED

As an oral presentation entitled 'The State of Tobacco Control in Ireland' at the Tobacco Free Partners Conference in Farnleigh, Dublin on May 31st, 2018 by Dr. Paul Kavanagh. <https://www.hse.ie/eng/about/who/tobaccocontrol/tobaccofreeireland/>

## Acknowledgements

The authors would like to thank the Health Promotion Research Centre, National University of Ireland, Galway for providing access to the HBSC dataset.



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## Sibling Bullying - A Mixed Method Analysis of Perceptions, Prevalence and Victims' Accounts

### INTRODUCTION

Sibling bullying is different from the usual family rows and bickering. Bullying in any context is a repeated, intentional, targeted personal attack on someone, (a sibling in this case), who is less able to defend themselves. It can be verbal, physical, psychological, involve property, lies. The aim is domination, achieved by intimidation and humiliation. Sibling bullying is more prevalent than peer bullying. Studies consistently find that between one third and one half of the population have been bullied by a sibling. Yet it is a "forgotten abuse", normalised as sibling rivalry.

There is evidence of a causal link between sibling bullying and mental health difficulties, in particular depression, anxiety, self-harm, as well as loneliness, low self-esteem and behavioural difficulties. Much sibling bullying starts from early childhood, but it can also begin in adolescence or even adulthood.

### OBJECTIVE

This study aimed to compare prevalence rates of sibling versus peer bullying using self-report online questionnaires. In addition participants rated a vignette (depicting either two siblings or two peers engaging in bullying behaviour) in order to examine perceptions of the same bullying behaviour in the different contexts. Lastly, this study aimed to compare these findings with first-hand accounts of victims of sibling bullying.

### RESULTS

Thirty six per cent of participants (n=80) had experienced frequent sibling victimisation (occurring once a week or more, over a period) since the age of twelve, mostly by a sibling close in age (and mostly a sibling immediately before or after (see Figure 1) compared to 26% for peer victimisation. When rating a hypothetical vignette, sibling bullying was considered less serious than peer bullying, suggesting minimisation and normalisation. This sharply contrasted with the distressing experiences of six interviewed victims of sibling bullying, who were left with memories of pervasive unhappiness in childhood, fractured family relationships, ongoing residual psychological difficulties and some serious mental health difficulties including self-harm.

Victims can be bullied by brothers, sisters, older, younger. While there was a moderate correlation between family size and bullying rates, the fact that severe bullying can occur in families of two children suggests that the quality of family relationships may be more of a factor than demographic variables.

Much of sibling bullying is not witnessed by a parent. But when it is, or when it is reported by the victim, parental responses are frequently inadequate or ineffective. Parents mostly treat the behaviour as relational, blame the victim, don't take it seriously or do not get involved. The lack of effective response compounds feelings of isolation with victims left living in a chronic state of fear and hopelessness. One victim says "If I couldn't talk to my mother who else was going to care?"

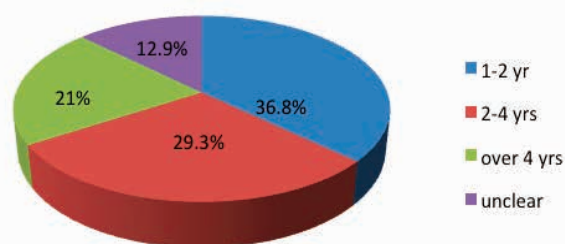
### CONCLUSION

Across studies, parental behaviour has been found to be the most influential factor in sibling bullying. Parental differential treatment of their children and vying for parental resources are major contributors, as are marital breakdown, high parent-child conflict, harsh or chaotic parenting and poor familial relationships. Favouring or disfavouring one child, particularly within an already malfunctioning family is a key factor.

Sibling bullies are motivated by a desire to dominate, to raise their status within the family hierarchy. They have lower levels of empathy and are skilled at manipulating the fears and insecurities of their victim. They generally (if not always) realise that their behaviour causes some distress and pain to their victim and have the social cognitive skills to realise wrongdoing. Name-calling is the most common method used.

Sibling bullying is best understood in the context of the family system and not just within the bully-victim dyad. Normalisation is its greatest fuel. There is a need to challenge this perception and for a new vocabulary so that victims can access a linguistic and social support system that condemns bullying in any context, including between siblings.

Age difference between sibling perpetrator and victim (participant as victim)





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## Examining Third Level Students' Access to Illicit Tobacco Products in Limerick City

### INTRODUCTION

A 2017 survey carried out by the Irish Revenue highlighted more than 34 million cigarettes and 1,768 kilograms of other tobacco products with a retail value of more than €20 million were seized which represents a potential loss to the Exchequer of over €16 million in duty.<sup>1</sup> There was also a record 26 convictions for the smuggling of tobacco products<sup>1</sup> and 53 convictions for the selling of illegal tobacco products. The illicit tobacco trade is clearly an ongoing issue in Ireland.<sup>2-4</sup> Whilst there has been investment in cargo and container scanners at ports<sup>5</sup> (a recent investment now bringing it up to three such tools available to the Irish Revenue), it is apparent that further investment in areas such as this needs to occur.

### OBJECTIVE

A study was conducted as part of a wider PhD project which looked at the illicit tobacco trade amongst third level students. This study was conducted to bring about a greater understanding of those who may be targeted into buying illicit tobacco, reasons for buying, such as ease of access and also to help identify where these products are being bought/sold.

### METHODOLOGY

This study was part of a larger PhD study focusing on tobacco control in Ireland. This was one component of a quantitative survey circulated to 450 students across two institutions in Limerick (82% response rate). Students completed this survey face to face with the researcher. Participants were asked some demographics questions in conjunction with specific ones focusing on their own smoking habits, purchasing/selling of illicit tobacco products.

### RESULTS

Seventy two per cent of participants were women, 28% were men with 74% aged less than 25 years of age with a mean age of 23.3 years old (SD=6.795). Results highlighted that 31% of students surveyed identified as smokers, smoking on average 15 cigarettes a week.

Thirty four per cent (n=154) mentioned that they had been offered illegal cigarettes, most commonly from a friend (n=53, 12%) or a stranger (n=28, 6%). When asked if they had ever bought illegal cigarettes, 16% (n=72) said 'Yes'. Of those who admitted to buying illegal tobacco, 21% (n=72) said ease of access was a contributing factor in buying illegal tobacco. Of those who answered 'Have you ever sold illegal tobacco products?' (n=65), 10% answered 'Yes.'

### CONCLUSION

The increase of taxes on tobacco products is a proven method of tobacco control. The illicit tobacco trade undermines the effectiveness of this approach, as well as reducing government funds, a proportion of which would be spent on healthcare. Whilst the number of students buying and selling illicit tobacco products is quite small in Limerick, results do highlight the apparent need for further work to be done to tackle this epidemic in Ireland.

### REFERENCES

Available on request.

### FUNDING

This study was funded by the Graduate and Research Office at Limerick Institute of Technology via a PhD student bursary.



Evans, K.,<sup>1</sup>  
Hamilton, D.,<sup>1</sup>  
Breen, L.,<sup>2</sup>  
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## Preventing Suicides in Public Places - A Pilot Project in Limerick

### INTRODUCTION

Approximately one third of all suicides take place outside the home, in a public location. These can be indoor e.g. a public building or shopping centre, or outdoor e.g. a park or bridge. A public suicide affects not only the person's family and friends but can be traumatic for bystanders who witness the act or discover the body.<sup>1</sup>

In 2015, Public Health England (PHE) published a practical toolkit for suicide prevention for local authorities including a step by step guide to identifying frequently used locations.<sup>1</sup>

This pilot project adapted the PHE toolkit methodology to identify frequently used locations for suicidal acts at a local level. The systematic review which examined the evidence base for interventions that work was also updated.

### OBJECTIVE

Learning points from this project are being used to develop an Irish version of the PHE toolkit, a process which is supported by the National Office for Suicide Prevention (NOSP) and the National Suicide Research Foundation (NSRF).

### METHODOLOGY

This is a collaborative project between An Garda Síochána and the Department of Public Health Mid-West. Geo-coded Garda PULSE (Police Using Leading Systems Effectively) system data was used to identify frequently used locations for suicidal acts in Limerick, to understand suicide/self-harm methods and to profile the groups demographically.

A structured data analysis plan was used to conduct descriptive analyses for each location. This includes the number of times the site was used, method used, timing of suicide/suicide attempt, personal characteristics of the individuals etc.

### RESULTS

Data analyses: There were 712 incidents of suicidal behaviour (146 completed suicides; 566 suicide attempts) recorded by Gardaí in Limerick from 2012 to 2016. Of these, half (48%) occurred in public places.

Men accounted for more suicides/suicide attempts than women (accounting for 76% of all completed suicides and 53% of all suicide attempts). In general men choose means with a higher lethality rate e.g. hanging.

The most prominent age group to engage in suicidal behaviour were those aged 25-34 years. Almost a third of the suicidal incidents involved the same 80 people. The second attempt is generally more lethal than any subsequent attempts.

Most suicidal incidents that took place in public places occurred in water related locations; 63% of incidents occurred at bridges, rivers, quays, etc. For both city and county, bridges/rivers were identified as the most frequently used public locations for suicidal behaviour in Limerick. Five specific frequently used water locations were identified, accounting for almost 70% of this category. Water based entry was consistent all year with no seasonal variation.

Evidence-based interventions: An updated review of international evidence suggests there are four broad areas of intervention:-

1. Restricting access to the site and means of suicide (Incidence Rate Ratio (IRR) 0.06, 95% Confidence Interval (CI) 0.02-0.18;  $p < 0.0001$ )
2. Increasing the opportunity and capacity for human intervention (IRR 0.53, 95% CI 0.31-0.89;  $p = 0.02$ )
3. Increasing opportunity for help seeking (IRR 0.49, 95% CI 0.29-0.83;  $p = 0.009$ )
4. Changing the public image of the site

### CONCLUSION

This project confirms the feasibility of using this approach to identify frequently used locations for suicide prevention. Priority areas can be identified and a combination of evidence-based interventions can be introduced. Ideally the plan should involve a combination of actions from these areas and should be site specific. A pragmatic approach needs to be taken according to what is feasible in each location. An Irish version of the PHE toolkit is currently being developed; which will share the process and experience, and could be used as a guide to repeat the analyses in other areas.

### REFERENCES

Available on request.

### PRESENTED

At the Royal College of Physicians in Ireland (RCPI) Summer Scientific Meeting in Dublin on May 31st, 2018 by Dr. Douglas Hamilton.



## Lifetime Costs of Childhood Obesity in the Republic of Ireland

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### ABSTRACT

Systematic reviews establish that childhood and adult obesity (including overweight) are associated with a range of diseases. The wider JANPA ([www.janpa.eu](http://www.janpa.eu)) and safefood ([www.safefood.eu](http://www.safefood.eu)) projects undertook to estimate the lifetime costs of childhood obesity and the effects of reductions in mean childhood BMI in eight European countries. We present estimates for the Republic of Ireland (RoI).

Estimates are based on a Closed Cohort Simulation Model which takes a representative initial virtual cohort of a country's childhood population, models their lifetime BMI trajectories, and records the direct healthcare costs and societal costs (income and productivity losses) they are expected to experience over their lifetimes as a result of those BMI trajectories. Effects of 1% or 5% reductions in mean childhood BMI are estimated by comparing the attributable costs to those calculated in a second model in which the mean childhood BMIs have been reduced. The model was implemented in an adaptation of existing UK Health Forum microsimulation software. All costs and effects are discounted to 2015 values using an annual discount rate of 5% pa.

The total lifetime costs (in 2015 values) attributable to childhood obesity are €4,518m (€16,036 per person). Lifetime societal costs accounted for the majority of the total lifetime costs, and productivity losses due to premature mortality are the greatest single cost item. With a 5% reduction in mean childhood BMI, total lifetime savings are estimated to be over a billion euros; lifetime healthcare costs are expected to fall by €245.7m. Total lifetime cost (and per person costs) attributable to childhood obesity are much higher for males than females. Males incur higher total lifetime income losses and productivity losses due to premature mortality while females incur higher lifetime healthcare costs and productivity losses due to absenteeism. These differences may be explained in part by higher risk of premature mortality and higher average incomes amongst males and the greater tendency to seek and respond to care amongst females.

Our findings are broadly consistent with other studies although comparisons are very difficult because of methodological differences. The study highlights the staggering costs of childhood obesity and the substantial savings that could follow from modest changes in mean childhood BMI. Further work is needed to improve the co-ordination, quality and analysis of health information; particularly in the surveillance of obesity and obesity-related diseases and healthcare costs. The biggest gap in the JANPA costing model relates to the psychosocial consequences of childhood obesity and its implication for human capital and the economy.

### PRESENTED

At the Summer Scientific Meeting, Faculty of Public Health Medicine, Dublin on May 31st, 2018 by Professor Kevin Balanda, Director of Research and Information, Institute of Public Health in Ireland.

### FUNDING

JANPA – Joint Action on Nutrition and Physical Activity (Grant agreement n° 677063) has received funding from the European Union's Health Programme (2014-2020). Additional funding from safefood. ([www.safefood.eu](http://www.safefood.eu))

### SOURCE

JANPA: The Lifetime Impacts and Costs of Childhood Obesity/Overweight in Europe. Part 1: Deliverable D4.6 ([www.janpa.eu](http://www.janpa.eu))





Fahy, L.,<sup>1</sup>  
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Mooney, T.<sup>1</sup>

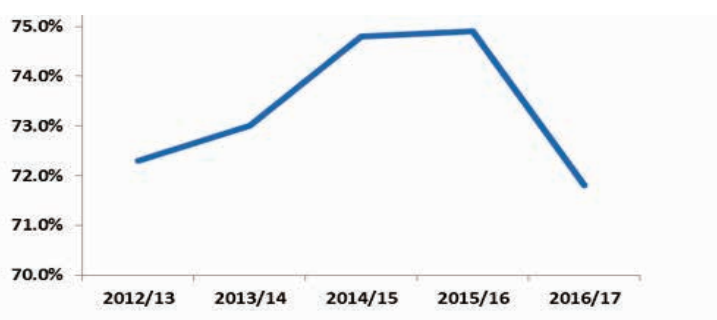
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## Does National Advertising Encourage Younger Women to Participate in Breast Screening for the First Time?

### INTRODUCTION

National advertising promoting attendance at the Irish breast screening programme consists of two 8-12 week advertising periods annually, with bursts of radio, press, TV, out of home and digital advertising. Once a woman attends screening she is likely to re-attend. Uptake in new initial women is highest amongst younger women (aged 50 to 54) invited for the first time. This rose from 72.3% to 74.9% between 2012/'13 and 2015/'16. However, in 2016/'17 uptake fell to 71.8% (Figure 1).

**Figure 1 - Uptake Amongst New Initial Women Aged 50-54 Years, 2012 to 2017**



### OBJECTIVE

The aim of this study was to determine the effect of national advertising on screening participation among initial 50-54 year olds.

### METHODOLOGY

Screening activity was combined with advertising schedules for 2016 and 2017. Two proportion Z-tests were used to compare screening participation during and outside advertising periods. Uptake metrics separate "new initial" women from initial women who have not responded to a previous invitation. However, participation metrics cannot distinguish between these types of women and give an overall initial participation rate, diluted by the non-responders. Screening promotion activity was reviewed.

### RESULTS

In 2016 and 2017 screening participation was significantly higher compared with outside advertising periods (2016 62.4% vs 58.2%,  $p < 0.0001$ ; 2017 58.9% vs 54.9%,  $p < 0.0001$ ) (Table 1). Staff shortages meant that screening promotion activity was reduced to 65% in 2016 and early 2017.

**Table 1 - Participation in BreastCheck, Adjusted for Advertising**

Participated in Screening	2016/17		2017/18	
	Advertising	No advertising	Advertising	No advertising
	n (%) 95% CI	n (%) 95% CI	n (%) 95% CI	n (%) 95% CI
Yes	12,597 (62.4%)	8,476 (58.2%)	10,448 (58.9%)	9,455 (54.9%)
	61.7% - 63.0%	57.4% - 59.0%	58.2% - 59.6%	54.1% - 55.6%
No	7,599 (37.6%)	6,087 (41.8%)	7,292 (41.1%)	7,780 (45.1%)
	37.0% - 38.3%	41.0% - 42.6%	40.4% - 41.8%	44.4% - 45.9%
Total invited	20,196	14,563	17,740	17,235

### CONCLUSION

The impact of national advertising on screening participation was positive in 2016 and 2017, however overall rates fell. The reduction in screening promotion activity may have contributed to the decline but is difficult to measure. National advertising is successful in increasing participation in screening for the first time.

### PRESENTED

As a poster presentation at the Symposium Mammographicum in Liverpool from July 8th to 10th, 2018 by Patricia Fitzpatrick.

## Introduction of Direct FIT Provision alongside Advertising in BowelScreen, the National Bowel Screening Programme - Influence on Continued Participation

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### INTRODUCTION

BowelScreen, The National Bowel Screening Programme, offers free bowel screening to men and women in Ireland aged 60-69 years through a home Faecal Immunochemical Test (FIT) kit. BowelScreen is advertised widely in national and local media to encourage uptake. To improve the 40.2% uptake in Round One (2012-2015), an intervention during Round Two saw FIT kits sent directly to previously screened (subsequent) clients rather than the "Usual-Invite" method, whereby clients contact the programme before receiving a FIT kit (Figure 1).

Figure 1 - Intervention



### OBJECTIVE

The aim of this study is to compare uptake by two invite methods occurring contemporaneously alongside advertising.

### METHODOLOGY

Uptake activity data was combined with advertising data for the period November 2016 - July 2017. Two proportion Z-tests compared uptake between FIT-Direct and Usual-Invite subsequent clients during and outside advertising periods.

### RESULTS

Preliminary results from BowelScreen in 2016 show uptake of 84.5% amongst subsequent clients. For this study, uptake was significantly higher amongst FIT-Direct compared with Usual-Invite clients (91.6% vs 85.1%,  $p < 0.0001$ ). Uptake was significantly higher amongst FIT-Direct compared with Usual-Invite clients during (91.0% vs 84.9%,  $p < 0.0001$ ) and outside advertising periods (93.8% vs 85.3%,  $p < 0.0001$ ) (Table 1). FIT-Direct uptake was higher outside compared with during advertising periods (93.8% vs 91.0%,  $p = 0.0043$ ).

Table 1 - Uptake by Method of Invite Adjusted for Advertising

Returned a FIT kit	Advertising		No Advertising	
	FIT-Direct n (%); 95% CI	Usual Invite n (%); 95% CI	FIT-Direct n (%); 95% CI	Usual Invite n (%); 95% CI
Yes	3,095 (91.0%) 90.0% - 91.9%	12,148 (84.9%) 84.3% - 85.5%	928 (93.8%) 92.2% - 95.2%	20,958 (85.3%) 84.8% - 85.7%
No	307 (9.0%) 8.1% - 10.0%	2,159 (15.1%) 14.5% - 15.7%	61 (6.2%) 4.8% - 7.8%	3,621 (14.7%) 14.3% - 15.2%
<b>Total</b>	<b>3,402</b>	<b>14,307</b>	<b>989</b>	<b>24,579</b>

### CONCLUSIONS

The intervention of FIT-Direct had a positive effect on uptake during and outside advertising periods. FIT-Direct is convenient for clients increasing their likelihood to remain committed to the programme, so the effect of advertising may be limited in reinforcing their behaviour. FIT-Direct provides value for money with a saving of approximately €6,000 for the period of this study.

### PRESENTED

As a poster and two minute magic oral presentation at the Faculty of Public Health Summer Scientific Meeting in Dublin on May 31st, 2018 by Lorraine Fahy.



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## Changes in Sedentary Behaviour and Physical Activity Levels in Response to an Exercise Intervention Programme in Heart Failure

### INTRODUCTION

Reduced physical activity (PA) levels and increasing sedentary behaviour (SB) can adversely affect physical and psychological function in the Heart Failure (HF) population.

### OBJECTIVE

The objective of this study was to investigate changes in SB and PA levels in response to an Exercise Intervention Programme in HF using SenseWear® accelerometers. Outcome measures also included functional capacity, quality of life, biomarker responses, hospitalisation and mortality rates.

### METHODOLOGY

The study design was a Prospective Cohort Design. Sixteen patients with HF were non-randomly assigned to a Control (C) or an Intervention (Ex) group and SB and PA levels were measured at T1 (baseline), T2 (week 8) and T3 (week 18) in response to an 8 week aerobic exercise programme. Both the C and the Ex group consisted of usual care, with the Ex group having the addition of an aerobic circuit training programme (2 x 55 minute sessions a week), at an intensity of 40-60% Heart Rate Reserve for 8 weeks. Participants wore the SenseWear® at T1, T2 and T3 for 2 days.

### RESULTS

The Ex group improved in 6MWT scores ( $p=0.042$ ) from 375 ( $\pm 78.56$ ) at T1, 441.11 ( $\pm 76.43$ ) at T2 and 461.25 ( $\pm 100.49$ ) at T3. Daily step count decreased from baseline values in the Ex group ( $p=0.016$ ). Twenty five per cent of the exercise group and 100% of the control group had low levels of PA  $<5000$  steps at week 18. Enrolment in a structured exercise programme did not assist in reaching the moderate to vigorous (MVPA) targets advised by current guidelines ( $p=0.694$ ).

### CONCLUSIONS

These findings contribute to the understanding of SB and PA in this patient population and highlight the need for adjusted recommendations and guidelines specific to the HF population to encourage less SB and more PA.



# A Qualitative Process Evaluation of the Implementation of a Quit Smoking Programme in Community Mental Health Day Services

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 O'Brien, T.,<sup>2</sup>  
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 TobaccoFree Research Institute, Dublin Institute of Technology<sup>4</sup>

## INTRODUCTION

Little is known about the experiences of people with mental health difficulties in smoking cessation interventions, especially for those with more severe mental illness.<sup>1</sup>

## OBJECTIVE

This evaluation aimed to review the implementation of the HSE's Quit Smoking Programme (QSP) in adult community mental health day services, establish the experience of use from both service user and staff perspectives, identify key enablers and barriers to implementation at both participant and facilitator levels and refine the implementation of this programme for future groups.

## METHODOLOGY

A qualitative approach was taken in the current evaluation. In-depth individual interviews with 20 service users and focus groups with 18 facilitators were employed across 16 centres to explore the implementation of the programme. Thematic analysis was used to analyse the data for emergent themes in relation to key enablers and barriers to implementation at both participant and facilitator levels.

## RESULTS

Implementation was facilitated by an open and engaged recruitment approach, the resourcefulness of facilitators, programme materials and format, combining with other health initiatives and motivations among participants, including health and money. Barriers included the lack of a joined-up approach across the health service, literacy issues, barriers perceived as more specific to those with mental health difficulties, the serial/logical process assumed by the programme and the structure of the service. Smoke free policy which was implemented shortly before the cessation programme emerged as both a barrier and an enabler.

## CONCLUSIONS

The QSP appears to have filled an important gap for community mental health service users and it is vital this opportunity continues to be presented. Although an important step forward, there is a clear need for a joined-up approach across the health service which supports those with mental health difficulties in their efforts to quit smoking.

## REFERENCES

Available on request.

## PRESENTED

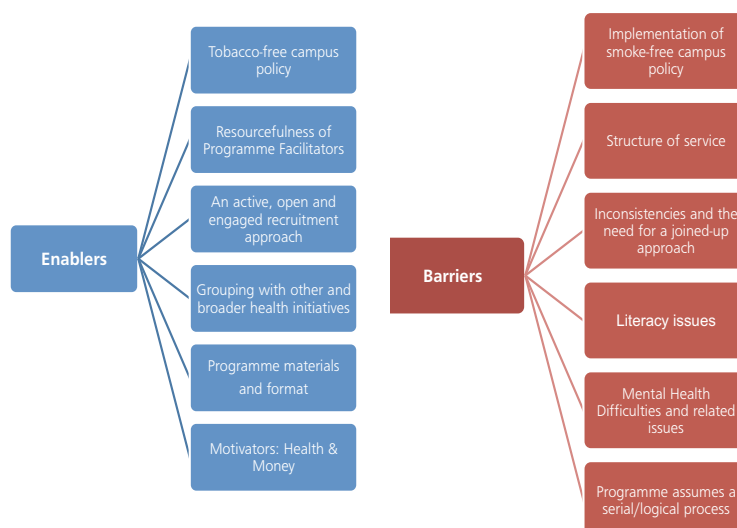
As a poster presentation at:-

- The Psychology, Health and Medicine Conference in Dublin on March 3rd, 2017.
- The European Association of Psychosomatic Medicine in Verona on June 29th, 2018.

## FUNDING

This research was funded by the Health Research Board SPHeRE/2013/1 and the Health Service Executive EVE programme.

Figure 1 - Final Coding Framework



## Spiritual Health among Schoolchildren in Ireland

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### INTRODUCTION

Besides physical, emotional, and social dimensions, spirituality is the fourth domain of health.<sup>1</sup> Access to sources of spiritual health is a basic human right of children,<sup>2</sup> and has been associated with happiness.<sup>3</sup> To the best of our knowledge, no studies in Ireland have assessed children's spiritual health in a standardised fashion. The aim of this study was to test the suitability of the short Spirituality Scale devised specifically for adolescents.<sup>1</sup>

### METHODOLOGY

The Health Behaviour in School-aged Children (HBSC) Study is a cross-national collaboration with 47 countries.<sup>4</sup> To pilot the HBSC questionnaire developed for the 2018 data collection in Ireland, a non-probability sample of three primary and two post-primary schools was investigated. The 8 item Spirituality Scale<sup>1</sup> was administered to students from fifth class to fifth year (n=239). Four domains of spirituality (others, nature, self and transcendent) can be calculated using a five point Likert-type scale. Cronbach alpha values were computed for the total scale and domains. In line with Michaelson et al.'s approach,<sup>1</sup> the proportion of students was calculated for whom spirituality in general ( $\geq 32$ ) or in specific domains ( $\geq 8$ ) was important.

### RESULTS

In general, all aspects of spirituality seem to be more important for girls than for boys. Differences across ages and classes also indicate that in general, spirituality is gradually less important for older children, however these results must be treated with caution due to the low subsample sizes.

**Table 1 - Reliability of the Spiritual Health Total Scale and Factors, and Proportion of those for whom Spirituality is Important (%)**

	n	Spiritual Health (full scale) <sup>a</sup>	Spiritual Health domain <sup>b</sup>			
			Others	Self	Nature	Transcendence
Alpha	211	.80	.70	.69	.74	.83
Overall	211	49.3	76.7	80.3	57.5	27.6
Gender						
Boys	98	38.8	67.9	75.5	50.0	23.1
Girls	112	58.9	85.4	85.2	64.8	32.1
Age						
11	24	66.7	90.9	84.4	71.9	52.0
12	56	62.5	81.0	90.3	76.2	32.2
13	28	46.4	75.0	67.9	50.0	11.9
14	42	33.3	70.5	70.5	43.2	20.7
15	29	31.0	68.8	81.3	46.9	23.5
16 or older	32	53.1	72.2	80.0	44.1	27.6
Class						
5th class	29	65.5	87.5	84.6	69.2	53.3
6th class	55	69.1	85.2	91.7	78.7	34.5
1st year	22	31.8	63.6	63.6	40.9	18.2
2nd year	49	34.7	71.2	67.3	46.2	16.3
3rd year	20	30.0	68.2	86.4	40.9	20.0
Tr. year	17	35.3	60.0	68.4	33.3	10.5
5th year	19	57.9	84.2	94.7	57.9	31.6

<sup>a</sup>% scoring  $\geq 32/40$  for the total scale. <sup>b</sup>% scoring  $\geq 8/10$  for individual domains. Cut-off values from Michaelson et al (2016)

### CONCLUSIONS

The Spirituality Scale and all domains showed good reliability. Proportions of young people for whom spirituality is important are similar to those of Canadian adolescents, as are gender and age differences.<sup>1</sup> The Spirituality Scale seems to be a valid and suitable measure to assess spiritual health in schoolchildren of Ireland.

### REFERENCES

Available on request.

### FUNDING

HBSC Ireland 2018 was funded by the Department of Health.



## Patterns of Attraction and Love in Irish Schoolchildren

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### INTRODUCTION

Adolescents who identify as Lesbian, Gay, or Bisexual, are at higher risk of various mental and physical health problems than their heterosexual peers.<sup>1,2</sup> Sexual orientation comprises identity but also behaviour and romantic attraction, which may be divergent.<sup>3</sup> Adolescent sexual minorities can be appropriately categorised based on romantic attraction.<sup>4</sup>

### OBJECTIVE

This study examined the overlap in reported attraction and love, as part of a pilot study for the 2018 Health Behaviour in School-aged Children (HBSC) study in Ireland.

### METHODOLOGY

Students from fifth class to fifth year (n=239), from a non-probability sample of three primary and two post-primary schools, were asked: "Are you attracted to..." and "Have you ever been in love with...". Response options were: girl(s), boy(s), both girls and boys, I am not attracted yet to anyone/I have never been in love. Participants were categorised as attracted exclusively to opposite-gender (OGA), same-gender (SGA), both-gender (BGA) partners, or never attracted (NA). Similarly they were categorised into having been in love with the opposite-gender (OGL), same-gender (SGL), both-genders (BGL), or never in love (NL).

### RESULTS

Rates of ever being in love were 57.4% (OGL), 1.7% (SGL) and 3.5% (BGL); 37.4% had never been in love. Rates of attraction were 80.9% (OGA), 1.7% (SGA) and 7% (BGL); 10.4% had not experienced attraction. Love and attraction were significantly associated with each other:  $\chi^2(9) = 144.56$ ,  $p < 0.001$ , effect size Cramer's  $V = 0.46$ .

**Table 1 - Correspondence of Attraction and Love**

	OGA n (%)	SGA n (%)	BGA n (%)	NA n (%)	Within Love n (%)
OGL	123 (93.2)	1 (0.8)	3 (2.3)	5 (3.8)	132 (57.4)
SGL	2 (50.0)	2 (50.0)	0 (0.0)	0 (0.0)	4 (1.7)
BGL	0 (0.0)	1 (12.5)	6 (75.0)	1 (12.5)	8 (3.5)
NL	61 (70.9)	0 (0.0)	7 (8.1)	18 (20.9)	86 (37.4)
<b>Within Attraction</b>	186 (80.9)	4 (1.7)	16 (7.0)	24 (10.4)	230 (100.0)

\*For attraction columns, percentages are within the love categories; for love and attraction overall values, percentages are within that variable.

### CONCLUSIONS

Findings mirror those from eight other European countries<sup>4</sup> in pattern and extent, although the high rate of never being in love is more similar to English adolescents than other, continental countries.<sup>4</sup> That more adolescents report attraction than love suggests that the two concepts diverge.<sup>5</sup>

### REFERENCES

Available on request.

### FUNDING

HBSC Ireland 2018 was funded by the Department of Health.



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## Active and Healthy Ageing - Implementing Falls Prevention and Bone Health Integrated Care at SCALE

### INTRODUCTION

AFFINITY (activating falls and fractures prevention in Ireland together) is a national population health improvement project, implementing a National Strategy on the prevention of harmful falls and fractures in older persons (~5M, 13.3% 65 years+). AFFINITY is also a commitment within a pan-European programme (EIP AHA) on active and healthy ageing that aims to increase the average healthy lifespan of citizens by 2 years by 2020. AFFINITY is a joint project of the national service provider (HSE) and the publicly-funded health and social care system indemnifier (SCA).

Harmful falls and fractures in older persons are on the whole predictable and preventable and are a significant human, social and economic cost burden. In addition to personal and societal costs, healthcare costs are very significant. An Irish technical report (2007) put the figure at €520m-€550m in 2010, rising to €1bn in 2020 and predicted to be €2bn in 2030 in the absence of implementation of the National Strategy.

### METHODOLOGY

The purpose of AFFINITY is to lead and enable service improvements, expansions, and scaling up of existing and new falls and bone health services. Quality improvement methodologies are being used, such as collaboratives, driver diagrams and PDSA cycles (small tests of change). AFFINITY has adopted a whole system approach (2014-2020), with multi-stakeholder, multi-professional and multi-sectoral collaborative working. Implementation approaches include: optimising stakeholder involvement, empowering citizen self-management, supporting older persons to actively age, robust project governance, integrated service delivery model, work practice changes. These approaches are underpinned by the HSE change management model. Key communications tools include: a dedicated web based repository for AFFINITY, an annual symposium, themed/sectoral webinars enabled by a dynamic communications plan outlining key project messages, stakeholders and timelines and robust participative governance, aligned with existing national programmes and health and social care structural reforms. Service users are formally represented on the national AFFINITY working group, in work streams, advisory group and in learning events to ensure service co-design, acceptable outcomes and sustainable project deliverables.

### RESULTS

AFFINITY was re-launched in 2017 (started 2012). Given its scope and scale, its implementation will be phased over a five year period (2018-2023) with performance metrics developed relevant to service user outcomes and value for money. AFFINITY is at an early development stage. Implementation frameworks for hospital, community and residential care are currently being co-designed to:-

- Promote falls prevention activities in well older persons
- Build community capacity to identify and respond to those persons at risk/ becoming at risk for falls
- Develop integrated clinical care pathways for those who have fallen
- Provide evidence of prevention for older persons at high risk of falls, in residential/long stay and acute services.
- Enable life-long optimisation of bone health and fracture liaison services
- Identify existing resources, gap analyses and cost benefit of implementation proposals across residential, acute, and community services.
- Identify key priority areas at national level to enable local projects
- Promote collaborative leadership, co-designed integrated care models, consultative learning fora and governance structures to optimise stakeholder involvement

A measure and monitor framework needs further development. Full implementation will mean that older persons will:-

- be proactively co-producing their own health and wellbeing (increased quality of life years (QLY))
- have access to quality integrated care pathways (ICP) according to need (increased access and quality care)
- have less harmful falls and fracture sequelae (reduced incidence of harmful falls)
- enjoy safer age-friendly environments and improved QLY (increased technological/environmental supports and QLY)



AFFINITY aims to embed falls and bone health services within service provider structures and processes, delivering on the national HSE10 step integrated care framework for older persons. Early adapter sites for falls prevention and bone health are developing bespoke, evidence informed integrated care pathways (ICP) since 2014. Key indicators include timely access to quality multidisciplinary team interventions, specific to need, with measurable service user and service delivery outcomes. Learnings from such early adapters will enable additional sites within other service areas.

### CONCLUSIONS

Challenges to the phased implementation of AFFINITY include: ongoing reforms to the health and social care system, retention and recruitment of key personnel, budget constraints, ICT and technology deficits, timely resourcing of targeted initiatives, competing demands and time constraints. Significant learnings are possible from international evidence and shared learnings, with contacts from New Zealand, Scotland and the EIP AHA community being particularly supportive. Implementation at scale to deliver high quality, accessible, equitable falls prevention and bone health services requires robust participative governance, distributive leadership, practice changes, skilled personnel, targeted resources and change management supports. AFFINITY, enabled by the European programme, will be an exemplar of a co-ordinated, sustainable and effective model of care for older persons, both proactive and reactive. The political, funding, legislative and organisational reforms happening at national level will resonate with other countries in their desire for better quality care, more efficient care delivery systems and new economic opportunities, especially within the evolving digital and silver economy.

### PRESENTED

As a poster presentation at:

- The BMJ International Forum on Quality and Safety in Healthcare in London from April 26th to 28th, 2017
- At the International Conference on Integrated Care in Dublin from May 8th to 10th, 2017.
- At the BMJ International Forum on Quality and Safety in Healthcare in Amsterdam from May 2nd to 4th, 2018.





## Personalised Goals to Reduce Sedentary Behaviour in a Clinically Obese Population - A Pilot Trial

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### INTRODUCTION

Sedentary behaviour is associated with negative health effects, such as, increased risk of cardiovascular disease, diabetes, cancer and obesity. The clinically obese are significantly more sedentary than the general population, and obesity is also associated with increased risk of developing cardiovascular disease, diabetes and cancer. Therefore, effective interventions to reduce sedentary behaviour of this population are needed.

### OBJECTIVE

The study employed an experimental design with group (control/experimental) and time (pre/post) as the independent variables. The dependent variable, sedentary behaviour, was measured objectively as time spent sitting/lying and up/down transitions, alongside self-reported self-efficacy, exercise self-efficacy, distress and anxiety. Correlations between sedentary behaviour and the psychosocial measures were also examined.

### METHODOLOGY

Participants referred for bariatric surgery (n=50) were recruited from a 10 week lifestyle change programme. Participants had an average BMI=47, were 66% female and mean age was 44 years. Once participants had given informed consent, they were fitted with activPAL™ physical activity monitors and completed psychosocial measures. On week two, activPAL™ and questionnaires were returned and participants were randomised into control/experimental group. The control group received general care for the duration of the programme. The experimental group received weekly personalised sedentary behaviour goals. On week 10, the participants completed the questionnaire and wore the activPAL.™

### RESULTS

The baseline sedentary time was 9 hours 42 minutes per day. A significant interaction effect was found in favour of the experimental group across time for decreasing sitting/lying time (average decrease of 41 minutes) and for step count with the experimental group walking an average of an additional 2,000 steps per day. A significant interaction was found in up/down transitions with the experimental condition showing an increase of 7 'sit to stand' transitions. There was also a significant interaction in self-efficacy with a greater increase in the experimental group. A negative correlation was identified between up/down transitions and distress.

### CONCLUSIONS

The results suggest that personalised goals are more effective than generalised advice for reducing sedentary behaviour and increasing self-efficacy in a clinically obese population.

### PRESENTED

As an oral presentation at the European Health Psychology Society Conference in Galway in August 2018.



## Project Spraoi - Two Year Outcomes of a Whole School Physical Activity and Nutrition Intervention

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### ABSTRACT

The current study, while part of the larger Project Spraoi Randomised Control Trial (ISRCTN92611015),<sup>1</sup> will evaluate the impact of a 2 year, whole of school, physical activity (PA) and nutrition intervention, using the RE-AIM (Reach, Effectiveness, Adoption, Implementation, Maintenance) framework.<sup>2</sup> RE-AIM is a widely accepted model used to design, implement and evaluate interventions in the real world setting. To date, there are no multi-component interventions being delivered in Ireland that aim to improve both PA and nutritional knowledge and attitudes among primary school-aged children. 'Project Spraoi' ([www.cit.ie/projectspraoi](http://www.cit.ie/projectspraoi)) is based on a New Zealand (NZ) intervention entitled, 'Project Energize' ([www.projectenergize.org.nz](http://www.projectenergize.org.nz)), which has shown measureable improvements in the health of NZ children.<sup>3</sup>

Two intervention schools (1 rural, classified as middle/high socioeconomic status (SES); 1 urban, classified as low SES) and 2 matching control schools were recruited in September 2013. A subsample of children from the intervention schools (n=106) and matching controls (n=125) had measures of body mass (kg), waist circumference (cm), systolic and diastolic blood pressure (mmHg), resting heart rate (bpm), cardiorespiratory fitness (time taken to complete a 550 metre distance run), nutritional knowledge and attitudes (via questionnaire) and PA recorded at baseline and after 2 school years. PA was objectively measured over 7 days using Actigraph triaxial accelerometers (Actigraph; model 7164, GT3X and wGT3X+, Fort Walton Beach, FL, USA) at 30Hz/5 second epochs. Intervention schools were assigned an 'Energizer', for 2 school years who promoted PA and improved nutritional knowledge and attitudes. Process evaluation techniques (semi-structured interviews, questionnaires and draw-and-write) assessed the impact of the intervention on teachers, parents and children.

The intervention reached 473 pupils and 43 school staff, across 2 primary schools in Cork. After adjustment for baseline measures and in comparison to control schools, intervention participants had smaller waist circumferences relative to gender and age ( $p < 0.0005$ ), slower resting HR ( $p = 0.003$ ) and favourable nutritional attitudes among 10 year olds. No significant change across other variables or among 6 year olds was found. Teachers (n=9), parents (n=3) and children (n=290) all responded positively to the programme. When asked to describe what Project Spraoi meant to them, all 290 children either drew or wrote about a PA or healthy eating related activity or wrote about the programme 'being fun' or 'enjoyable' or 'loving the Energizer'. Samples of participants' drawings and text are displayed in Figure 1 and Figure 2.

Project Spraoi has shown promise in improving the health of children in Ireland, particularly 10 year olds. An intervention of longer duration is needed to confirm potential differences in health markers recorded among younger age groups. The comprehensive evaluation of the intervention documents the feasibility of expanding the programme, and by allowing for its continued delivery, an opportunity also exists to positively impact the long-term health of children in Ireland.

### REFERENCES

Available on request.

### PRESENTED

At the Health Enhancing Physical Activity (HEPA) Europe Conference in Zagreb, Croatia on November 16th, 2017 by Mai O'Leary.

### Acknowledgments

This work was supported by Cork Institute of Technology. The authors would like to thank the participating children and their parents, as well as the staff of the participating schools.

### SOURCE

Irish Educational Studies, DOI:10.1080/03323315.2019.1567368

Figure 1 - Sample Write and Draw



Figure 2 - Sample Write and Draw





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## Exploring Breast Cancer and Screening Awareness among Irish Women with Intellectual Disabilities

### ABSTRACT

Internationally, it is known that there are gaps in cancer and screening awareness among women with intellectual disabilities. Little is known about this awareness among Irish women with intellectual disabilities.

The aim of this study was to explore this awareness among these women. The study design incorporated a cross-sectional descriptive survey using an accessible version of the Cancer Research UK Cancer Awareness Measure.

The questionnaire was administered to women with mild to moderate intellectual disabilities (n=45, age range 20-59 years) living in the South East of Ireland.

Almost three quarters of the women (77.8%) recognised a breast lump as a breast cancer warning sign. Knowledge about non-lump warning signs was much lower; 40% of the women did not feel confident that they would notice a change in their breast; 80% of the women could not recall a breast cancer risk factor. Overall, there was poor awareness of the national breast screening programme in Ireland. Worry and embarrassment about talking about their breasts would put women off seeking early medical intervention. There was poor awareness about breast cancer warning signs, risk factors and the breast screening programme among the women.

Where women with intellectual disabilities are lacking this knowledge, breast cancer warnings may be missed. Carers and intellectual disability services need to ensure that theoretically based cancer and screening education interventions are undertaken which will enable these women to identify warning signs and seek attention promptly.

### REFERENCES

Available on request.

### FUNDING

This research has received funding from the CARE Collaboration (Nursing Midwifery Planning and Development Unit South East/Waterford Institute of Technology).

### Acknowledgements:

This work was undertaken as part of a Ph.D. study by Dr. Reidy which was supervised by Dr. Denieffe and Dr. Foran. Sincere thanks to the Intellectual Disabilities Service Providers and the women whom they support for taking part in the study.

### SOURCE

Reidy, M., Denieffe, S., Foran, S. (2018). Exploring breast cancer and screening awareness among Irish women with intellectual disabilities. *British Journal of Learning Disabilities*, 0(0):1-9 doi:10.1111/bld.12225



## Physical Activity and Mental Health in an Irish Population

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### ABSTRACT

Physical activity represents a modifiable behaviour which may be associated with increased likelihood of experiencing positive mental health. Positive mental health is not simply the absence of mental illness. It constitutes an entity of its own, a resource that contributes to subjective wellbeing, allowing one to face adversity, maximise one's potential and contribute to society. Previous research has largely focused on negative mental health and it is now widely accepted that physical activity has a role in preventive and curative approaches to depression and anxiety.

The aim of this study was to examine the association between self-rated physical activity and subjective indicators of both positive and negative mental health in an Irish adult population.

This analysis is based on publicly-available data collected as part of the Healthy Ireland 2015 Survey. Individuals aged 15 years and over living at residential addresses listed in the An Post/Ordnance Survey Ireland GeoDirectory (a complete database of every building in the Republic of Ireland) were eligible for inclusion in the study. Participants were categorised using the International Physical Activity Questionnaire (IPAQ) into those who reported that they did and did not meet recommended physical activity requirements. Self-reported positive and negative mental health indicators were assessed using the Energy and Vitality Index (EVI) and the Mental Health Index-5 (MHI-5) from the SF-36 Health Survey Instrument, respectively. Binary logistic regression was used to identify variables independently associated with self-reported positive and negative mental health.

A total of 7,539 respondents were included in analysis. Overall, 32% reported that they met recommended minimal physical activity requirements. Self-reported positive and negative mental health were reported by 16% and 9% of respondents, respectively. Compared with those who reported meeting recommended physical activity requirements, those performing no physical activity were three times less likely to report positive mental health (adjusted odds ratio (OR) 0.39, 95% confidence interval (CI) 0.28-0.55) and three times more likely to report negative mental health (OR 3.27, 95% CI 2.38-4.50).

Compared with those who do not, those who report meeting recommended physical activity requirements are more likely to report experiencing positive, and less likely to report experiencing negative mental health, respectively. Future policy development around physical activity should take cognisance of the impact of this activity on both physical and mental health outcomes.

### PRESENTED

- As a poster presentation at the Young Researchers' Forum, 10th European Public Health Conference in Stockholm on November 1st, 2017.
- As a poster presentation at the Health Winter Scientific Meeting in the Royal College of Physicians (RCPI) in Ireland in Dublin on December 6th, 2017.

### SOURCE

Irish Journal of Medical Science. 2019 May;188(2):625-631. doi: 10.1007/s11845-018-1863-5. Epub 2018 Jul 17.

# Screening Status, Tumour Subtype, and Breast Cancer Survival - A National Population-Based Analysis

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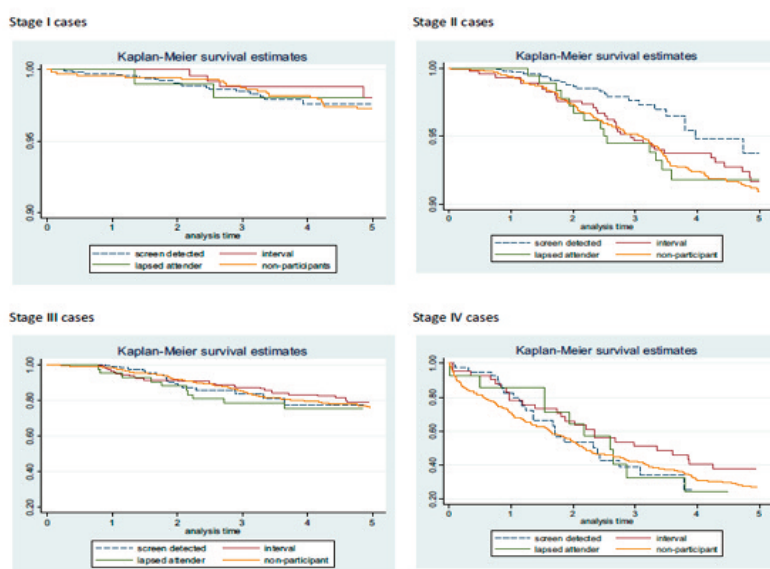
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## ABSTRACT

We examined whether demographic and tumour characteristics (including subtype) were different for women with breast cancer diagnosed via mammography screening compared with women with interval breast cancers, lapsed attendees of the screening programme and non-participants of the screening programme. In addition, we explored whether there were survival differences between the groups, taking into account lead time bias.

We used linked data from National Cancer Registry Ireland and the national breast screening programme BreastCheck. Multinomial logistic regression was used to test the association of covariates with screening status. For survival analysis, we corrected the survival time for screen-detected cases for lead time bias, examined Kaplan–Meier curves and then used Cox regression to investigate differences in survival by screening status.

**Figure 1 - Kaplan Meier survival curves (crude survival) by screening status, stratified by stage, with survival for the women with screen-detected tumours corrected for lead time bias (range on y-axis for stage I and stage II is 0.9-1.0, while the range for stages III and IV is 0.2–1.0).**



Subtype (HER2 over-expressing, triple negative), stage (III/IV), grade (poor), having co-morbidities, area of deprivation, smoking status and age were associated with having interval cancer or being a non-participant of the screening programme in the multivariable model. After correcting for lead time bias, and adjusting for variables associated with screening status, there was no evidence that risk of breast cancer death for women with screen-detected cancer was different from women with interval cancer (HR=0.76, 95% CI 0.56-1.03), non-participants (HR=1.07, 95% CI 0.84-1.37) and lapsed attendees (HR = 0.97, 95% CI 0.65-1.45). Figure 1 shows survival by screening status for each level of stage. In this crude analysis, survival by screening status varies by stage at diagnosis, with the survival benefit for screen-detected cases occurring mainly for stage II cases.

Screening status was strongly associated with subtype and this association persisted after adjustment for covariates including tumour stage and grade. After correcting for lead-time bias and adjusting for stage, subtype, grade and sociodemographic variables, no significant survival difference was demonstrated for women with screen-detected cancer in the 5 year period post-diagnosis. Since we are adjusting for stage, subtype and other variables, the lack of difference between these groups would be expected but has not been demonstrated in studies which do not correct for lead time bias.

## PRESENTED

The topic is the first half of the paper presented as an oral paper entitled 'Breast Screening and Disease Subtypes: a Population-Based Analysis' at the Conference of Applied Statistics in Ireland, Limerick in May 2016 by Katie O'Brien.

## SOURCE

Breast Cancer Research and Treatment. 2018 Jul 13. doi: 10.1007/s10549-018-4877-9. [Epub ahead of print]



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# Systematic Review - What is the Impact of Respiratory Specialists in Primary Care on Exacerbations of Chronic Obstructive Pulmonary Disease?

## INTRODUCTION

Chronic Obstructive Pulmonary Disease (COPD) remains one of the world's leading causes of death and disability.<sup>1</sup> Health professionals specialising in respiratory care have traditionally been based in hospitals and other tertiary settings. In recent years however there has been a movement of specialists into the community, working collaboratively with general practitioners.

## OBJECTIVE

This paper sought to examine the impact these community-based respiratory specialists have on patients' outcomes and exacerbations of COPD in particular.

## METHODOLOGY

A systematic review with meta-analysis was carried out. Searches were completed using Cinahl, Medline, PubMed, Scopus and Embase. Grey literature was searched for using OpenGrey, Google Scholar and Lenus. The inclusion criteria were randomised controlled trials (RCTs) and pre and post-cohort studies which measured the impact of community respiratory specialist practice on the primary outcome, exacerbations of COPD, which was categorised as any of the following:-

1. Inpatient hospital admissions
2. Emergency department visits
3. Unscheduled general practitioner visits
4. An account of courses of antibiotics and/or steroids.

Secondary outcomes were quality of diagnosis and mortality rates.

Nine studies were included in the final analysis (six RCTs). Due to heterogeneity of data meta-analysis was not possible for each category of exacerbation data.

## RESULTS

Results indicate that the introduction of respiratory specialists in the community is associated with higher use of antibiotics and steroids with fewer unscheduled GP attendances. These results were not statistically significant and on quality appraisal the overall quality of the evidence was found to be poor. With regard to secondary outcomes, meta-analysis of mortality rates demonstrated no significant difference between groups but three studies indicate an improvement in the quality of diagnosis and classification of COPD.

## CONCLUSIONS

While the results of this systematic review are inconclusive, further research in this area is needed, with attention paid to how data on exacerbations are recorded and uniformity of data. Mortality data from meta-analysis clearly demonstrated that these interventions provided in the community are safe. A wider, higher quality evidence base is required however to measure the impact community respiratory specialists have on the outcomes of patients with COPD.

## REFERENCES

Available on request.

## PRESENTED

As a poster presentation at the Irish Thoracic Society Annual Conference in Belfast on November 24th, 2018.

## FUNDING

Funding to undertake this Masters Programme was provided by the Nursing and Midwifery Planning and Development Unit, Dublin South, Kildare and Wicklow, (75%) and Anáil (Respiratory Nurses Association of Ireland), (25%).



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## Sliding CT in the ED

### INTRODUCTION

A sliding CT scanner was installed in the resuscitation zone in the new Emergency Department (ED) of University Hospital Limerick (UHL) with the expressed objective of reducing time to scan for patients requiring CT, minimising transportation and maximising process efficiency. The CT Gantry slides from the CT room into a dedicated resuscitation room allowing the patient to stay put. Historically patients were transferred to the main hospital radiology department for CT.

### OBJECTIVE

The aim of this study was to determine the impact of the sliding CT scanner on waiting times for brain imaging.

### METHODOLOGY

A retrospective cohort of all adult patients attending the ED at UHL with a head injury and subsequent CT brain for two distinct 2 month periods from 1 February and 1 March 2016 (Group 1) and 1 February and 1 March 2018 (Group 2) were identified. These time periods corresponded to before and after installation of the CT scanner. Patients were classified by Glasgow Coma Score as mild (GCS 13-15), moderate (GCS 9-12) and severe (GCS 3-8). Group comparisons for time were performed using the Kruskal–Wallis rank sum test. Continuous variables are presented as median (interquartile range).

### RESULTS

One hundred and sixty five patients were included in the study (76 in Group 1 and 89 in Group 2). There was no significant difference in overall completion time with median times of 89(106.5) minutes and 93(98) minutes in 2016 and 2018 respectively ( $p=0.967$ ). Additionally there was no significant difference in completion time by GCS category albeit there is a trend towards improving times in the moderate group 92(38.5) minutes versus 61.5(13.5) minutes ( $p=0.564$ ).

### CONCLUSION

Process efficiency is a factor of not only an optimised physical environment. Waiting times for CT brain scanning for the selected cohorts have not improved with the installation of a sliding CT in ED even when urgent. Local streamlined CT requesting protocols are essential to maximise efficiency for patients with abnormal GCS in the setting of head injury.

### PRESENTED

As a poster at the Irish Association of Emergency Medicine (IAEM) Conference in Dublin from October 18th to 19th, 2018.



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## Registered Nurse Prescribers' Experiences of the Benefits and Challenges to Nurse Prescribing in Palliative Care, Primary Care in Ireland

### INTRODUCTION

Prescriptive authority in Ireland was developed as a result of patients' needs with legislation passed by the Irish Medicines Board Act in 2006, and enactment in 2007. The low uptake of Registered Nurse Prescribers (RNPs) in Palliative Care, Primary Care in Ireland (5 RNPs out of a total of 288 nurses),<sup>1</sup> has remained challenging.

### OBJECTIVE

The aim of this study was to outline RNPs' experiences of the benefits and challenges to Nurse Prescribing from a Primary Care perspective in a rural Specialist Palliative Care Team in Ireland. Following on, a purposive sample of 6 key informants was identified as being able to discuss Nurse Prescribing from a range of perspectives.

### METHODOLOGY

A qualitative, phenomenological Heideggerian (interpretative) approach was selected to gain an understanding of this phenomenon. This was a multisite, purposeful sample with data analysed using thematic analysis, Braun and Clarke (2006) approach.

### RESULTS

In total, 8 themes were identified with four under **Benefits**: Impact on Patient Care; Practitioner and Service Delivery; Cost-Efficiency and Job Satisfaction and four under **Challenges**: Role Expansion in Relation to RNPs; Support Structures; Education and Lack of Remuneration.

### CONCLUSION

Findings of this study indicate that a nurse prescribing qualification enhances the RNP's competence and capability within their scope of practice, it improves job satisfaction and is an integral part of their role and practice. It places the patient at the heart of service delivery enabling the RNP as the most suitably placed professional at a given time, optimising symptom control in a timely and efficient manner.

Overall recommendations suggest that there is a need for increased support from nursing leadership and palliative medical consultants nationally, increased research and presentations by RNPs at conferences and a review of systems and processes to facilitate nurse prescribing. The challenge for policy makers is to provide an integrated model of care, based on patient choice, that facilitates the delivery of safe, equitable, efficient and effective services in a resourceful and sustainable manner.

### REFERENCES

Available on request.

### FUNDING

This research has received funding from The Irish Hospice Foundation.





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## An Evaluation of Patients' Satisfaction with a Collaborative Advanced Nurse Practitioner-Led Chest Pain Service in Ireland

### INTRODUCTION

The Advanced Nurse Practitioner (ANP) role is new to patients in Ireland. ANPs are clinical leaders who implement and initiate change in response to patient and service needs. In Ireland, not all hospitals offer equity of cardiac services. Fostering the ANP core competencies of leadership, autonomy in clinical practice and expert practice, collaboration occurred between two cardiology ANPs in two separate hospitals to offer an evidenced-based equitable service for patients who present with non-Acute Coronary Syndrome (ACS) chest pain. The aim of the service is to provide access to Coronary Angiogram, Computerised Tomography Coronary Arteries (CTCA) to non-ACS patients despite geographical location with admission avoidance.

### OBJECTIVES

The study objectives were to:-

- 1) Describe the profile of all patients attending the services
- 2) Determine patient satisfaction with the services
- 3) Describe patients' experiences

### METHODOLOGY

Individuals aged 18 and over were invited to participate by mail (n=117). Inclusion criteria included those who attended an Emergency Department (ED) with non-ACS chest pain of a non-CTCA/angiography-capable facility (Site A) and were ANP referred for further diagnostic testing in the CTCA/angiography-capable facility (Site B) utilising the pioneering direct ANP to ANP referral pathway between March 2014 and June 2017. An evidence-based questionnaire collected quantitative and qualitative data on those who consented to participate and data were analysed using a statistical package.

### RESULTS

Seventy three individuals (62%) returned completed questionnaires. A quarter of respondents, 26%, had sought medical attention previously for chest discomfort and 70% of those felt that attending the ANP chest pain services prevented their symptoms from worsening. Final diagnoses indicate; 46% had non-anginal chest pain, 8.5%, required percutaneous intervention or coronary bypass, 36% were diagnosed with coronary disease requiring medical treatment. The vast majority of respondents considered all aspects of the ANP services good to excellent with questions regarding the perceived competence of the ANPs scoring highest (i.e. 100%). Qualitative feedback suggests that no patient indicated how the ANP services could be improved and 58% outlined a number of benefits which include; the positive approach of the ANP, information and reassurance provided, efficiency of services provided and access to the diagnostic tests. A minority of participants, 14%, disliked waiting times and treatment/care.

### CONCLUSIONS

This study suggests positive benefits of an ANP service, including that of a positive patient experience. Equitable cardiology services were provided safely avoiding hospital admission. As the ANP role evolves in Ireland we recommend this joint care model for other hospitals who manage patients with non-ACS chest pain.



## An Exploration of the Views and Experiences of Nurses Using the 10 Rights to Medication Administration in the Care of Older People

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### INTRODUCTION

A great deal has been written about the rights to medication management. The rights to medication administration vary in different countries, with the number of rights ranging from 5 to 14. However, there is no existing study exploring nurses' views and experiences of using the rights to medication administration. In order to amend this gap in the literature, this study will address the lack of research on the views and experiences of nurses regarding rights to medication administration. Nurses' attitudes and perceptions may lead to a positive or adverse outcome for the service user, healthcare organisations, and the nurse. This study will highlight that a nurse's attitude, combined with their knowledge and skills, is what makes them competent.

### OBJECTIVE

The aim of this research is to explore the views and experiences of nurses using the 10 rights to medication administration in the care of older people to ensure safe practice in nursing.

### METHODOLOGY

The researcher utilised a descriptive qualitative research design. Purposive sampling was used to select nine nurses working in gerontological nursing. The researcher carried out a pilot study involving two general nurses. Data was collected using semi-structured interviews. The thematic analysis framework by Braun & Clark (2006) was used to analyse the data.

### RESULTS

The result of this study revealed that nurses utilise various tools for verification, assessment, and evaluation. Nurses also use collaboration, communication, and documentation to reach a medical decision based on clinical judgement. Participants have identified that the right documentation, right time and intervals, right patient, and right action are the most challenging rights to implement in medication administration. Finally, the participants identified that staffing and attitude, time management, sourcing information, and continuing education are the solutions to improve and/or maintain the implementations of the 10 rights to medication administration.

### CONCLUSION

The study identified the need for support and continuing education for nurses in medication management for efficient use of the 10 rights. Also, the study highlighted the necessity to review the existing system to address nurses' concerns and issues in medication management.

The results may contribute to theory and practice in the nursing profession by enhancing the knowledge and understanding of the medication administration process and promoting patient safety. The findings contribute to better understanding of the problems and challenges encountered by nurses during drug administrations.

Changes made to management strategies are warranted in order to support nurses. Modification on policy incorporating decision-making framework, the use of a checklist, a visual prompt, protective medication rounds, and maximising teamwork may prevent or reduce medication error.



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## The Experiences of Qualified Nurses of Using Quality Care Metrics in Adult Patient Care

### INTRODUCTION

Nursing has entered a time when what nurses do, needs to be quantified and measured, to improve practice and patient outcomes, even though nursing practice is individualised and is very often subject to the situation. The need for quality assurance is re-defining how nursing care is delivered. The literature highlights how quality care metrics drive improvements in the basics of nursing care delivery. However, there is a gap in the literature surrounding qualified nurses' experiences and engagement with quality care metrics.

### OBJECTIVE

The overall aim of the study was to explore the experiences of qualified nurses of using quality care metrics in adult patient care.

### METHODOLOGY

Qualitative research was the approach chosen for the study. Within qualitative research, a hermeneutic phenomenological approach was used. The sample was selected from registered general nurses in the south east region working in areas that have implemented quality care metrics. Semi-structured interviews were used as the method of data collection. The data was analysed using van Manen's phenomenological approach (1997).

### RESULTS

The findings indicate that, overall, qualified nurses' experiences of quality care metrics in adult patient care were positive. However, in order to successfully incorporate quality care metrics into practice, issues identified need to be addressed. Recommendations for further research and clinical practice are demonstrated in the findings.

### CONCLUSION

Quality care metrics have an important role to play in the delivery of safe, effective care to patients. However, challenges exist in practice and in the healthcare setting with regard to the quality care metric system. Changes are necessary within the quality care metric system and staff involvement is essential. Increased awareness, education and effective leadership are all essential in supporting quality care.

### REFERENCES

Available on request.

### PRESENTED

As a poster presentation at the Quality Care Metrics Launch Event in University College Cork on June 26th, 2018 by Martina Sheehy.

### FUNDING

This research has received funding from the Nursing and Midwifery Professional Development Unit, HSE South East Kilkenny.



## A Comparative Study of Hand Hygiene and Alcohol-Based Hand Rub Use among Irish Nursing and Medical Students

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### ABSTRACT

In Ireland, the setting for this study, the national prevalence rate of healthcare-associated infection (HCAI) in acute care facilities is 5.2%. Hand hygiene, and in particular hand rubbing, using alcohol-based hand rub (ABHR) is highly efficacious in preventing HCAI transmission. Yet, compliance among healthcare professionals is suboptimal. Less is known about the practices of nursing and medical students and no study comparing practices among these groups in Ireland was found. Hence, the aim of this study was to provide insight into the current hand hygiene and hand rubbing practices of nursing and medical students in Ireland and, by doing so, contribute to the broader understanding of this topic.

This observational study employed a cross-sectional, self-reported design. An electronically administered questionnaire was sent to all nursing and medical students from one university. Data were analysed using appropriate software.

The response rate was 37% (323/872). Higher compliance with the World Health Organisation 'my five moments for hand hygiene' model was reported among nursing students (NS) than medical students (MS), with scope for improvement in both disciplines identified. Hand hygiene compliance was highest after body fluid exposure (99.5% NS, 91% MS) and lowest after touching a patient's surroundings (61.5% NS, 57.5% MS). Attitudes towards hand rubbing were largely positive in both disciplines. Sixteen per cent of NS were not aware of the clinical contraindications to ABHR use, compared to 45% of MS. Nine per cent of NS did not know when to use soap and water and when to use ABHR, compared to 36% of MS. In contrast, more medical students (46%) than nursing students (22%) were routinely using alcohol-based hand rub for decontamination of hands as recommended.

Results suggest scope to review current hand hygiene curricula focusing on the knowledge gaps, the practice deficits and the barriers to ABHR usage identified.

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### SOURCE

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## Hand Hygiene - Attitudes and Practices of Nurses; A Comparison between 2007 and 2015

### ABSTRACT

Hand hygiene reduces healthcare-associated infections significantly. However, international evidence suggests that practices are suboptimal. The objective of this study was to compare and contrast hand hygiene attitudes and practices and alcohol-based hand rub (ABHR) use among nurses between 2007 and 2015.

In 2007, a random sample of nurses in a large teaching hospital was invited to complete a postal survey using a validated questionnaire. In 2015, the study was replicated among all nurses employed in a university hospital group, including the setting of the original study. Data were analysed quantitatively and qualitatively using appropriate software.

Attitudes to hand hygiene were positive and >90% of respondents self reported compliance before and after patient contact. However, 13% fewer in 2015 (42%) reported using ABHR >90% of the time compared with in 2007 (55%). Of nurses with <2 years experience, 90% reported using ABHR >50% of the time compared with 73% of nurses with 2-5 years experience. Barriers to ABHR improved, but remained high (skin sensitivity: 2007:23%, 2015:17%; skin damage: 2007:18%, 2015:13%; poor user acceptability and tolerance: 2007 and 2015:25%).

Use of positive role models, the adoption of a positive social and cultural norm within the organisation, and the provision of continuing professional development opportunities may prove useful strategies in harnessing good practice among graduate nurses and in preventing negative socialisation from occurring.

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### SOURCE

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## Medical Exposure Radiation Unit National Survey on Population Dose from Computed Tomography, 2017

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### INTRODUCTION

A national survey of Computed Tomography (CT) activity for 2016 was undertaken by the Medical Exposure Radiation Unit (MERU) of the Health Service Executive, on behalf of the National Population Dose and Optimisation Sub-Committee.

### OBJECTIVE

The objectives were to identify the median dose administered for the most frequently performed CT procedures in both paediatric and adult services, and to inform national diagnostic reference levels (DRLs) for the most common CT procedures. The survey aimed to generate age and gender-based population dose and diagnostic reference level information included for in the European Basic Safety Standard Directive EU 59/13 which became law in Ireland under S.I. 256 of 2018. It also addressed DRLs for clinical indications.

### METHODOLOGY

A survey was developed using the Survey Monkey platform and issued by MERU to all public and private radiological locations nationwide and a link to the survey was hosted on the MERU website. Part 1 was mandatory and concerned Population Dose and scanner demographics. Participants were asked to review CT activity for 2016 and to provide the median dose for each specified procedure separated for gender for each scanner at the facility. Part 2 was optional and concerned DRLs for the thirteen most common presenting complaints that require a CT imaging procedure based on discussions of the Population Dose Committee with input from members of the European Society of Radiology Radiation Safety Committee. The results of the survey were given to the author in a database and were analysed to produce the final report. Anomalies and discrepancies were queried with relevant departments and clarifications sought prior to publishing.

### RESULTS

The survey found there to be an estimated 70 scanners for a population of 4.76 million which equates to 14.7 scanners per million of the population. Respondents indicated that the total number of CT scans performed on patients in 2016 for the specified examinations included in the survey was in the region of 402,000 studies, an increase of approximately 90% from the preceding 2010 survey. The Collective Effective Dose was determined to be 1,388 Person Sievert after the inclusion of estimated data, which compares to the 1,368 Person Sievert of the 2010 report. This would indicate that the increase in number of examinations has been offset by improvements in dose software and scanning parameters in maintaining the Collective Effective Dose. The Dose per Caput was estimated to be 0.38 mSv per head of the population, in line with the previously established Dose per Caput of the last Population Dose Survey which was 0.31 mSv per head of the population. Diagnostic reference levels (DRLs) were updated for common Adult and Paediatric CT examinations.

### CONCLUSION

The value of undertaking a National Survey on Population Dose from CT is evident from the information returned. This allows us to correlate patient dose with the dose reduction software enabled on CT scanners which in turn helps shape future business cases for updating of CT equipment. Evidence-based gender specific statistical information regarding types and frequencies of CT examinations was collected. Most importantly a set of age and gender based DRLs have been produced for CT examinations for anatomical areas and for main clinical indications. For the patient the National Diagnostic Reference Levels established by this report will help ensure that doses for patient examinations in each CT department are compared against a national standard for similar examinations to identify, and rectify upward dose trends with due regard for clinical performance. For CT departments the data presented in this report will help centres ensure that their local CT examination parameters conform with best practice nationally as well as internationally.

### PRESENTED

As a poster presentation at Eurosafe Imaging, European Congress of Radiology (ECR) 2018, in Vienna, Austria on February 28th, 2018.

### FUNDING

This research has received funding from the Health Service Executive.



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## Modelling the Effect of Patient Complexity on Radiology Workload

### INTRODUCTION

Quite often optimisation models fail to demonstrate the relationship between patient complexity and radiographer workload. A radiology department's workload cannot be ascertained on numbers of examinations alone.

### METHODOLOGY

Quantitative data from 2011 to 2017 was gathered from the hospital information system (HIS) and radiology information system (RIS). Six months of phone records, exam data on patient age, gender, types and numbers of radiology examinations and scheduling/emergency arrival patterns as well as staffing levels from 2011 to 2017 were analysed. Qualitative data was gathered through onsite observation, interviews and 62 radiographer questionnaires. This data was used to inform the parameters when the patient and radiographer were included as an agent in a discrete event simulation of the radiology department.

Anylogic Personal Learning Edition (PLE) was used to develop a generic Discrete Event Simulation/Agent Based Simulation (DES/ABS) model for the Computed Tomography (CT) Department. Patient complexity is ascertained using a patient weighting matrix, which includes mobility, infection status, type of exam and patient care needs. Departmental factors described as "noise" include interruptions, information system support, department layout and ergonomics. Radiographer workload is calculated as a function of patient complexity, departmental factors and the number of patients scanned. Simulations are used to experiment how increasing patient complexity affects the radiographer workload.

### RESULTS

The workload for 1 patient, as perceived by radiographers, can vary by a factor of 15 when patient complexity is simulated from low to high and, as such, the productivity of departments cannot be compared in crude units of patient numbers.

### CONCLUSIONS

The patient and radiographer agents created in this model can potentially be used in other radiology related models as parameters such as mobility and infection and patient care are common amongst patients. Patient complexity and departmental factors such as Picture Archive and Communication System (RIS/PACS) usability and communications have a direct effect on radiographer workload.

### PRESENTED

As an oral presentation at the Operational Research Applied to Health (ORAHS) Conference in Norway on July 30th, 2018 by Mary Conlon.

Mary also presented a poster entitled 'Modelling Complexity of the Radiology Patient' at the same conference in Oslo. She was awarded the Professor Steve Gallivan award for best PhD research poster. Funding for this trip was provided by NUIG and Portiuncula University Hospital.

### FUNDING

This research was funded by a National University of Ireland Galway Hardiman Scholarship.

## A Quality Improvement Initiative in the Stroke Rehabilitation Unit

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### INTRODUCTION

Stroke deaths in Ireland have reduced, yet the incidence of stroke continues to rise. Simultaneously, there is a deficit in Health and Social Care Professionals (HSCPs) to support this rising incidence.<sup>1</sup>

Within this challenging climate, the Stroke Rehabilitation Unit (SRU) in St. Columcille's Hospital was reviewed as part of a week-long Rapid Improvement Event (RIE). Existing aspects of positive functioning were reviewed. Improvement initiatives were identified and implemented to optimise rehabilitation services within a person-centred care framework.

### METHODOLOGY

Lean methodologies were utilised, including process mapping, gaps analysis and A3 thinking. Patient, staff and executive management stakeholders were engaged with through mixed methodologies including questionnaires and focus group style discussions. Data was collected and reduced via concept mapping. These concepts were evaluated by the HSCPs and key areas for service development were identified. Changes were implemented and audited at key time points to monitor sustainability.

### RESULTS

Communication between staff and patients was identified as an existing area of positive functioning. Changes to service structure include patient cohorting, the defining of a referral pathway for patients being transferred into the SRU. HSCP referrals are now made at point of transfer resulting in more timely assessment on the ward. Each patient is assigned a key worker to liaise with family and standardised care planning meetings are scheduled for each patient. Patients and families now have access to the hospital canteen. Review at 90 days indicated positive sustainability in these key areas.

### CONCLUSIONS

The RIE produced positive outcomes for patients and staff. The need for ongoing quality improvement initiatives and adequate HSCP staffing levels are paramount in the context of predicted increases in stroke numbers nationally.<sup>2</sup>

### REFERENCES

Available on request.

### PRESENTED

As poster presentations:-

- At the Irish Heart Foundation (IHF) Stroke Conference in Croke Park, Dublin on April 27th, 2018.
- At the Irish Gerontological Society (IGS) 66th Annual Scientific Meeting in the Slieve Russell Hotel, Co. Cavan on September 29th, 2018.
- At the 5th Health and Social Care Professions Research Conference in Dublin Castle on November 14th, 2018.



## Out of Hours Support - The Role of Specialist Palliative Care Services

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### INTRODUCTION

The National Advisory Committee for Palliative Care (2001) highlighted that specialist palliative nursing teams should provide a seven day per week service and acknowledged that obstacles to care in the community include lack of services outside of normal service hours. The changing nature of palliative care has prompted the need to review the remit and roles of primary palliative care and specialist palliative care (SPC) services in supporting patients and their family carers in the community. Specialist palliative care service provision is currently not consistent across Ireland.

### OBJECTIVES

This research study aims to explore the perceptions of community-based specialist palliative care nurses, of the role of SPC services in the care of patients and their families, outside of normal service hours. The author also explores whether the study findings can be used to inform future development of services and practice.

The study design was a qualitative descriptive one.

It involved a purposive sample of ten community-based specialist palliative care nurses working within an Irish SPC service.

### METHODOLOGY

Face to face semi-structured interviews were conducted using a pre-formulated interview schedule. Data was analysed using Burnard's Framework and NVIVO Software package.

### RESULTS

Five themes emerged from the data and literature. These were: Issues Associated with the Role of the SPC Service; Issues Related to Communication; Challenges Associated with Community SPC; Out of Hours (OOH) Support - Maintaining Care at Home and Issues Related to Primary Palliative Care Services.

### CONCLUSION

The study findings illustrate that delivery of effective primary palliative care is complex and multifactorial. The study participants, and other related cited studies, refer to deficits in structures relating to communication, care and resource provision which they suggest are necessary to provide 24 hour seamless care and support.

The participants acknowledged that SPC services have provided some beneficial OOH supports. However, they suggested that these service elements should be reviewed. Participants highlighted the importance of obtaining service user views to assess whether services are optimal and fit for purpose. Participants suggested that SPC services need to promote improved communication and information transfer between SPC and OOH primary care services.

### REFERENCES

Available on request.

## Barriers and Facilitators to Conducting Audit within a Healthcare Setting

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### INTRODUCTION

Our Lady's Hospice and Care Services (OLH&CS) consists of three clinical services: Palliative Care, Rheumatology and Musculoskeletal Disease Unit (RMDU) and Care of the Older Person. It is a busy diverse service which cares for some 3,940 people.<sup>1</sup> OLH&CS has undertaken clinical audits for several years. In 2013, a multidisciplinary clinical audit committee was established, reporting to the Quality and Risk Committee and to the Director of Nursing, Quality and Clinical Services.

### OBJECTIVE

In order to better support audit within OLH&CS and to tailor future training to the needs of healthcare practitioners, this survey aims to address and understand some of the specific barriers and facilitators to clinical audit practice within OLH&CS.

### METHODOLOGY

A literature search was conducted using the following databases: Medline with Full Text and CINAHL Complete via EBSCOHost and the Cochrane Library.

Johnson, et al. (2000) conducted a literature review on the facilitators and barriers to conducting audit in healthcare settings. A total of 93 articles were identified ranging from case studies to reviews of departmental audit programmes. Four main themes were noted of which two are relevant to this study: (a) barriers which block success and (b) facilitating factors which promote success.

The main barriers identified were: lack of resources; lack of expertise or advice in project design and analysis; relationships between groups and group members and lack of an overall plan and organisational impediments. The facilitators identified by the literature included: modern medical records systems which make data collection easier; links between routine data collection and audit data; dedicated audit staff, and protected time for clinicians. The main organisational issues reported were: a difference in understanding between management and clinicians about the time required to undertake audit and conflict about priorities between audit and larger organisational change projects. Other organisational facilitators included: leadership; reporting and discussion of audit activity and training in audit.

An 11 item survey questionnaire was distributed over a 2 week period both in electronic and print format to all relevant Wards/Departments in OLH&CS Harold's Cross and Blackrock Hospice. Data received was analysed using the online software tool, Survey Monkey. A thematic analysis was used to collate the data for the open-ended questions and was reviewed by an independent researcher.

### RESULTS

A total of 94 responses were received out of a staff cohort of approximately 500 staff. Almost a third (29.35%) of respondents were not aware that OLH&CS had established a healthcare audit committee. Sixty two (68.13%) had never accessed the healthcare audit section on the OLH&CS Intranet. Perceived barriers to audit in OLH&CS were time and expertise. Time was the most frequently cited concern reported by just under half of the respondents, followed by lack of expertise which ranked second (23%). Administration support was only an issue for some 10%.

The main resource which facilitated audit for survey respondents was the availability of a wide range of web-based resources along with library resources and support. Collegiate support, peer mentoring and receiving informal support from other staff were cited as an important resource. Previous experience of audit was cited by almost a third of those who responded (46.24%), and even completing one audit increased peoples' confidence in the audit process.

### CONCLUSIONS

Awareness of role of the audit committee and the audit resources in OLH&CS needs to be increased. The audit processes need to be simplified and streamlined. Some disciplines need protected time to audit, and the support and leadership of managers is critical for all disciplines. Increasing expertise needs to be targeted at a number of levels, and sharing of audit experience both within and with similar organisations needs to be supported.

### PRESENTED

As a poster presentation at the Clinical Audit and Quality Improvement in Healthcare Conference in University Hospital Limerick on June 22nd, 2018.



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## Implementing Making Every Contact Count by Physiotherapy Service in Community Healthcare Organisation 6

### INTRODUCTION

Making Every Contact Count (MECC) is about health professionals using their routine consultations to empower and support people to make healthier choices, to achieve positive long-term behaviour change. To do this, the health service needs to build a culture and operating environment that supports continuous health improvement through the contacts that it has with individuals. This approach will allow us to move to a position where discussion of lifestyle behaviour is routine, non-judgemental and central to everyone's role.<sup>1</sup> Given the volume and nature of their patient contacts, physiotherapy staff occupy a unique position to contribute significantly to the attainment of the objectives of Making Every Contact Count (MECC) and Self-Management Support (SMS) Frameworks.

This project was designed to implement the MECC Framework with new clients attending an outpatient physiotherapy service in Arklow Health Centre (HC) between September and November 2017.

### OBJECTIVES

- To implement the HSE Healthy Ireland Strategy (MECC/SMS) to promote health and wellbeing among clients attending a physiotherapy service in Arklow HC
- To make information about MECC and SMS available to 50% of all physiotherapy contacts for new patient appointments for the staff participants by the end of 2017
- To set up a working group made up of Senior Physiotherapist Representatives from each Local Healthcare Office (LHO) in the Community Healthcare Organisation (CHO) to lead the design and implementation of the strategy in each LHO
- To design the operations for the service implementation to include service structure, delivery format and evaluation
- To evaluate staff capacity and readiness to implement strategy
- To introduce and implement MECC during physiotherapy assessments to include the use of 'Stage of Change (SOC)' tool
- To make MECC information available to 50% of new client appointments
- To evaluate any change in behaviour for participating physiotherapy clients
- To identify and establish links with local centres or groups in the community involved in physical activity for the local population
- To design a service audit tool
- To design a data collection and service evaluation template

### METHODOLOGY

The project was implemented based on the HSE MECC - A Healthy Behaviour Change Framework and Implementation Plan for Health Professionals in the Irish Health Service. A working group was set up within CHO 6 to implement the three brief interventions (BIs): smoking cessation, physical activity and weight management. A common questionnaire (Stages of Change (SOC) Questionnaire) for the three BIs and an Action Booklet for patient information were developed and applied to new clients attending an outpatient physiotherapy service. Participating clients were followed up after two months to evaluate any change in behaviour. The results cover Arklow Physiotherapy Service only.

### RESULTS

An audit tool and an excel spreadsheet to evaluate the result of the questionnaire was developed. Between the months of September 2017 and November 2017, 100 new clients were seen by one physiotherapy staff, with 65 new clients offered the SOC questionnaire, 6 new clients declined and 55 new clients participated in the MECC questionnaire.

### CONCLUSIONS

The conclusion which may be drawn from this research is that each healthcare professional has a significant role to play in empowering and supporting their patients in making healthy choices for long-term behavioural change. This is especially significant in the physical activity intervention where Chartered Physiotherapists are experts in this field. This pilot study contributes to the attainment of the objectives of the HSE MECC framework – A Healthy Behaviour Change Framework and Implementation Plan for Health Professionals in the Irish Health Service.

The outcome of this pilot study shows that the clients who are ready to make a change can achieve positive long-term behavioural change. This study gives the opportunity to work with other members of a multidisciplinary team to further progress lifestyle behavioural change for every contact who is met on a daily basis. The learning from this pilot project should be disseminated to other Primary Care settings.

## An Exploration of the Impact of a Reablement Programme on Provision of Homecare Services for Older Adults Living at Home

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### INTRODUCTION

Homecare services have seen a significant increase in demand in recent years. Despite an increase in spending, the level of services cannot keep up with demand resulting in increasing waiting times for services. An ageing population and a higher incidence of chronic conditions among older cohorts exacerbate this demand for homecare services. This study evaluated a reablement programme developed in a community healthcare area for older adults referred for homecare services.

### OBJECTIVE

The aim of the programme was to train older adults to regain the skills to manage their self-care thus reducing dependency and the need for homecare services.

### METHODOLOGY

An observational retrospective cohort study was used to examine the impact of the reablement service on 11 adults over the age of 70 years. We examined the impact of the programme on the participants' self-care capacity, self-rating of their capacity and their use of homecare services by analysing data retrieved from the programme database. Extended Barthel Index and Canadian Occupational Performance Measure scores before and after the programme were used to measure self-care capacity. Data on homecare allocation before and after the programme was used to measure changes in the use and cost of homecare.

### RESULTS

There were significant improvements in participants' self-care capacity ( $p=0.021$ ) and in their self-rating of their capacity to self-care ( $p=0.000$ ). Homecare services use ( $p=0.005$ ) and cost ( $p=0.005$ ) reduced significantly following participation in the reablement programme. Analysis of incremental cost and effect indicates that reablement was net cost-saving after an initial payback period of four weeks. Reablement was observed to be a dominant intervention when compared to usual homecare if reduction in homecare use is maintained.

### CONCLUSION

A reablement programme specifically designed to address difficulties in self-care capacity could improve self-care capacity, reduce cost and use of homecare services, and could be cost-effective. Further research with a larger sample and over a longer duration is indicated to support the findings of this study.



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## Antibiotic Use for Acute Respiratory Tract Infections in Primary Care - What Factors Affect Prescribing and Why is it Important? A Narrative Review

### ABSTRACT

Antimicrobial resistance is an emerging global threat to health and is associated with increased consumption of antibiotics. Seventy-four per cent of antibiotic prescribing takes place in primary care. Much of this is for inappropriate treatment of acute respiratory tract infections (ARTI).

The aim of this research was to review the published literature pertaining to antibiotic prescribing in order to identify and understand the factors that affect primary care providers' prescribing decisions.

Six online databases were searched for relevant papers using agreed criteria. One hundred and ninety-five papers were retrieved, and 139 were included in this review.

Primary care providers are highly influenced to prescribe by patient expectation for antibiotics, clinical uncertainty and workload induced time pressures. Strategies proven to reduce such inappropriate prescribing include appropriately aimed multifaceted educational interventions for primary care providers, mass media educational campaigns aimed at healthcare professionals and the public, use of good communication skills in the consultation, use of delayed prescriptions especially when accompanied by written information, point of care testing and, probably, longer less pressurised consultations. Delayed prescriptions also facilitate focused personalised patient education.

There is an emerging consensus in the literature regarding strategies proven to reduce antibiotic consumption for ARTI. The widespread adoption of these strategies in primary care is imperative.

### SOURCE

Irish Journal of Medical Science 2018 Nov;187(4):969-986.

PMID:29532292 PMCID: PMC6209023 DOI:10.1007/s11845-018-1774-5

# Assessment of the FilmArray® Multiplex PCR System and Associated Meningitis/Encephalitis Panel in the Diagnostic Service of a Tertiary Hospital

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## INTRODUCTION

Rapid and accurate diagnosis of meningitis/encephalitis (M/E) is essential for successful treatment of patients, as well as effective delivery of care and subsequent management. Conventional 'Gold Standard' techniques have, in the past, demonstrated slow turnaround times, poor diagnostic accuracy and reliability, in particular following antimicrobial pre-treatment. The FilmArray® meningitis/encephalitis Panel (MEP) (BioMerieux Diagnostics) is a multiplexed *in vitro* diagnostic Polymerase Chain Reaction (PCR) test for the simultaneous, rapid detection of pathogens directly from cerebrospinal fluid (CSF) samples. This study involved evaluation of the FilmArray® with regard to diagnostic accuracy compared with current routine methods of culture/microscopy/Gram stain and referral for bacterial or viral PCR testing. Associated costs were also calculated.

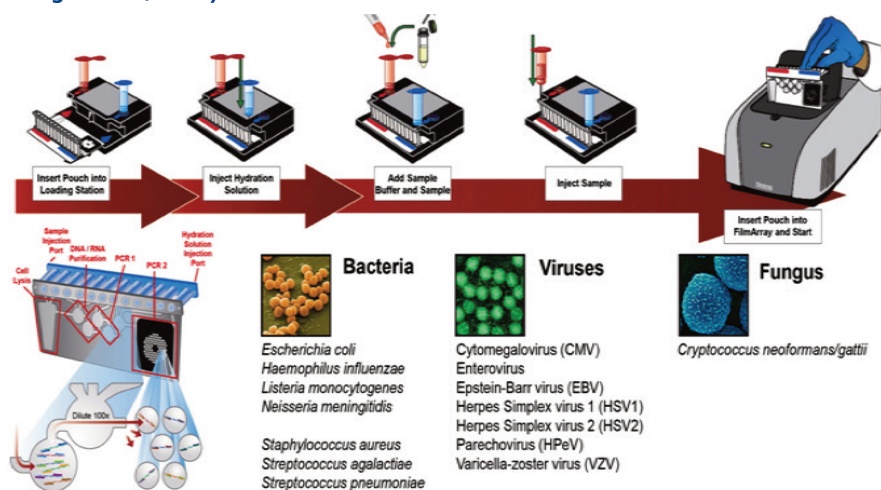
## METHODOLOGY

In the context of a tertiary hospital serving a catchment of over 600,000 and an average of 700 CSF samples annually, over a five month period in 2017, 94 prospectively collected patient CSF specimens with clinical suspicion of an infective M/E underwent simultaneous testing for 14 pathogens: *Escherichia coli* K1, *Haemophilus influenzae*, *Listeria monocytogenes*, *Neisseria meningitidis*, *Streptococcus pneumoniae*, *Streptococcus agalactiae*, cytomegalovirus, enterovirus, herpes simplex virus 1 and 2, human herpes virus 6, human parechovirus, varicella-zoster virus, and *Cryptococcus neoformans/Cryptococcus gattii*.

## RESULTS

The FilmArray® MEP demonstrated a positive agreement of 95% with current PCR methods, resulting in 16 diagnosed cases of M/E associated with enterovirus (44%), *N. meningitidis* (25%), Varicella - zoster virus (25%) or *Herpes simplex virus 1* (6%). Typically, the FilmArray® MEP results were delivered within approximately one hour, contrasting positively with current PCR practices which take up to 5.6 days due to a requirement for transport of samples to a national central testing laboratory. The direct cost of materials plus labour associated with the 94 tests amounted to an additional €12,500. However, from a retrospective chart review, 14 of 19 children had a LOS >5 days prior to the introduction of the FilmArray® MEP PCR, if performed on all 14 of these patients; a saving of just over €110,000 would have been observed due to the early discharge of same (5.6 bed days per child x 14).

**Figure 1 - The FilmArray Multiplex PCR System with the FilmArray MEP Assay and Pouch (BioMerieux Diagnostics., 2015)**



## CONCLUSIONS

FilmArray® MEP is a rapid, sensitive and specific PCR method which aids prompt healthcare management of patients, reducing time to diagnosis and improving patient outcomes.

## PRESENTED

As a poster presentation at the Irish Society of Clinical Microbiology in Dublin on March 23rd, 2018 and at the European Congress of Clinical Microbiology and Infectious Disease (ECCMID) in Madrid, Spain on April 22nd, 2018 by Amanda Mostyn.



## Clustered Interventions to Reduce Inappropriate Duplicate Laboratory Tests in an Irish Tertiary Hospital

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### ABSTRACT

There is increasing emphasis on understanding the rate, and avoidable costs, of inappropriate laboratory testing in hospitals, especially associated with duplication of tests following transfer of patients from one hospital to another. While studies of inappropriate testing have been reported previously, there are no published data relevant to Ireland.

The aim of this study was to determine the baseline rate of inappropriate testing for a subset of clinical parameters, specifically, full blood counts (FBC), biochemistry profiles (Bio) and coagulation (Coag) screens for geriatric patients transferring to and from University Hospital Limerick (UHL). Prospective pilot-scale implementation of 5 clustered interventions, and assessment of their effect.

Baseline testing levels were determined between October 2013 and January 2014. A patient survey was conducted to evaluate patient awareness of the blood tests they underwent. Five interventions were trialled sequentially each month between January and May 2014. These included: educational poster, intern training, presentations and communication to consultants; automated prompt in the Laboratory Information Technology System; highlighting of patient survey results to medical staff; inclusion of laboratory test details on patient transfer document; patient booklet promoting empowerment. Impact was assessed by determining rates of inappropriate laboratory testing monthly, and associated actual cost reductions were calculated.

Approximately two-thirds of geriatric inpatients were unaware of why they underwent blood tests. Baseline numbers of inappropriate duplicate FBCs, Bio profiles and Coag tests were 758, 749 and 268 respectively for patients transferring to and from UHL. Following the interventions, these numbers dropped to 85, 84 and 0, respectively.

The interventions resulted in sustained reduction in rates of inappropriate testing by May 2014. Extrapolated cost reductions exceed two million Euro annually. The most effective intervention involved staff education.

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### SOURCE

Clinical Biochemistry. 2018 Feb;52:26-32. doi:10.1016/j.clinbiochem.2017.10.012. Epub 2017 Oct 19.



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## A Survey of the Beliefs and Attitudes amongst Staff working in Long-Term Care Facilities in the North East Region to Influenza Vaccination

### INTRODUCTION

Vaccination of staff working in healthcare is recommended as a strategy for preventing influenza spread among residents in long-term care facilities (LTCF).

### OBJECTIVE

This study was designed to understand the motivators and barriers to staff vaccination, by examining factors that might affect uptake rates like access, attitudes or aversions. Understanding these might better inform the designing of more effective vaccination programmes for the future.

### METHODOLOGY

All 11 LTCF in the North East Region that had documented influenza outbreaks during the 2017/2018 influenza season were included in this survey. A standardised questionnaire (which gathered anonymised data regarding staff vaccination) was sent to all staff at each LTCF.

Two hundred and thirty six staff from 8 LTCF responded to the survey (51%). The majority of respondents were female (87%, n=201) and from a Nursing (26.5%, n=58) or Health and Social Care (41.5%, n=91) background. There were no differences reported in access between Private or Public LTCF. Over 90% of respondents reported that they have no fears regarding needles or allergic reactions. Half of all respondents reported that they were vaccinated during the current influenza season and almost 60% agreed with mandatory staff vaccination. However, a large proportion (42%, n=94) disagreed that the vaccine protects against influenza and this group were significantly more likely to agree that vaccination would make them unwell ( $p<0.0001$ ) and could cause serious side effects ( $p<0.0001$ ).

### CONCLUSION

These results highlight that there is a need to address some misconceptions about influenza vaccination, and this may help to improve uptake rates among staff in LTCF.

### PRESENTED

- As a poster presentation at the Infection Prevention and Control Ireland Annual Conference at the Citywest Hotel in Saggart, Dublin on April 27th, 2018.
- As an oral presentation at the RCPI Summer Scientific Meeting 2018 in the Royal College of Physicians in Ireland on May 30th, 2018 by Ms. Tracey Doherty.





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## Evaluating the Implementation of the Recovery Context Inventory in Irish Mental Health Services

### ABSTRACT

Despite mental health policies internationally espousing a recovery approach, there is a dearth of psychometric measures that can adequately profile the recovery-impacting contextual factors that are both present and important in a person's life. Developed by HSE-EVE, the Recovery Context Inventory (RCI) is an online profiling, recovery planning and outcome tool designed to support personal recovery and recovery-oriented service development. In using the RCI, respondents can build a profile of contextual factors in their lives which support their recovery and have an opportunity to compare changes over time, with repeated use. Furthermore, there is the potential for services to aggregate individual responses (with consent) to produce a dataset of the priorities and opinions of service users, in order to provide a measure of service recovery-orientation and support service planning and organisational change initiatives. An accompanying RCI Recovery Planning Workbook is available to support those interested in taking further development activity. It has undergone a rigorous scientific development process, and was implemented in six Irish mental health service sites nationally.

This study aimed to evaluate the implementation of the RCI with key stakeholders representing service users, RCI Facilitators and other key stakeholders in mental health services in Ireland and to gather further information on its psychometric properties.

Data were gathered over a 10 month time frame using a mixed methods, multi-modular design incorporating focus groups, interviews and online questionnaires.

Findings indicate that the RCI is a useful support to mental health recovery, that there was a positive experience of the facilitation process, and that there is a wide range of potential applications for the RCI to improve recovery-oriented service provision. A psychometric evaluation of the properties of the RCI, employing Exploratory Factor Analyses (EFAs) and internal consistency analyses confirmed its suitability for use. Findings from the first RCI National Report are presented, capturing the priorities of 127 service users with regard to their mental health recovery. Challenges to implementation centred mainly on resolving technical and resource issues, and the length of the RCI Questionnaire.

Based on recommendations made, the RCI questionnaire will be shortened and deployed as a personal recovery support and service planning tool in community mental health services. As an innovation in e-mental health, the RCI has the potential to support cultural and practice change in services, empowering service users to exercise greater choice and control in their lives and supporting their personal recovery journey. The aggregated data report facility offers decision-makers a unique insight into those factors that support mental health recovery and critically provides new metrics to inform service improvement initiatives, service planning and resource allocation.

Footnote: since the publication of this report, the RCI has been further developed. A 30 item free to use paper version, involving a two-factor ('Personal Supports' and 'Service Supports') model, supported by Confirmatory Factor Analysis has been produced. In addition, the RCI Workbook has been updated to reflect these structural changes. RCI Materials are available on ([www.recoverycontextinventory.com](http://www.recoverycontextinventory.com)).

### PRESENTED

- As an oral presentation at the European Network on Training, Education and Research in Mental Health (ENTER)/Irish Institute of Mental Health Nursing European Conference on June 5th, 2015 by Tom O'Brien
- As a poster presentation at the National Mental Health Nursing Conference in Dublin on April 15th, 2015.

### FUNDING

This research has received funding from the Health Service Executive.

### SOURCE

O'Brien, T., Webb, M., Stynes, G., Cosgrave, G. and Ardis, J. (2015) Evaluating the Implementation of the RCI in Irish Mental Health Services. Health Service Executive: Dublin. (Available in PDF).



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## Developing a Generic Implementation Framework Tool - Translating Planning into Practice

### INTRODUCTION

Evidence-based guidelines have become accepted in healthcare, allowing focused clinical questions to be answered. However, evidence-based guidelines can be seen negatively as enforced alternatives to clinical judgement, or as indirect ways of measuring performance, rather than decision tools. Checklists have been advocated to provide structured and precise steps in a complex or a simple environment and have shown benefits.

### METHODOLOGY

The Health Service Executive (HSE) Health Intelligence Unit has developed a checklist from a range of resources, including implementation theory, which crystallises the steps in implementing a project. Titled the *Generic Implementation Framework Tool* (GIFT), the authors benchmarked it against other papers advocating a framework for implementing intricate interventions. Elements of GIFT commonly identified were: having a plan and engaging stakeholders. Project management, risks and resources or economic evaluation were rarely mentioned.

### CONCLUSION

GIFT represents a valuable tool to assist in decision-making whether planning, monitoring or evaluating any project to its successful implementation.

## Development and Introduction of the Risk-Sentience Auxiliary Framework as an Enabler to the ISO 31000 and ISO 31010 for High-Risk Environments

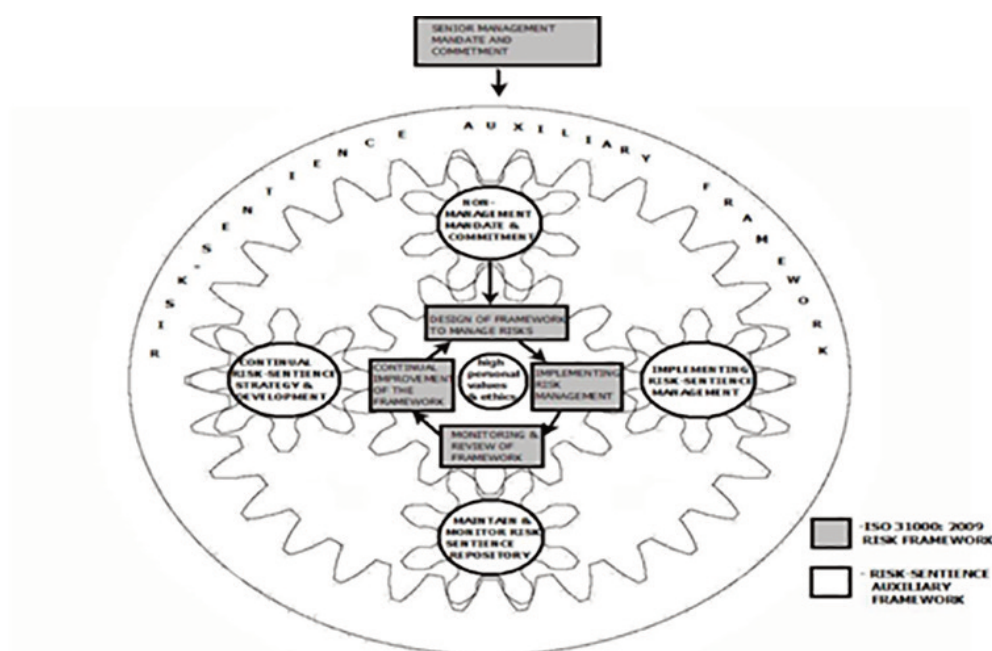
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West Wicklow

### ABSTRACT

The aim of this study was to develop, implement, and evaluate a new auxiliary enterprise risk management framework and process to serve as an enabler to the global ISO 31000 risk framework and ISO 31010 processes. This framework has been designed particularly for use within high-risk environments and those characterised by volatility, uncertainty, complexity, and ambiguity (VUCA). This paper proposes a methodology for optimisation of structured sharing and grass-roots management of all available risk-sentience information with the assessed potential to develop into an identifiable risk in the future. The author introduces new risk terminology including risk-sentience, risk-sentience information, and risk-sentience management. The process involved the development of the Theory of Risk-Sentience (ToRS), Risk-Sentience Auxiliary Framework (RSAF) and a risk-sentience management process referred to as LUOMEAR (Learning from Uncertainties, Others' Mistakes, Experiences and Anecdotal Reporting). Manchester Patient Safety Framework (MaPSaF), SWOT (Strengths, Weaknesses, Opportunities, and Threats) analysis, and a newly developed Risk-Sentience Fertility Checklist were used to conduct pre and post-trial evaluations. The findings include positive adjustments in safety culture, components of commitment to quality, communication and team-working around safety issues, access to evolving risk-information, and efficient sharing and management of recorded risk-information. Recommendations are made for more extensive application of both the proposed auxiliary risk framework and process within high-risk sectors to further explore its effectiveness and scope.

Figure 1 - Graphical abstract - Risk-Sentience Auxiliary Framework (RSAF)



### SOURCE

Selvaseelan, J. Development and Introduction of the Risk-Sentience Auxiliary Framework (RSAF) as an Enabler to the ISO 31000 and ISO 31010 for High-Risk Environments. *Administrative Sciences*. 2018;8(2):22. (<https://doi.org/10.3390/admsci8020022>)



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# An Evaluation of the Virtual Dementia Tour® Training in St. Columcille's Hospital, Loughlinstown

## INTRODUCTION

In Ireland, 11 people are diagnosed with dementia every day.<sup>1</sup> Dementia leads to cognitive-communication difficulties that can have a significant impact on a person's quality of life.<sup>2</sup>

The National Dementia Strategy<sup>3</sup> emphasises the importance of communication training for staff working with people with dementia.

The importance of supported communication in dementia was evident to the author following an audit of hospital staff in acute care. A need for dementia education was identified. The Virtual Dementia Tour ® (VDT®)<sup>4</sup> is a sensory distortion programme designed to provide participants with a greater understanding of the progressive difficulties experienced by people living with dementia.<sup>5</sup> The VDT® training was organised by the author with the support of the Speech and Language Therapy (SLT) Department and Hospital Management, for staff members to learn of the experience of having dementia.

## OBJECTIVE

The aim of this research was to improve standards of patient care and contribute to a dementia-friendly hospital environment in St. Colmille's Hospital (SCH).

## METHODOLOGY

Seventy two staff members attended the training, in 3 sessions in groups of 12, over 2 days, while facilitated by an expert trainer from VDT®. Participants gained an insight into the sensory experience of having dementia. Mixed method anonymous questionnaires were developed and completed by participants pre and post-training. This evaluated the improved knowledge, self awareness and potential impacts for practice. Descriptive statistics and thematic analysis<sup>6</sup> were utilised to analyse the data.

## RESULTS

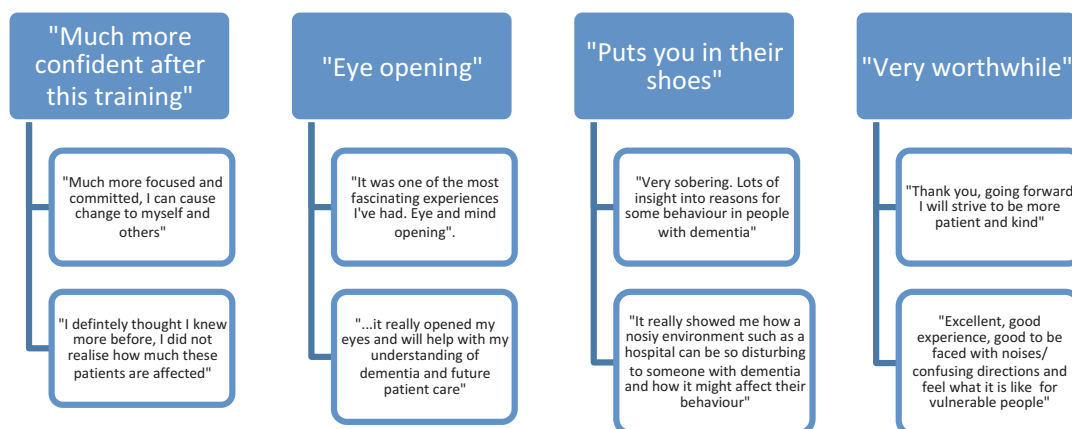
Thirty eight (53%) participants completed the questionnaires. One hundred per cent of staff members reported an increased awareness of the impact of dementia in one or more of the following areas as conveyed in Figure 1.

Figure 1 - Areas of Increased Awareness for Staff



A sample of the qualitative feedback from staff members is illustrated below in Figure 2.

Figure 2 - Representation of Thematic Analysis of Qualitative Feedback





### CONCLUSIONS

This training was a powerful experience for staff and increased their global awareness of the impact of dementia. Key recommendations extracted from the participant feedback were; (a) the need for private assessment areas on wards for clinical and capacity assessments (b) a hospital-wide focus on noise reduction to reduce overstimulation of patients with dementia, (c) use of dementia-friendly communication support strategies (d) the use of 'This is Me', personal information booklet <sup>7</sup> for all patients with dementia, to promote patient-centred care in SCH. These recommendations were presented by the author to the Dementia-Friendly Hospital Group (DFHG) who are striving to establish SCH as a Dementia-Friendly Hospital.

### FUNDING

The Hospital General Manager kindly funded this training opportunity for the staff members of St. Colmcille's Hospital, Loughlinstown.

### REFERENCES

Available on request.

# Training to Care - A Scoping Review of Person-Centred Care Modules in Medical, Nursing and Health and Social Care Professional Training Curricula

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## INTRODUCTION

Irish policy has endorsed person-centred care (PCC) for over a decade.<sup>1</sup> PCC is seen as integral to successful delivery of healthcare globally.<sup>2</sup> It has been shown to advance concordance between care-provider and patient, improve health outcomes and increase satisfaction. Core to PCC is the therapeutic relationship, where the clinician needs to recognise the person as a human being with reason, will, feelings, and needs so as to engage with them actively. This requires developed empathetic communication skills. However, evidence indicates significant practice deficits.<sup>3</sup> This is substantiated in results of the Irish national patient experience survey,<sup>4</sup> where communication was cited as requiring significant improvement. Clinicians' values, knowledge and interpersonal skills are necessary for PCC delivery, but so is a nuanced ability to engage in, and develop person-centric communication skills. This study explored how clinicians are prepared to deliver PCC through their qualification training. Internationally, PCC curricula have been developed for Health and Social Care Professional (HSCP), nursing and medical undergraduate programmes. The situation in Ireland is less clear.

## OBJECTIVE

Through an evidence-based methodology this paper questions the quantity, nature and distribution of PCC and person-centric communication modules across medical, nursing and HSCP professional training courses in the Republic of Ireland.

## METHODOLOGY

Due to limited information in this area and the variety of ways PCC communication training could be categorised, a scoping review methodology was chosen. This allowed for a systematic methodological approach to identifying potential PCC training offerings in health professional education. Colquhoun et al. (2014)<sup>5</sup> five stage scoping review framework was chosen. This allowed clear identification of the research question through the use of ECLIPS(E).<sup>6</sup> A search term chart was developed utilising core PCC definitions leading to 53 search terms. Prerequisite interpersonal skills were similarly rigorously identified. The Google search engine was utilised to identify relevant modules from Irish programmes in medicine, nursing and CORU registered HSCPs. A descriptive numerical summary analysis detailed the quantity, nature and distribution of PCC and person-centric communication modules.

Results indicated that across the nine professions reviewed (Nursing, Medicine, Dietetics, Speech and Language Therapy (SLT), Occupational Therapy (OT), Physiotherapy (PT), Social Work (SW), Optometrists/Dispensing Opticians and Radiographers/Radiography Therapists (RT)), there were forty one eligible training courses comprising of 1,253 modules.

However, 'person-centred care' was only included in 6 modules (0.5%) across 2 courses (5%). Although 242 (19%) of modules contained PCC or PCC communication search terms, only four search terms ('professionally competent,' 'developed interpersonal/communication skills,' 'education,' and 'health and social care policy') resulted in modules equating to 1% or over of the total reviewed. Further analysis of modules' content is required to determine whether the core principles of PCC are reflected. Finally, results revealed that most modules containing PCC (40%) and PCC communication (80%) search terms were in nursing. All remaining modules were distributed across other professional courses at ratios of 0-15%.

## CONCLUSIONS

Results indicate that PCC and person-centric communication modules are sparse in Irish medical and HSCP training. Despite promotion of PCC in Ireland, healthcare professional education prioritises clinical knowledge over humanistic aspects of care. To equip qualifying healthcare professionals in delivering PCC, it must be evident in health professional training. This is challenging and requires further research about how to develop strong interpersonal communication skills underpinned with a PCC philosophy and appropriate pedagogical approach. PCC philosophy and skill development must consistently and seamlessly cross formal university training and practice development on placement. This may involve contesting pre-existing organisational cultures and practices and entails valuing the patient voice from inception to achieve true authenticity. Perhaps with engagement and commitment across stakeholders the route to change may commence. Ultimately, this study confirms a gap in any significant PCC education for HSCPs in Ireland and compels further research into PCC education and its impact on healthcare delivery on a national and international basis.

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Available on request.



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## Reflecting on 'Skills Demonstration' in a Group Facilitation Skills Training in a Forensic Mental Health Setting

### INTRODUCTION

A two day training programme that has Category 1 recognition from the Nursing and Midwifery Board of Ireland (NMBI) was specifically designed for nurses working in the Irish forensic mental health setting to build their skills and knowledge on group facilitation. The training programme has four modules:-

- 1) An introduction to groups and group facilitation
- 2) Psycho-social interventions (PSI) commonly utilised in the forensic setting
- 3) Trust and therapeutic alliance
- 4) Documentation and reporting

The theoretical content was delivered on Day 1. The participants were then given a topic for skills demonstration on Day 2. Participants were paired to demonstrate their skills in facilitating one session from three PSIs discussed on the training (Stress and Anger Management, Meta Cognitive Training and a Wellness Group). The ten participants then reflected on their experience of skills demonstration.

### OBJECTIVE

The aim was to introduce reflections in group facilitation with an objective to evaluate the training programme.

### METHODOLOGY

A mixed methodology was adopted. Participants used Gibb's Model of Reflection (1988) to reflect on their facilitation skills. Quantitative data was collected using pre and post-survey. Both facilitators read and re-read the reflections to arrive at common themes. Themes provide an understanding on participants' experience of facilitating a group session. A standard questionnaire by Higgins et al. (2017) was used for pre and post-survey in order to evaluate the training programme. The questionnaire elicited information on three areas: demographic details, self-rated knowledge and self-rated confidence.

### RESULTS

Thematic analysis of participants' reflection using the Gibb's cycle generated seven themes (Figure 1). Quantitative data was analysed using SPSS Version 24.0. Descriptive statistics such as frequencies and percentages, mean and standard deviation were used. Furthermore, inferential statistics paired sample t-tests were utilised to examine the difference between pre and post-test level of knowledge and confidence. Findings from these surveys support the themes generated from participants' reflections on skills demonstration.

#### Figure 1 - Themes Generated from Participants' Reflection on their Skills Demonstration

1. Anxiety
2. Use of Interactive Activities
3. Confidence & Managing Difficult Participants
4. Co-Facilitation
5. Facilitation Styles
6. Preparation is the Key
7. Training in Group Facilitation is Important

#### Results from Pre and Post-Survey

##### Knowledge

Findings from paired sample t-tests indicate a significant increase in knowledge in the post-test period on every item on the knowledge scale.

##### Confidence

Analysis suggests an overall increase in confidence among participants in the post-test period even though they reported 'somewhat confident' on some items. They include, explaining the aims, responding to over-talkative people in the group and responding to negativity within the group where participants expressed 'somewhat confident'.



### CONCLUSION

Using reflective practice in teaching and training helps participants understand their strengths and limitations. The majority of people experience a little bit of anxiety prior to facilitating a group which usually eases down with more practice and good preparation for the session. The key factors in preparing for the session are allocating time to familiarise oneself with the content; use of materials such as flip charts; thinking ahead of examples suitable for service users and working with the co-facilitator. In the forensic mental health setting managing the difficult participants in a group may be a challenge. The techniques to manage challenges come with practice. The researchers recommend use of debriefing and reflections in practice.



## A Stepped Care Approach to Teacher Psychoeducation through Workshops Facilitated by Assistant Psychologists in Primary Care

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### INTRODUCTION

In Ireland, over 30% of young people are likely to have experienced a mental disorder by the age of 13.<sup>1,2</sup> Most teachers report teaching students with mental health difficulties, though feel they are inadequately prepared to manage these children due to insufficient education and little consultation with mental health professionals.<sup>3,4</sup> Children with emotional and behavioural difficulties were perceived by teachers as the most challenging group to support within the classroom in mainstream education.<sup>5</sup> A lack of specific training to equip teachers with knowledge and the skills to support these students in the classroom reduces opportunity to promote positive teacher-student relationships and foster learning. Anxiety is one of the most prevalent mental health issues experienced by young people in Ireland. The Clonmel Project (2006) found that 43% of young people, that meet the criteria for at least one psychological disorder, were classified as having an anxiety disorder.<sup>6</sup> Poor attachment to a caregiver during development poses significant risk for the development of mental health issues in later life, including anxiety disorders.<sup>7</sup> The evaluation of The Attachment Aware Schools Programme Report 2018<sup>8</sup> emphasises the importance of systemic approach in psychoeducation to include teacher training, professional development of all school staff, governors and important adults outside of the school. These findings suggest that attachment awareness training influenced changes in the knowledge, understanding, attitudes and practices of participants in the programme. This increased confidence in addressing the needs of children and young people and improved the children's educational progress, wellbeing and attendance overall. Eight recommendations from this report advocate for similar teacher training nationally with an emphasis on emotion coaching.

### OBJECTIVE

The aim of this project was to create, deliver and evaluate two workshops on 'Attachment and Infant Mental Health' and 'Anxiety' over two days. The workshops intended to equip teachers with knowledge and skills to change their attitudes, attribution styles and behaviour in supporting students with related difficulties in the classroom.

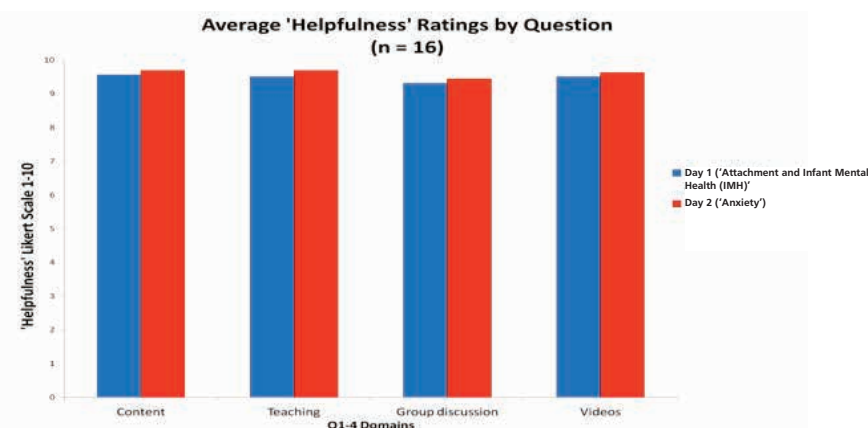
### METHODOLOGY

Workshops were created by the authors adapting a three pronged approach; to provide knowledge, to change attitudes and to teach skills so that teachers can recognise and implement strategies when dealing with common mental health issues arising in the classroom. Two day workshops totalling nine hours were delivered to 16 teachers as part of the 'Wellbeing Summer Programme' Teacher Training organised by Family Matters (ABC) Programme, Ballyfermot/Chapelizod Partnership. Daily questionnaires were administered and completed anonymously to evaluate the workshops using quantitative and qualitative methods. The quantitative method evaluated four areas on a 10 point likert scale from 1=not helpful, to 10=very helpful. Qualitative methods asked what the teachers; 1) found most useful, 2) found least useful, and 3) if they had any additional comments. These responses were analysed using thematic analysis. Follow-up qualitative interviews will be completed over the phone with teachers to assess how well they were able to implement the learned strategies and if significant attitude and behaviour changes were noted in dealing with mental health related issues in the classroom.

### RESULTS

Quantitative results indicated that teachers found the workshops helpful across all four domains (content, facilitators teaching, group discussions and videos) on both days (see Figure 1).

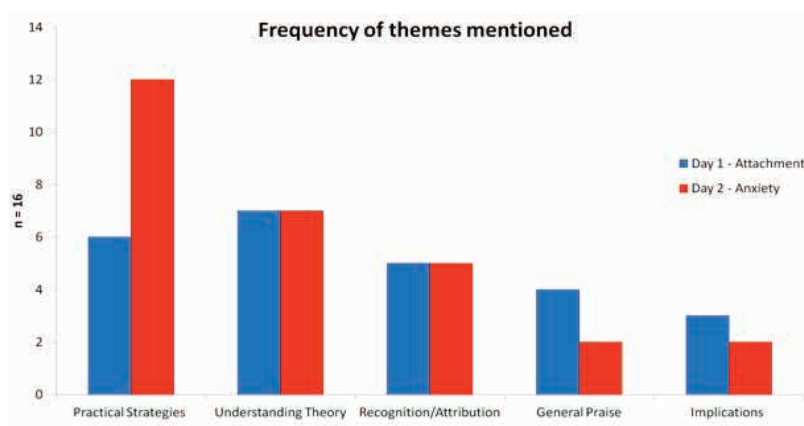
Figure 1 - Average 'Helpfulness' Ratings by Question





The evaluation forms were subject to thematic analysis using a constructivist paradigm. From the analysis five themes were found to be representative of the feedback provided by participants. The themes identified were General Praise of the Workshops (“The whole training. All were very helpful and knowledgeable”), Implications of the Difficulties for the Child (“Knowledge of impact of attachment on development of children and their mental wellbeing and ability to form and maintain relationships”), Practical Strategies to Support these Children in the Classroom (“Strategies for identifying anxiety and approaching it in the classroom. Love the CBT traffic light model”), Recognising Attachment or Anxiety within the Classroom and being able to Attribute the Child’s Behaviour to these Difficulties (“Learning about the effects of attachment on children’s development and what these children look like in our classroom”) and Understanding the Theory Provided during the Workshops (“Realising how anxiety manifests itself in various ways, a real eye opener for teachers”). Qualitative analyses suggest that teachers found the practical strategies provided most useful (see Figure 2).

**Figure 2 - Frequency of Themes Mentioned**



## CONCLUSION

Teachers found the workshops valuable in relation to recognising mental health difficulties in their students and providing them with strategies to manage and address these issues in their classrooms. It is thought that the strategies would have implications on teachers’ preparedness and ability to support these children’s wellbeing, behaviour and academic attainment. A follow-up qualitative interview with a subset of teachers will be carried out to assess the practical utility of the workshops. Findings are in line with Scanlon and Barnes-Holmes<sup>4</sup> who determined that behavioural intervention, as well as stress management techniques for teachers, was effective in managing and including children with emotional and behavioural difficulties in the classroom. This recent workshop evaluation, along with other research findings, indicates that teachers would benefit from mental health training workshops. This could be implemented by Assistant Psychologists, as part of a stepped care approach. Future training provision should consider this and a more systemic approach which has been shown to be most beneficial for students.

## REFERENCES

Available on request.

## PRESENTED

As a poster presentation at the Psychology Society of Ireland (PSI) Early Graduate Group Conference in the National University of Ireland Galway on September 8th, 2018.

## Bridging Healthcare Education and Technology Solution Development through Experiential Innovation

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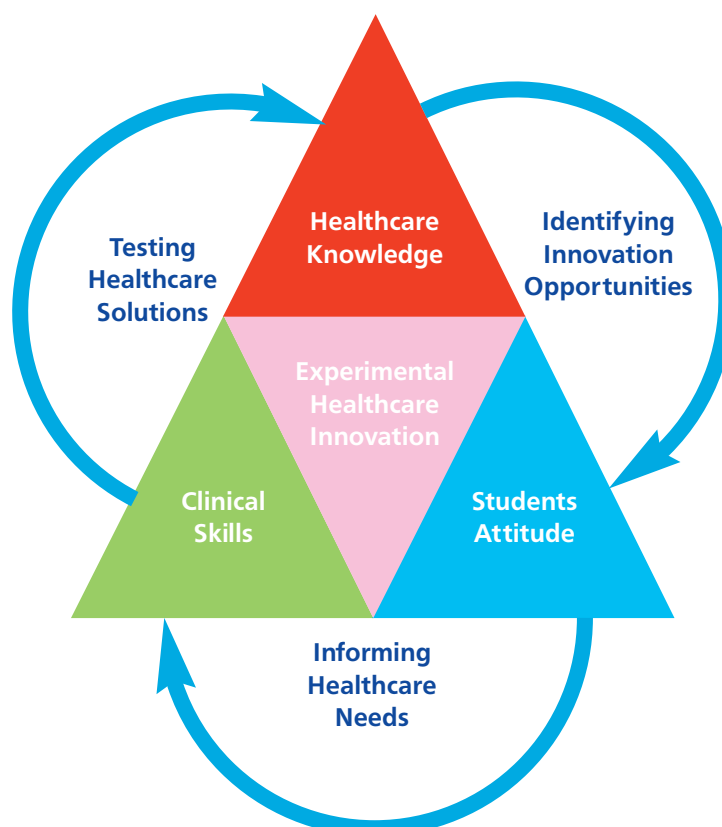
### ABSTRACT

Healthcare education is continually evolving to meet the global healthcare needs of society. Education is of critical importance to support healthcare workers' professional development while also expanding the evidence-base for healthcare professional training. There are inherent links between healthcare professionals' educational development and patient safety. In recent years, there has been considerable emphasis on the role of technology to enhance patient safety and to support healthcare professionals in practice. In reality, technology is becoming more responsible for improving and saving lives. These include technologies like minimally-invasive surgeries, improved monitoring systems and more comfortable scanning equipment.

There is a growing concern regarding the mismatch in healthcare professionals' technological skills and how technological innovators are informed of healthcare needs. Education plays a key role to bridge this gap. Collaborating in simulated clinical learning environments, e.g. university-simulated clinical skills laboratories, can provide a valuable resource to support students' technical competencies as they graduate into a digital healthcare environment. It also provides a safe innovation environment for healthcare solution developers to experiment with implementing technology to improve healthcare practice and faculty development. A literature review was undertaken to examine state-of-the-art in healthcare education and healthcare innovation, developing a framework to guide how it will be possible to begin successfully bridging healthcare education and technology innovation.

### RESULTS

In this article the overall approach towards efforts to improve healthcare education and technology innovation in a unified manner is described. Empowering graduates to instigate change is critical if we are to ensure that change occurs within our healthcare system to improve the safety and quality of care. However, healthcare technologists often drive change and solutions can be misaligned with unmet healthcare needs. The study describes how a simulated clinical learning environment provides a unique opportunity for both students and healthcare technologists to collaborate and co-create healthcare innovation. This also raises new challenges to assess healthcare needs and educational needs from a multi-perspective viewpoint to bridge healthcare education and technology solutions.





#### *Education*

Encouraging experiential innovation through healthcare education and technology will improve graduate skills to identify opportunities for healthcare innovation and improve their technical skills. This will also ensure that universities address the need to encourage graduates to be instigators of process improvement within a healthcare service.

#### *Practice*

Through close collaboration with healthcare students and academic staff, technology providers can experiment to align software solutions with healthcare needs of patients and practitioners. The simulated clinical learning environments offer an environment to experiment on how to improve practice (safety and quality), deliver greater service efficiency (process improvement) and adopt a solution-driven approach to healthcare change.

#### *Healthcare Technology Development*

Ensures that healthcare technology innovation is closely aligned with clinical needs while providing a safe testing environment to experiment with healthcare technologies.

#### **REFERENCES**

Available on request.

#### **FUNDING**

This work was supported with the financial support of the Science Foundation Ireland grant 13/RC/2094 and co-funded under the European Regional Development Fund through the Southern and Eastern Regional Operational Programme to Lero - the Irish Software Research Centre. ([www.lero.ie](http://www.lero.ie))

#### **SOURCE**

Noel Carroll, Pauline O'Reilly, Mairead Moloney, Ita Richardson (2018), Bridging Healthcare Education and Technology Solution Development through Experiential Innovation. Health and Technology Journal (<https://doi.org/10.1007/s12553-017-0215-1>), Springer Berlin Heidelberg, Print ISSN: 2190-7188, Online ISSN: 2190-7196.

# In Technology We Trust - Extending the Technology Acceptance Model from a Healthcare Technology Perspective

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## ABSTRACT

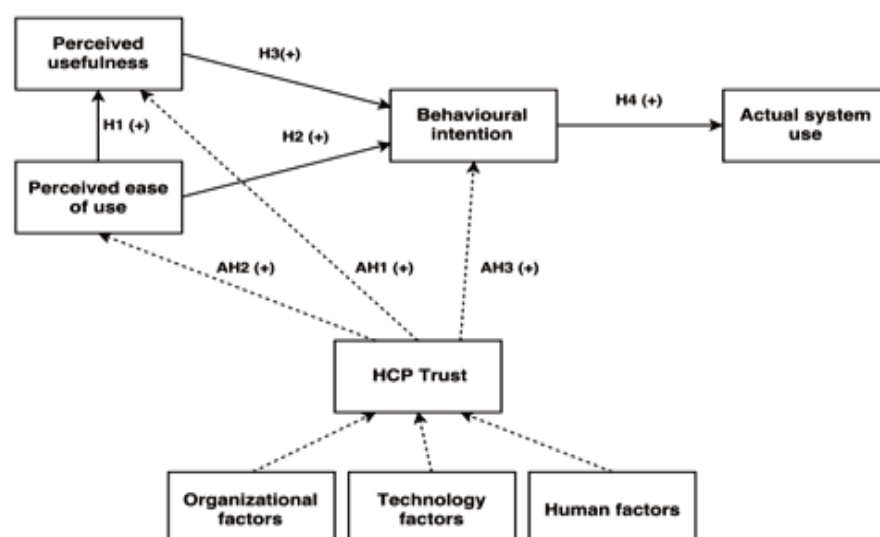
Healthcare Technology has become a significant enabler in the provision of consistent quality of care. In recent years, the application of healthcare technology across the primary healthcare sector has rapidly influenced and changed care service delivery. An improved understanding of critical antecedents which leads to the usage of healthcare technology can serve as a foundation for the development of implementation strategies and can enhance system use for Healthcare Professionals' practice.

In accordance with the Theory of Reasoned Action, this study aims to investigate the antecedents that influence Healthcare Professionals to use healthcare technology.

In particular, based on our previous systematic mapping review,<sup>1</sup> we propose a conceptual model. In this, we incorporate one new variable - Trust - into the Technology Acceptance Model (TAM).

Through developing a framework of technology acceptance by individual Healthcare Professionals, we illustrate how healthcare technology acceptance can improve overall healthcare. Thus, we are proposing a Healthcare Technology Trust model as shown in Figure 1.

**Figure 1- Healthcare Technology Trust Model: Extended Technology Acceptance Model**



We expect that further analyses of the data which we are collecting will offer improved insights into the effects of this variable on the 'intention to use' of healthcare technology.

## REFERENCES

Available on request.

## PRESENTED

As a poster presentation at the 6th Institute of Electrical and Electronics Engineers (IEEE) International Conference on Healthcare Informatics (ICHI) in New York from June 4th to 7th, 2018

## FUNDING

This work was supported with the financial support of the Science Foundation Ireland grant 13/RC/2094 and co-funded under the European Regional Development Fund through the Southern and Eastern Regional Operational Programme to Lero - the Irish Software Research Centre. ([www.lero.ie](http://www.lero.ie))

## SOURCE

Abbas, R.M., Carroll, N. and Richardson, I. In 2018 IEEE International Conference on Healthcare Informatics (ICHI) (pp. 348-349). IEEE.



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# Patient-Generated Health Data and Clinical Responsibility - A Study of the Perception of Irish Stakeholders

## INTRODUCTION

Enabling “fully integrated care” for the population, using smart home technology sensors and other IoT wearables, is an area which has seen increased interest in academic and commercial fields.<sup>1-3, 4</sup>

It comes in response to the urgent need to put solutions in place to care for the growing population of older people with one or more chronic illnesses, while preventing such illnesses in the demographic currently healthy and well.<sup>5</sup> This study set out to discover some of the challenges that data from patient wearables and smart home sensors will create when fully integrated care allows this data to be shared with the health system for population health management.

## OBJECTIVE

The study investigated the perceptions of data ownership and clinical responsibility among eHealth stakeholder groups, in terms of the requirement to respond to Patient Generated Health Data (PGHD) and data received from smart homes about the health of an individual. That is to say, when data received shows a deterioration in health status, who is responsible for reacting to that information? In doing so, it is hoped to stimulate further research into what can be done in advance to prepare for the ultimate target of providing a proactive and preventative healthcare system for Ireland.

## METHODOLOGY

A mixed methods research methodology was pursued. This involved a survey including qualitative and quantitative data collection from a sample which included acute, community and primary care clinicians, academics, health IT professionals, HSE senior managers, patients/patient advocates and the public. This was followed by semi-structured interviews with subject matter experts to further explore their views.

Figure 1 - % of Stakeholder Group Choosing Each Option Offered

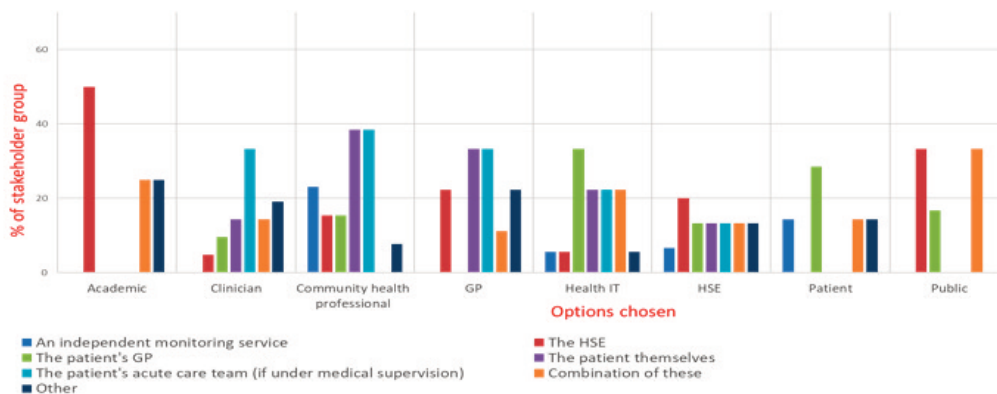
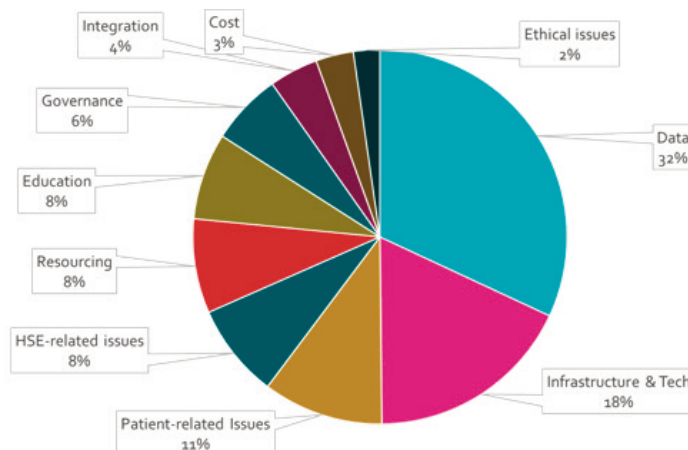


Figure 2 - Challenges Identified by Participants





Of the challenges identified by each stakeholder group (Figure 2), 32% related to data of which data reliability, volume, security and analysis were among the most commonly cited.

### RESULTS

The opinion on who should receive alerts and who is clinically responsible to respond to PGHD was split across stakeholder groups. While 98% of respondents agreed that PGHD is useful and welcomed, 36% of Acute Care Clinicians and 0% of GPs and Patient Respondents felt that they should be responsible for responding to anomalies in PGHD.

### CONCLUSION

If the health service is to benefit from the rich data source that is its patients, a new healthcare model for Population Health Management (PHM), including dedicated data analysis/triage and response centre(s) is proposed.

This would become the new front line of healthcare, and should be the focus of further research such that it can be considered as a potential solution to the desire to include PGHD in a longitudinal healthcare record.

### REFERENCES

Available on request.

## Using Technology to Improve the Use of Health Information by People with Mild Intellectual and Developmental Disability

Alshammari, M.,  
Richardson, I.,  
Doody, O.

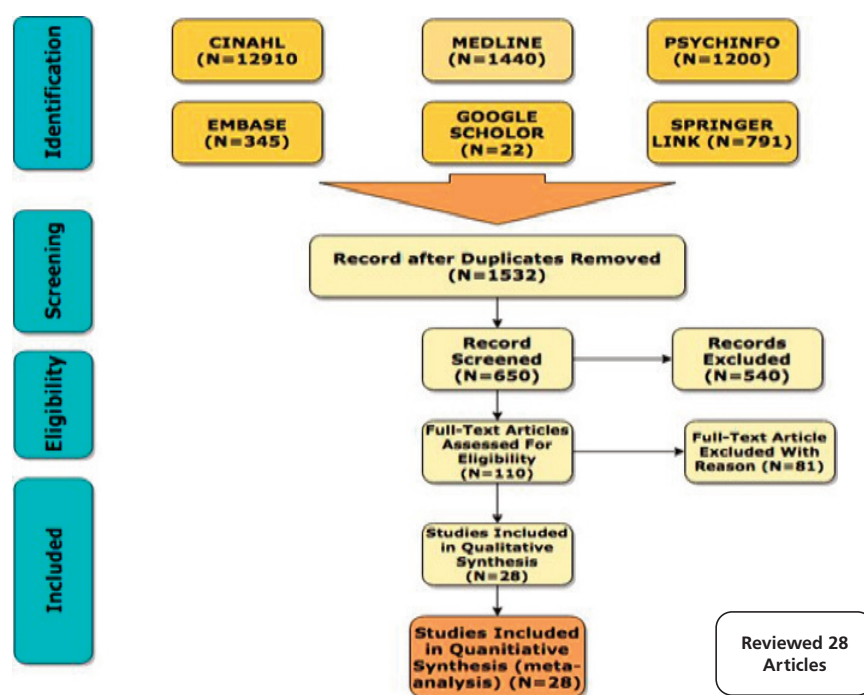
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### ABSTRACT

Health information systems (HIS) are central to achieving better health outcomes. However, clients with Intellectual and Developmental Disability (IDD) experience healthcare inequalities, and may not always be in a position to benefit from such systems. Improving access to healthcare information can be a critical mechanism in addressing these inequalities. A properly functioning HIS gets the right information into the right hands at the right time and, as with others, clients with IDD have the right to be provided with access to their own health information. Therefore, this project aims to develop a model for accessing health information by clients with IDD.

A structured literature review (SLR) was conducted to identify studies which present experiences of individuals with IDD when accessing health information. Twenty eight studies were identified which were published between January 2005 and October 2017 as shown in Figure 1.

Figure 1 - Literature Review



Thematic analysis of included articles resulted in the identification of six major barriers in the provision of healthcare information to clients with IDD:

- Communication skills
- Patient engagement and satisfaction
- Training/education for clients with IDD
- Attitude and knowledge of healthcare providers
- Clients with IDD being excluded from health promotion and research
- Quality of accessing healthcare services

This review synthesises the existing literature in the domain of health information for clients with IDD. Improving access to healthcare information can be a critical mechanism in addressing healthcare inequalities which clients with IDD experience. We have identified that there are barriers in the provision of healthcare information to clients with IDD. Our future research will support the breaking down of these barriers, and we are now studying how patient-centric health information systems for clients with IDD should be designed, developed and implemented.



**PRESENTED**

As an oral presentation at the 6th Institute of Electrical and Electronics Engineers (IEEE) International Conference on Healthcare Informatics, (ICHI) in New York on June 7th, 2018 by Professor Ita Richardson.

**FUNDING**

This work was partially supported with the financial support of the Science Foundation Ireland grant 13/RC/2094 and co-funded under the European Regional Development Fund through the Southern & Eastern Regional Operational Programme to Lero - the Irish Software Research Centre ([www.lero.ie](http://www.lero.ie)) and through the University of Hail, Saudi Arabia.

**SOURCE**

Muneef Alshammari, Ita Richardson, Owen Doody. 'Health Information Access for Adults with Intellectual and Developmental Disabilities: A Review of the Literature.' 6th IEEE International Conference on Healthcare Informatics, (ICHI), New York, 2018.

## Assessing the Level of Adoption of a Social Network System for Older Adults

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### ABSTRACT

The increase in the proportion of older adults (OAs) across the globe is an open secret and requires meeting the expectations of this cohort. Social inclusion and wellbeing are the most important and unmet needs of this age group. Software systems targeting these aspects have the potential to alleviate the problem, but the long-term uptake by OAs is low. The broader objective of our research is to extract, devise and assess the recommendations for developing and evaluating software applications especially social network systems (SNSs) for OAs. This supports the social and digital inclusion augmented with the wellbeing of OAs via technology by providing a natural form of interaction while catering for key concerns of this century like privacy.

We conducted a systematic literature review and an empirical study to highlight the current offerings and expectations of OAs from SNSs. A total of 51 primary studies were included in the review and 220 older adults (age>50) from Ireland participated in the empirical study. The empirical study was sequential and exploratory in nature with online surveys conducted after in-depth semi-structured interviews. Thematic analysis was used to analyse the data. The results of these phases fed into the development of a SNS, GoldenJubilants, for OAs. It is an android based mobile application that aims to connect the OAs with the community by suggesting them volunteer opportunities in their community. Finally, due to its reliability in case of smaller samples and coverage of numerous user experience dimensions, we employed the System Usability Scale (SUS) to test the usability of the newly developed system. We also augmented our study with open-ended questions to collect qualitative feedback.

A set of recommendations to develop SNSs for OAs were extracted such as active social engagement with communication as a by-product, simplicity, accessibility, formatting, abstraction and ensuring privacy. The implication of using these guidelines to develop GoldenJubilants resulted in high SUS scores, which means that it will be easy for OAs to use. The recurrent theme that emerged during the usability study was the need to incorporate a feature that can help OAs converse with the system in a simple and natural form. The feedback gathered at the end of this phase was used to develop a second version of the system, which we will re-evaluate by conducting a more extensive usability study.

The findings of the literature review suggested an apparent increase in SNSs for OAs, but the long-term uptake is unknown. This situation served as a precursor to ask OAs about their needs directly, which clearly highlighted a need for a system that acts only as a mediator between them and the community and improves their social and digital engagement along with their wellbeing. The usability study has demonstrated an overall positive evaluation of GoldenJubilants with the potential of long-term diffusion in the lifestyles of OAs. We have finished the development of a second version of GoldenJubilants which implements solutions to concerns raised by OAs during the usability study such as privacy and ease of interaction. We applied principles of Conversational User Interfaces and General Data Protection Regulation during this phase. We will now re-assess the system and ask tech-savvy OAs and designers of the software systems for older adults to evaluate the extracted set of recommendations as well.

### PRESENTED

At BCS, the 32nd Human Computer Interaction Conference in Belfast on July 3rd, 2018 by Mr. Bilal Ahmad.

### FUNDING

This work was supported with the financial support of the Science Foundation Ireland grant 13/RC/2094 and co-funded under the European Regional Development Fund through the Southern and Eastern Regional Operational Programme to Lero - the Irish Software Research Centre. ([www.lero.ie](http://www.lero.ie))

### SOURCE

Ahmad, B., Richardson, I., McLoughlin, S. and Beecham, S., 2018. Assessing the Level of Adoption of a Social Network System for Older Adults. Proceedings of the 32nd International BCS Human Computer Interaction Conference (HCI 2018). Belfast, United Kingdom. ACM.



# Creating the Paediatric ART Clinic Software Development Project - Challenges and Lessons Learned Through the Creation of an Electronic Medical Record in South Africa

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## INTRODUCTION

There is an increasing use of Electronic Medical Record (EMR) systems to effectively manage patient care, particularly in developing countries.<sup>1-4</sup> While many studies focus on the design stage, there is little research focused on the barriers encountered throughout the process of creating a point-of-care system, particularly the relationships between involved parties (IT, Medical, Management).

## OBJECTIVE

The study aims to investigate the challenges faced by clinicians, software developers and managers from the inception through implementation and to launch of a point-of-care EMR (the Paediatric ART Clinic Software Development Project (PASDP). The PASDP system is designed to capture retrospective and prospective data in child and adolescent Antiretroviral (ARV) Clinics.

## METHODOLOGY

Semi-structured open-ended individual interviews were conducted with three clinicians, three software developers and one manager involved in the creation of the PASDP, with one developer declining participation. A thematic analysis was conducted using iterative sampling and constant comparative analysis from grounded theory methodology.

## RESULTS

The most frequently addressed themes include set up details, communication, ownership, usability, IT support and software. The ongoing involvement and communication with clinical partners is key to creating a successful EMR, and the terms of this relationship must be considered from the beginning. Recommendations include the use of a designated spokesperson to work closely with the clinical team to facilitate communication; a local, vested IT support team for ongoing use; and formal handover, training and milestones.

## CONCLUSION

Critical to the successful creation of an EMR is the ongoing involvement of and communication with clinical partners, and the creation of a designated spokesperson for an EMR project could be beneficial. Usability and uptake of the system is heavily dependent on speed of function and completeness at launch, particularly in resource limited settings with high patient volumes.

## REFERENCES

Available on request.

## FUNDING

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