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In this Month's IMJ

A profile of hospital consultants: The health practices of a cohort of medical professionals: O'Cathail and O'Callaghan have surveyed the lifestyles of medical consultants. The smoking rate was 7.5%, the rate in the general population is 29%. Twenty per cent of consultants take no exercise. The alcohol consumption rate was 94%.

Table 2 Health Practices, NS=Not Statistically Significant

	All Respondants (N=200)	Male N=154 (77%)	Female N=46 (23%)	P-value	Medical N=93 (46.5%)	Surgeon N=48 (24%)	Other N=59 (29.5%)	P-Value
SMOKING								
Current	15 (7.5%)	10 (6.5%)	5 (10.9%)	NS	6 (6.5%)	5 (10.4%)	4 (6.8%)	NS
Ex-smoker	44 (22%)	35 (22.7%)	9 (19.6%)	NS	20 (21.5%)	10 (20.8%)	14 (23.7%)	NS
Non-Smoker	141 (70%)	109 (70.8%)	32 (69.6%)	NS	67 (72%)	33 (68.8%)	41 (69.5%)	NS
ALCOHOL								
Yes	188 (94%)	142 (92.2%)	46 (100%)	NS	88 (94.6%)	42 (87.5%)	59 (100%)	NS
No	12 (6%)	12 (7.8%)	0 (0%)	NS	5 (5.4%)	6 (12.5%)	0 (0%)	NS
Monthly or less	26 (13%)	17 (12%)	9 (19.6%)	NS	15 (17%)	5 (11.9%)	7 (11.8%)	NS
2-4 times a month	39 (18%)	32 (22.5%)	7 (15.2%)	NS	16 (18.2%)	10 (23.8%)	13 (22.0%)	NS
2+ times a week	123 (63%)	93 (65.5%)	30 (65.2%)	NS	57 (64.8%)	27 (64.3%)	39 (66.2%)	NS
Units/Occasion								
1-5	182 (91%)	136 (95.7%)	46 (100%)	NS	85 (96.5%)	39 (92.8%)	58 (98.3%)	NS
6+	6 (3%)	6 (4.3%)	0 (0%)	P=0.052	3 (3.5%)	3 (7.2%)	1 (1.7%)	NS
Ever have 6+ units	125 (63%)	107 (69.5%)	18 (39.1%)	P<0.001	57 (64.8%)	29 (69%)	39 (66.2%)	NS
EXERCISE								
Vigorous Activity in the last week								
0	84 (42%)	65 (42.5%)	19 (41.3%)	NS	39 (42%)	24 (50%)	21 (35.2%)	NS
1-2	54 (27%)	37 (30.5%)	17 (37%)	NS	27 (29%)	14 (29.2%)	23 (39.7%)	NS
3+	51 (26%)	41 (26.5%)	10 (21.7%)	NS	27 (29%)	10 (20.9%)	14 (24.1%)	NS
Moderate Activity in the last week								
0	74 (37%)	57 (37.3%)	17 (37%)	NS	34 (36.6%)	19 (36.9%)	21 (35.2%)	NS
1-2	71 (36%)	53 (34.6%)	18 (39.1%)	NS	27 (29%)	22 (45.8%)	22 (37.9%)	NS
3+	54 (27%)	43 (28.1%)	11 (23.8%)	NS	32 (34.4%)	7 (14.6%)	15 (42.9%)	NS
Walking in the last week								
0	23 (13%)	19 (12.4%)	4 (8.7%)	NS	9 (9.7%)	11 (22.9%)	3 (5.2%)	NS
1-2	37 (19%)	29 (18.9%)	8 (17.3%)	NS	14 (15.1%)	9 (18.8%)	14 (24.1%)	NS
3+	139 (70%)	105 (68.1%)	34 (74%)	NS	70 (75.2%)	28 (58.3%)	41 (70.7%)	NS

Universal Antenatal Screening for Hepatitis C: Lambert et al screened 8976 antenatal patients for hepatitis C . Seventy eight (0.9%) tested positive. Two thirds of the positive cases were Irish, most of the others being Eastern European. Risk factors included drug abuse and tattooing. The authors recommend that hepatitis C antenatal screening should be introduced.

Table 3 Risk factor analysis of a pregnant population (n= 8976)

Risk Factor	Seronegative (n= 8898)	Seropositive (n= 78)	P value
Age at presentation (median, range)	30 yrs (14-48)	28yrs (16-42)	**.022**
Blood transfusion	256 (2.9%)	2 (2.6%)	.932
Blood transfusion pre-1992	42 (0.5%)	0 (0%)	-
Blood product transfusion	210 (2.4%)	0 (0%)	.191
Blood product transfusion pre-1992	8 (0.1%)	0 (0%)	-
Injecting drug use	32 (0.4%)	29 (37.2%)	**<0.001**
Other drug use	170 (1.9%)	30 (38.5%)	**<0.001**
Tattooing	1627 (18.3%)	37 (47.4%)	**<0.001**
Multiple body piercing	1149 (12.9%)	13 (16.7%)	.185
Current/ex partner drug use	81 (0.9%)	16 (20.5%)	**<0.001**
Current/ex partner HCV positive	42 (0.5%)	19 (24.4%)	**<0.001**
HIV	37 (0.4%)	2 (2.6%)	**.045**
HBV	79 (0.9%)	1 (1.3%)	**.504**

Table 2 Summary of Results

Summary of Results*	
Products Used:	
Paracetamol	
Calpol	64%
Paralink Syrup	3%
Paralink Suppositories	2%
Dozol	<1%
Ibuprofen	29%
Other	2%
Route of Administration/ Would you use suppositories	
Yes	20.4%
No	79.6%
Place of Purchase	
Pharmacy	92.9%
Supermarket	6.6%
Measurement of Pyrexia	
Thermometer	86%
Feeling childs forehead	44.8%
Instinct	22.9%
Child's behaviour	20.7%
Source of Medicines Information	
Pharmacist	24.2%
Doctor	18.5%
Nurse	7.1%
Label	86%

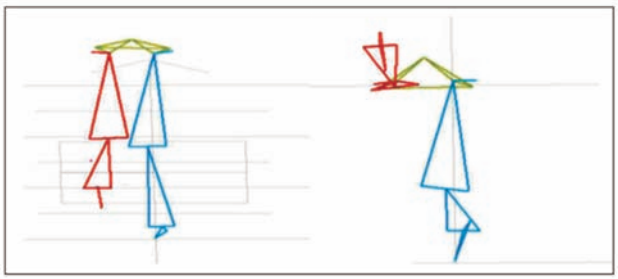
Parental patterns of use of over the counter analgesics in children: Garvey et al have examined the parental use of OTCA medications. The questionnaire was completed by 183 parents. The findings indicate that two thirds of parents use analgesics inappropriately. Understanding of the side effects of medication was poor. The authors urge that pharmacists provide advice when OTCA medication is being purchased for children.

Evaluation of an innovative recruitment initiative on the attitudes of medical students: O'Connor et al note that in 2011 less than 50 % of first year BST places in Psychiatry were filled in Ireland. A one day psychiatric summer school was held. The school had a positive effect on the students' attitude towards psychiatry, the Nielson score increased from 26.7 to 28.3.

Table 3 Scores assigned by medical students asked to rank factors influencing career choices from 1 (least important) to 9 (most important)

	Mean
Personal interest	7.73
Lifestyle	6.49
Aptitude in specialty	6.14
Personal reasons e.g. family, friends	5.44
Positive undergraduate experience of specialty	5.11
Future job opportunities	4.84
Influence from mentor	4.08
Financial rewards	2.97
Prestige	2.11

The difficulty identifying intoeing gait in cerebral palsy: O'Sullivan et al have addressed the problem of intoeing gait in cerebral palsy children. Among 245 cases of cerebral palsy there were 102 (41.6%) children with intoeing. It was more common in diplegics compared with hemiplegics. The condition is important because it can lead to functional gait difficulties.



The impact of rolling theatre closures on core urology training: Good et al report on the impact that theatre closures have on urology surgical training. At CUH there were 33 more theatre closures in 2011 compared with 2009. The number of surgical procedures decreased from 555 to 443 cases during the corresponding period of time. The authors suggest the provision of simulation training to make up the shortfall.

Table 1 Difference in number of "core urology" procedures performed between 2009 and 2011.

Procedure	2009	2011	Percentage difference
Cystoscopy	118	87	**-26%**
TURP	32	23	**-28%**
Hydrocele repair	21	16	**-24%**
Circumcision	58	49	**-16%**
Ureteroscopy	41	34	**-17%**
Epididymal cyst excision	5	2	**-60%**
Orchidectomy	18	8	**-56%**
Orchidopexy	51	63	+23%
Urethrotomy	14	5	**-64%**

Factors involved in unplanned admissions from general surgical day-care in a modern protected facility: Awan et al have analysed the pattern of unanticipated admissions from a day surgery ward. Among 560 cases there were 25 (4.4%) admissions. Ten were admitted for control of post-operative pain, nausea and vomiting. The others were mostly for management of surgical issues such as the need for post-operative drains.

Table 2 Reason for admission

Potentially preventable	
(A) Surgical related	24%
Pain	4
Surgical observation	2
(B) Anaesthesia related	16%
Nausea and vomiting	4
Non-preventable	
(A) Surgical related	24%
Bleeding	5
Direct surgical complication	1
(B) Miscellaneous	36%
Acute retention of urine	5
Medical problems	2
Further investigation/treatment	2
Total number of patients	**25**

Revisiting Developmental Assessment of Children

Developmental assessment of children is a clinical activity at the interface between General Practice, General Paediatrics and Community Paediatrics. It matters to all parents, all children and the large body of professionals that interact with them. It is an important public health issue because developmental delay affects 1-3% of children. Child development is a complex dynamic process. Early recognition of the child who is delayed is necessary in order that intervention is timely and effective. There is limited understanding of the inherent skills of small infants, the group on whom most attention should be focused. Medical students find the sequences of development difficult to learn and these difficulties may persist into their subsequent professional lives as practising doctors. There is a new impetus to make developmental assessment simpler and more practical with greater emphasis on the key points at key stages of the baby's early journey through childhood. Bellman et al[1] have recently written on child development from both an UK and US perspective. The article attempts to bring a new understanding to the process. There are constants in a child's neurodevelopmental progress. The pattern of development is consistent but the rate at which goals are achieved differ from child to child. The term 'milestone' should be reserved for a key performance skill such as smiling, sitting or walking. On the other hand skills such as crawling should not be regarded as a milestone because they are too variable and many normal children never acquire them. The clinician needs to know how to elicit the milestone and the median age at which it should be acquired by the child. The median age is that age at which half the population of children will have reached the milestone. The upper age limit at which a child should have passed a skill is 2 standard deviations above the mean.

A good starting point is to take parents seriously when they express concern about their child's progress. They are frequently correct. They may be worried about the child's motor skills, social skills or behaviour. There may be delayed walking or delayed talking. The most dramatic period of development is in the first year of life. Newborn infants can hear as well as older children and by 3 days can recognise their mothers' voice. They have colour vision and can briefly track objects and faces. They copy the facial expressions of their caregivers. Mothers become acutely aware when these cues are not present. They get a sense that 'something is wrong'.

During the first year of life, major changes occur in the infant's motor skills. As tone, strength, and coordination improve sequentially from head to heel, the infant attains head control, rolls, sits, crawls, pulls to stand, cruises, and walks by 18 months. Delays in gross motor milestones, asymmetry of movement, or muscle hypertonia or hypotonia should be identified. A physiotherapy programme should be instituted at an early stage.

The baby's fine motor skills progress from reflex grasping to voluntary grasp and release, midline play, transferring an object from one hand to the other. The infant acquires a pincer grasp, uses the fingers to point and insists on feeding himself.

There is renewed interest and emphasis on the sleeping patterns of infants and toddlers. Professionals should have a good grasp of the normal patterns so that they can inform and reassure parents. In the first 3 months babies sleep 14 hours a day the range being 12- 16 hours. Naps last 1-3 hours. Their night awakenings are largely determined by their feeding pattern. By 3 months the amount of sleep has reduced to 13 hours. Later in infancy the total sleep remains at approximately 12 hours but night awakenings reduce to 1 per night. After 18 months many children sleep through at night. Young children with developmental delays experience sleep disorders at a higher rate than do normal children; the most common types are difficulties initiating or maintaining sleep. However it must be remembered that 25% of normal young children have some form of sleeping problem. When the child's sleep problem is marked or excessive the child's overall development should be reviewed. Studies in the neonatal and postnatal periods indicate a relationship between sleep-wake state organization and neurological integrity. Intense REM during sleep in the first postnatal weeks is negatively correlated with mental development at 12 months. It has also been shown that the sleep-wake organization in the newborn stage predicts later developmental attainments.

Speech is complex and its acquisition is an important marker of normal development. At 18 months of age, most toddlers have begun to say single words acquiring new words every day. This pattern continues throughout the preschool years. Between the ages of 18 months and 2 years, children recognize many nouns and understand simple questions. By the age of 2 years, the expressive language of most children includes 2-word phrases, especially noun-verb combinations that indicate actions desired or observed. Between the ages of 2 and 3 years, children usually are speaking in sentences of at least 4 to 5 words. They are able to tell stories and use what" and where questions. They have absorbed the rules for regular plural word forms and for the use of past tense. Their speech can still be difficult for a non-family member to understand, but it becomes increasingly clear after 3 years of age. A good rule of thumb for normal development is that 75% of a 3-year-old's speech should to be intelligible to a stranger. Between the ages of 3 and 4 years, children are learning fundamental grammar rules. Children have 90 words at 2 years, 900 words at 3 years and 1500 words at 4 years.

Red flags are useful in alerting the professional to the factors that would indicate developmental delay. Red flags are a particularly helpful guide for those who are inexperienced at developmental assessment. The key trigger points that should stimulate further assessment are unresponsive to sounds or visual stimuli at 6 weeks, lack of social response at 3 months, poor head control and floppiness at 6 months, unable to sit or no babble at 9 months, not weight bearing or finger pointing at 12 months, not walking or no words at 18 months, cannot run or cannot join words at 2 years, cannot climb stairs or not communicating with words at 3 years.

The range of investigations and therapeutic interventions available for the management of children with developmental delay has greatly expanded. Early identification of the child with slow progress is important so that the best results can be obtained from therapy.

JFA Murphy
Editor

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NCHD Emigration Crisis and the Need for Consultant-Delivered Care

Well-trained and motivated medical staff are essential to a functioning health system. However, Ireland is struggling in this regard. As has been highlighted in numerous studies and reports over the years, Irish non-consultant hospital doctors (NCHDs) are demoralised and dissatisfied with working conditions in Ireland and are leaving in increasing numbers[1-5]. The other side of the coin is Ireland's growing reliance on overseas-trained doctors[6], despite the successful scaling-up of numbers of EU (and therefore Irish) entrants to medical schools[7].

In 2011, according to the HSE[5], only one-third of NCHDs were compliant with the European Working Time Directive (EWTD), which restricts the hours doctors are allowed to work. Over three-quarters of NCHDs reported in 2012 that the EWTD had not been implemented[1]. Half of NCHDs reported being dissatisfied with their current posts in Irish hospitals[1,2]. In addition, 32% told the Irish Medical Organisation (IMO) Benchmark Survey in 2011 that they would not choose medicine again if they had a choice[2]. This backs up findings from the Career Tracking Survey (CTS) of 2005, which found that only 70% of Irish graduates would train as a doctor again[5]. These figures compare poorly with corresponding responses from junior doctors in the United Kingdom[8]: in 2012, 82% of graduates from 2006 in the UK had a very strong or strong desire to practice medicine, and less than 1% regretted becoming a doctor[8].

Career Progression

The most important factor that would encourage emigrant Irish doctors to return to Ireland was the availability of consultant posts[5]. Only 16.4% of NCHDs surveyed in 2012 thought their chances of obtaining a consultant post in Ireland were "good" or "excellent", while almost half thought their chances were"poor"[1]. Young people enter medical school in order to become a doctor, and to have a good chance of reaching a position within a reasonable time-frame where they can practice with a degree of autonomy and responsibility that befits their experience and skills. The prospect of facing years in a junior post with only an uncertain prospect of becoming a specialist is not appealing. As a result we lose many of the doctors whose education we invest in to other countries where they feel their training is more valued.

Solutions

It is 10 years since the publication of the 'Report of the National Task Force on Medical Staffing' (Hanly Report)[9] which called for a move away from a consultant-led care system to a consultant-delivered one. These recommendations have been echoed by the 'Report of the Postgraduate Medical Education and Training Group'(Buttimer Report)[3]. In clinical directorates, consultants and NCHDs work in teams to provide care, in place of each consultant's post being supported by a team of NCHDs. However, there has been limited progress on this. Many NCHDs remain in registrar posts once they have completed their training, partly because the base of the pyramid is too wide and the ratio of NCHDs to consultants too high.

If implemented, the Hanly report recommendations would go along way towards solving some of the fundamental medical workforce problems that still face the health services. These include a demoralised and diminishing NCHD workforce, and a poorly organised public sector acute hospital system where patients rely heavily on NCHDs for care, rather than having access to a consultant-delivered system where the majority of decisions are made by appropriately trained doctors in a timely manner. It is widely believed that patients are put at risk because of the dangerously long hours many NCHDs currently work[10]. When patients are treated primarily by NCHDs, many of whom are in non-training posts, they are not receiving the best quality care our profession can provide.

These reforms require a change in culture. In order to end dangerous working hours, haphazard training and a poorly structured medical workforce, the profession must accept changes in how doctors and consultants practice. The concept of clinical autonomy will change in the context of consultant teams. This means growing accustomed to consultants working in teams, more flexible working hours including providing 24 hour cover on site, and more streamlined training.

Correlates in General Practice

Team-based medicine is already taught in our medical schools and is well established in general practice, where the hierarchy that predominates in hospital medicine is far less pronounced. GPs often work in teams with other GPs alongside other health professionals. They provide 24 hour on-call services around the country to cover each other's practices. GP training schemes focus primarily on training NCHDs, not on merely using them to provide services. Trainees are supervised by GP trainers, and upon completion of the scheme are able to work as independent, fully-trained clinicians. The new 24 hours is enough grassroots campaign by NCHDs makes clear that Irish NCHDs are fed up and dissatisfied with the current system. The talk amongst medical students and junior doctors now is not so much if you plan to leave, but rather when and where you plan on going. A long-term future in Ireland is – for many – not on the table anymore.

The Hanly report sets out four options to address the EWTD problem: 1) take no action – which is not feasible; 2) increase NCHD numbers to meet the EWTD – however, this would not address a primary concern of NCHDs, alack of career progression; 3) create a new 'non consultant career grade' post– but this would not ensure the highest quality of care for the Irish public and would hold little attraction for Irish NCHDs who see more attractive options in other countries; and 4) develop a consultant-delivered service, as described above. Because of the benefits to patients, the health service and doctors, this is the preferred option. Reducing the hours NCHDs work in isolation will not stop the exodus of Irish doctors. We must also provide a career path and sense of professional fulfilment, and allow the health system to benefit from the skills and talents of graduates from Irish medical schools, rather than letting Australia, New Zealand, the US and other countries take our best and brightest.

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A Profile of Hospital Consultants: The Health Practices of a Cohort of Medical Professionals

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Abstract
Personal health practices are important determinants of health. Smoking habits are well documented among doctors. However, alcohol consumption, exercise rates and obesity rates are not. No indigenous studies have been done in this area. This descriptive population study aims to determine these factors. A questionnaire was sent to 381 consultants in hospitals affiliated with UCC Medical School. The response rate was 52.5% (200/381). The smoking rate was 7.5% (15/200) and the alcohol consumption rate was 94% (188/200). Both were more prevalent in females. Over a fifth took no exercise and activity levels were similar between groups. Female consultants were better at weight management than males with a lower proportion over the healthy body mass index (BMI) level. The smoking rate and alcohol consumption rate is higher than other studies. When compared to the general population, doctors are a healthier weight and smoke less but more consultants drink and less exercise regularly.

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Introduction

One of the best studies of lifestyle and health, spanning 50 years, is Doll and Peto's "British doctors smoking study" published in 2004[1]. It showed a high prevalence of smoking among doctors (85%) and follow up over 50 years documented the toxic effects of smoking. Today, we know that alcohol consumption, obesity and activity levels are also important aspects of a healthy lifestyle. Studies on smoking in doctors show smoking habits vary internationally. Low rates of current smokers were found in the USA (2%), Australia (3%) and the UK (3%). This is not universal however, in Greece and China rates are as high as 49%[2]. The Questionnaire Survey of Physical activity in General Practitioners (PHIT) study in Ulster reported GP's smoking rates were much lower than the general population (4.2% v 29%; $p< 0.001$)[3]. Alcohol is causally related to more than 60 different medical conditions. It is estimated that 4% of the global burden of disease is attributable to alcohol, which accounts for about as much death and disability globally as tobacco and hypertension[4]. In Germany 90.5% of doctors drink alcohol. Binge drinking, defined as consuming more than 6 units per occasion, is prevalent (53%). Being male and having a surgical specialty were observed as risk factors for hazardous drinking[5]. The PHIT study found, more GP's drink alcohol (86.5%) compared to the general population (71.6%) but fewer GPs reported drinking above recommended limits (12.6%) compared to the general population (16.9%)[3].

Obesity is now one of the most significant health problems in the western world. It is estimated that, by 2030, there will be 11 million more obese adults in the UK than there are today. The combined medical cost associated with treatment of preventable diseases is expected to increase by £2 billion per year[6]. In Ireland today, 63% of people are overweight or obese[7]. Britain's Chief Medical Officer stated that for general health 30 minutes a day of at least moderate intensity physical activity on five or more days of the week reduces the risk of premature death from cardiovascular disease, some cancers and type 2 diabetes[8]. But do doctors follow this advice? Studies from Britain and Canada found that GP's do less exercise than teachers and the general population[9,10]. However, in Northern Ireland the PHIT GP studyfound that doctors had lower levels of inactivity (46.4%) than the general population (56.2%) and other professionals (51.8%)[3]. With this variation from country to country a study analysing the health practices of our indigenous medical profession is needed. This study aims to determine the patterns of smoking, alcohol consumption and exercise among consultants using a descriptive population study.

Methods

A review of the current literature was done using Pubmed, the Cochrane library and Google Scholar. An 18-point, anonymised, questionnaire with four separate sections on demographics, smoking habits, physical activity and alcohol usage was produced. The modified International Physical Activity Questionnaire (IPAQ)[11] was used as a tool to study exercise, as were questions from the Survey of lifestyle attitudes and Nutrition in Ireland study (SLAN) to assess alcohol usage[12]. The study was piloted on 10 Consultants in South Tipperary General Hospital. The study was begun in 2009 and data collection completed in early 2010. There were 381 consultants identified in nine acute hospitals in Cork, Kerry, Limerick and Tipperary which were affiliated with UCC Medical school. This sample is thus representative of consultants in Munster. A package was sent to each consultant comprising a covering letter explaining the purpose of the study, a reply envelope and a questionnaire. The questionnaire was tagged to avoid duplication. A deadline for survey completion was set after which a second questionnaire was sent to non-responders to improve the response rate. Statistical analysis was done using SPSS. The chi-square test was used for categorical data and the independent t-test was used for continuous data.

Table 1 Demographics, NS=Not Statistically Significant

	Male N=154 (77%)	Female N=46 (23%)	P-Value	Medical N=93 (46.5%)	Surgeon N=48 (24%)	Other N=59 (29.5%)	P-value
DEMOGRAPHICS							
Average Age	48.5	44.6	P<0.005	46.4	48.3	49.1	NS
Medical	64 (41.8%)	29 (63%)	NS				
Surgeon	46 (30.1%)	2 (4.3%)	P<0.001				
Other	43 (28.1%)	15 (32.6%)	NS				
Average BMI (kg/m²)	25.9	23.1	P<0.001	24.8	25.6	25.7	NS
BMI Range (kg/m²)	17-35.5	16.9-34.0	NS	16.9-34	17-34.1	19.1-35.5	NS

Results

Of the 381 consultants surveyed 80.3% (306) were male and 19.7% (75) were female. The response rate was 52.5% (200/381 respondents), which was similar for all hospitals in the study. The response was higher among females than males 61.3% (46/75) vs 50.3% (154/306). The group 'Other Specialists' comprises a mixture of Obstetricians, Radiologists, Pathologists, Anaesthetists and Psychiatrists. The study demographics are outlined in Table 1. The average male consultant was 48.5 years old, weighs 82.9kg, is 1.79m in height and has a BMI of 25.9kg/m^2. The average female consultant was 44.6 years old, weighs 64kg, is 1.67m in height and has a BMI of 23.1kg/m^2. These represent statistically significant differences between male and female consultants in this population ($p<0.001$).

The current smoking rate was 7.5% overall with women and surgeons recording the highest rates at 10.9% and 10.4% respectively. Most consultants never smoked (70.5%) but over a fifth would categorise themselves as ex-smokers. A high proportion consumed alcohol (94%) with nearly two thirds doing so on at least 2 days a weeks. The vast majority consumed between 1 and 5 units per occasion (96.8%). A higher proportion of males than females admitted to binge drinking at least once in the preceding year (69.5% vs. 39.1%, $p<0.001$). Of those who admitted to binging in the previous 12 months, 68.3% did so on a less than monthly basis.

Consultants were asked to report their exercise from the previous week. Activity levels were divided into vigorous, moderate and walking. A list of activities was provided for each group to aid accurate reporting, as per the IPAQ questionnaire. Moderate activity was defined as 3 or more days of vigorous activity or 5 or more days of moderate-intensity activity of at least 20 minutes per day. On this basis, 33.5% of consultants had at least moderate activity levels. Over a fifth reported doing no form of regular physical activity (22%). Only 11.5% reported doing no exercise of any kind. Almost 70% of consultants reported taking a walk on 3 or more days that week. There were no significant differences in activity levels across the groups. From the self-reported weights and heights, it was possible to calculate the body mass index (BMI) of the consultants. Overweight was defined as a BMI between 25 and 29.9kg/m^2 and obese was defined as a BMI >30kg/m^2. More males than females were overweight (48.7% vs. 21.7%) and obese (9.1% vs. 2.2%) The results of the health practices section are summarised in Table 2.

Table 2 Health Practices, NS=Not Statistically Significant

	All Respondants (N=200)	Male N=154 (77%)	Female N=46 (23%)	P-value	Medical N=93 (46.5%)	Surgeon N=48 (24%)	Other N=59 (29.5%)	P-Value
SMOKING								
Current	15 (7.5%)	10 (6.5%)	5 (10.9%)	NS	6 (6.5%)	5 (10.4%)	4 (6.8%)	NS
Ex-smoker	44 (22%)	35 (22.7%)	9 (19.6%)	NS	20 (21.5%)	10 (20.8%)	14 (23.7%)	NS
Non-Smoker	141 (70%)	109 (70.8%)	32 (69.6%)	NS	67 (72%)	33 (68.8%)	41 (69.5%)	NS
ALCOHOL								
Yes	188 (94%)	142 (92.2%)	46 (100%)	NS	88 (94.6%)	42 (87.5%)	59 (100%)	NS
No	12 (6%)	12 (7.8%)	0 (0%)	NS	5 (5.4%)	6 (12.5%)	0 (0%)	NS
Monthly or less	26 (13%)	17 (12%)	9 (19.6%)	NS	15 (17%)	5 (11,9%)	7 (11.8%)	NS
2-4 times a month	39 (18%)	32 (22.5%)	7 (15.2%)	NS	16 (18.2%)	10 (23.8%)	13 (22.0%)	NS
2+ times a week	123 (63%)	93 (65.5%)	30 (65.2%)	NS	57 (64.8%)	27 (64.3%)	39 (66.2%)	NS
Units/Occasion								
1-5	182 (91%)	136 (95.7%)	46 (100%)	NS	85 (96.5%)	39 (92.8%)	58 (98.3%)	NS
6+	6 (3%)	6 (4.3%)	0 (0%)	P=0.052	3 (3.5%)	3 (7.2%)	1 (1.7%)	NS
Ever have 6+ units	125 (63%)	107 (69.5%)	18 (39.1%)	P<0.001	57 (64.8%)	29 (69%)	39 (66.2%)	NS
EXERCISE								
Vigorous Activity in the last week								
0	84 (42%)	65 (42.5%)	19 (41.3%)	NS	39 (42%)	24 (50%)	21 (36.2%)	NS
1-2	54 (27%)	37 (30.5%)	17 (37%)	NS	27 (29%)	14 (29.2%)	23 (39.7%)	NS
3+	51 (26%)	41 (26.5%)	10 (21.7%)	NS	27 (29%)	10 (20.9%)	14 (24.1%)	NS
Moderate Activity in the last week								
0	74 (37%)	57 (37.3%)	17 (37%)	NS	34 (36.6%)	19 (36.9%)	21 (36.2%)	NS
1-2	71 (36%)	53 (34.6%)	18 (39.1%)	NS	27 (29%)	22 (45.8%)	22 (37.9%)	NS
3+	54 (27%)	43 (28.1%)	11 (23.8%)	NS	32 (34.4%)	7 (14.6%)	15 (42.9%)	NS
Walking in the last week								
0	23 (13%)	19 (12.4%)	4 (8.7%)	NS	9 (9.7%)	11 (22.9%)	3 (5.2%)	NS
1-2	37 (19%)	29 (18.9%)	8 (17.3%)	NS	14 (15.1%)	9 (18.8%)	14 (24.1%)	NS
3+	139 (70%)	105 (68.1%)	34 (74%)	NS	70 (75.2%)	28 (58.3%)	41 (70.7%)	NS

Discussion

This study provides a unique insight into the health practices of consultants in Munster. This may be representative of consultants in Ireland as a whole, as hospitals in both urban and rural settings were included. Is it a case of "Do as I say but not as I do"? Many studies have shown that health care workers who smoke inadvertently undermine their roles in advising or assisting smokers to quit[13-15]. In 1983 a study found that 80% of US citizens expected their physicians to be non-smokers[16]. In 1984, Wells et al suggested that physicians with good personal health habits counselled their patients significantly more about all health habits[17]. These principles may be equally valid in other areas of healthy living. When trying to answer the question of whether doctors are good role models for their patients, it is important to look at the population that surround them. In Ireland, this information is easily extracted from the SLAN study, which is a population study encompassing the aspects of health covered in this study and many others. It is also important to compare, where possible, Irish consultants to their international peers.

The consultant smoking rate in this study was favourable when compared to the general population (7.5% vs. 29%)[6] but was still higher than rates among doctors from the UK and Northern Ireland (7.5% vs. 3-4.2%)[2,3]. The high proportion of ex-smokers may represent the changing attitudes of doctors as evidence, such as Doll and Peto's landmark trial, emerged about the health risks with smoking. As mentioned, 94% of consultants consume alcohol, which is higher than the national rate of 81%[6] and is also higher than the peer rates reported in Northern Ireland (86.5%)[3] and Germany (90.5%)[4]. The vast majority of consultants do not exceed 6 units when they drink alcohol. However, the proportion who admitted to binge drinking at least once in the preceding year was higher than reported in other physician studies (62.5% vs. 53%)[4]. As with other studies, male gender was highlighted as a significant risk factor for binge drinking. Rates for the general population were not reported for comparison.

The SLAN study found an overall pattern of higher levels of physical activity in younger men, reducing with increasing age, with a relatively low level of physical activity in women across all age groups[6]. This study found no difference in intensity or duration of physical activity between genders. The proportion of consultants who are categorised as at least moderately active is much

lower than reported in the general population (33.5% vs. 71%)[6]. With obesity being a key target of public health groups, it is important that doctors lead by example. In this regard they do compare well with the general population, significantly fewer female consultants are overweight or obese (23.9% vs. 57%)[6]. By contrast a higher proportion of male consultants were overweight than males in the general population (48.7% vs. 45%)[6]. However a lower proportion of consultants are obese (9.1% vs. 24%)[6]. These results suggest that female consultants are more successful at maintaining a healthy BMI than their male colleagues.

Some caution should be taken when comparing these figures with other studies as questions may be phrased differently. While the IPAQ questionnaire and guidelines were used for physical activity there may have been differences in the collection method. Nevertheless, we can draw some conclusion from this survey. Smoking rates are low and compare favourably with the general population. However, peer studies in other countries show rates of half that seen among this population. The proportion that consumes alcohol is also higher both than the general population and than other international peer groups. While most consultants drink in moderation there is cause for concern with the self-reported binge-drinking rate again higher than rates from other studies on doctors. Consultants are not as active as the general population but seem to have better weight management with significantly lower rates of obesity being noted.

Therefore, this survey returns a mixed report on the state of the health practices of consultants. It has highlighted that some areas need more attention. Smoking rates are still too high and comparisons with international peers show just how much room for improvement there is. Exercise levels are too low; this may be a reflection of busy work schedules so perhaps work life balance needs to be addressed. If we are to truly advocate healthy living to our patients then we must endeavour to lead by example and, first, improve our own practices, otherwise we run the risk of undermining our own advice. At least in some instances it appears to be a case of "Do as I say, not as I do!"

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Universal Antenatal Screening for Hepatitis C

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Abstract
The aims of this study were to pilot universal antenatal HCV screening and to determine the true seroprevalence of HCV infection in an unselected antenatal population. A risk assessment questionnaire for HCV infection was applied to all women booking for antenatal care over a 1-year period. In addition the prevalence of anti-HCV antibody positive serology in this population was determined. Over the course of the year, 9121 women booked for antenatal care at the Rotunda and 8976 women agreed to take part in the study, representing an uptake of 98.4%. 78 (0.9%) women were diagnosed as anti-HCV positive, the majority of whom were Irish (60.3%) or from Eastern Europe (24.4%). 73% of anti-HCV positive women reported one or more known risk factor with tattooing and a history of drug abuse the most commonly reported. 27% (n=21) of anti-HCV positive women had no identifiable risk factors. Due to selective screening, seroprevalence of HCV is impossible to accurately calculate. However the universal screening applied here and the high uptake of testing has allowed the prevalence of anti-HCV among our antenatal population to be calculated at 0.9%. A significant proportion (27%) of anti-HCV positive women in this study reported no epidemiological risk factors at the time of booking and so were identified only as a result of universal screening. This provides persuasive evidence for the inclusion of HCV testing with routine antenatal screening or at a minimum highlights the need for ongoing review of selective screening criteria.

Introduction

Hepatitis C virus (HCV) is a blood borne virus spread through contaminated blood or bodily fluids. First identified in 1989, it has since emerged as a leading cause of liver cancer and liver transplants in Europe and the USA. It is estimated that 3% of the world's population is chronically infected with HCV and 3 to 4 million people are newly infected annually.[1] Acute infections are often asymptomatic and so, many cases are undiagnosed. Up to 75% of acute infections progress to chronic infection and as such are at risk of progressive inflammatory liver disease, cirrhosis, hepatocellular carcinoma and liver related death.[2] The incidence of HCV in Ireland in 2010 was reported as 29 cases per 100,000.[3] Most infections are attributable to the sharing of needles and other drug paraphernalia, with reported prevalence rates of 66-69% among injecting drug users.[4,5] Other modes of transmission include receipt of contaminated blood products (pre-1992), occupational exposures, heterosexual and vertical transmission. The antenatal prevalence of HCV infection in Europe ranges from <1% to 2.5%. With the introduction of routine screening of blood/blood products for HCV, vertical transmission is now the dominant mode of transmission in children. Transmission can occur either late in pregnancy or at the time of delivery and is largely dependent on maternal viraemia.[6,7] Vertical transmission rates of between 5 and 15% have been reported. Previous studies at the Rotunda revealed a vertical transmission rate of approximately 6.4%.[8] However higher vertical transmission rates of up to 40% have been recorded in HIV co-infected mothers.

At the Rotunda Hospital, selective screening for HCV is carried out on perceived "high risk" women (Table 1) and as such true seroprevalence rates in the antenatal population aren't known. Studies elsewhere have shown that selective screening fails to identify all HCV women – perhaps up to 50%.[9] The aim of this study is to pilot universal antenatal screening for HCV and to determine the seroprevalence in our antenatal population and the associated risk factors for infection. This information will underpin future screening strategies for HCV in antenatal and other Irish populations.

Methods

From June 2007 to June 2008, all women booking for antenatal care were offered an anti-HCV antibody test as part of their routine antenatal screening. Each woman was provided with an information leaflet, consent form and a risk assessment questionnaire. Once signed consent was obtained, the booking midwife completed the risk assessment questionnaire and the anti-HCV antibody test was requested (Abbot AxSym Analyser v3.0). All positive samples were sent to the National Virus Reference Laboratory for confirmation, PCR genotyping and viral load determination. Women with positive serology were informed of results and counselled by the Infectious Disease Liaison Midwife. Each woman was referred to adult Infectious Disease/Hepatology services for further assessment and arrangements were made for paediatric follow-up. Univariate associations between categorical variables were explored using the chi^2 or Fisher's exact test. Multivariate analysis was performed using logistic regression. All tests were 2-tailed; $p<0.05$ was considered significant (analyses performed using SPSS v18).

Results

Over the course of the year 9121 women booked for antenatal care and 8976 women agreed to take part in the study, representing an uptake of 98.4%. Seventy-eight women in the cohort tested positive for anti-HCV antibodies giving a seroprevalence rate of 0.9%. RT-PCR analysis was carried out on 67/78 positive samples. Of these 43 (64%) were positive for HCV-RNA. Viral loads were available in 23/78 and 6 (26%) of these women had viral loads greater than $1x10^6$ copies/mL. Genotype was available for 14/78 samples only. The most prevalent genotype was 1B (6/14) followed by 1A (4/14). Among the 78 anti-HCV positive women, one woman was also co-infected with hepatitis B, while two women were co-infected with HIV.

Table 1 Risk factors for selective HCV screening

Woman identified as having any of the following risk factors are offered screening
HIV, Hepatitis B, treponemal infection
Current drug users and/or on methadone
Ex-intravenous drug users
Women whose current or ex- partners are drug users
Women with permanent tattoos
Patients whose parent(s) are HIV, Hepatitis B or Hepatitis C positive
Recipients of blood or blood products before 1992
Asylum Seekers
Women whose current or ex-partners are known to be HIV, Hepatitis B or Hepatitis C positive

The majority of anti-HCV positive women were Irish (60.3%) (Table 2). Most women (72.8%) cited one or more risk factor for HCV infection. The most frequently disclosed risk factors were tattooing (47.4%), injecting drug use and other drug use (e.g. cocaine, cannabis) (Table 3). 27% of the anti-HCV positive women had no identifiable risk factor for infection. Over half (57%) of these women were from Eastern European countries. Univariate analysis revealed a significant association between several risk factors (incl. tattooing, injecting or other drug use, a current/ex partner infected with HCV or a current/ex partner with a history of IDU) and anti-HCV antibody status ($p<0.001$). In multiple regression only injecting drug use and tattooing remained significantly associated with anti-HCV status ($p<0.001$ and $p<0.05$ respectively).

Table 2 Nationality of anti-HCV positive women

Nationality	N	%
Georgia	1	1.3%
Russian Federation	1	1.3%
Slovakian	1	1.3%
Vietnamese	1	1.3%
British	2	2.6%
Pakistani	2	2.6%
Romanian	2	2.6%
Latvian	3	3.8%
Polish	3	3.8%
Unknown	3	3.8%
Lithuanian	4	5.1%
Moldavian	4	5.1%
Mongolian	4	5.1%
Irish	47	60.3%

Table 3 Risk factor analysis of a pregnant population (n= 8976)

Risk Factor	Seronegative (n= 8898)	Seropositive (n= 78)	P value
Age at presentation (median, range)	30 yrs (14-48)	28yrs (16-42)	**.022**
Blood transfusion	256 (2.9%)	2 (2.6%)	.932
Blood transfusion pre-1992	42 (0.5%)	0 (0%)	-
Blood product transfusion	210 (2.4%)	0 (0%)	.191
Blood product transfusion pre-1992	8 (0.1%)	0 (0%)	-
Injecting drug use	32 (0.4%)	29 (37.2%)	**<0.001**
Other drug use	170 (1.9%)	30 (38.5%)	**<0.001**
Tattooing	1627 (18.3%)	37 (47.4%)	**<0.001**
Multiple body piercing	1149 (12.9%)	13 (16.7%)	.185
Current/ex partner drug use	81 (0.9%)	16 (20.5%)	**<0.001**
Current/ex partner HCV positive	42 (0.5%)	19 (24.4%)	**<0.001**
HIV	37 (0.4%)	2 (2.6%)	**.045**
HBV	79 (0.9%)	1 (1.3%)	**.504**

Discussion

This large single centre study has enabled an accurate assessment of HCV antibody prevalence in the Irish antenatal population. The calculated seroprevalence rate of 0.9% is similar to that found in other studies and is close to the 1% seroprevalence threshold recommended for the introduction of universal screening.[9,10] The high participation rate in the study (98.4%) also indicates that universal screening is acceptable to

the majority of women. It is well known that maternal viraemia is associated with an increased risk of vertical transmission.[11,12] Almost two thirds of women tested here were viraemic and 6/23 had a viral load greater than 10^6 copies/mL, putting them in the higher risk category for mother to child transmission.

The majority of HCV infections occurred in Irish women. Almost a quarter of infections were in women from Eastern European countries – a dramatic increase on the findings of an earlier review where <1% of HCV infections were represented by this group.[8] This difference is likely a reflection of the changing demographics of Ireland in recent years rather than a change in HCV epidemiology. Of particular note however is that that almost two thirds of the Eastern European women had no identifiable risk factor for HCV infection. The high prevalence of HCV in Eastern Europe is well documented, with incidence rates of acute infection of between 2.3 and 9.0 per 100,000 population recorded in 1997.[13] Available information on the risk factors for infection indicates nosocomial transmission plays a major role in these countries. Diagnostic or other treatment procedures in hospitals were cited as a source of infection in 59-65% of cases in Poland, 59% in Latvia and 46% in Lithuania.[13] A study of 711 HCV positive patients conducted in Bucharest revealed parenteral procedures in hospitals accounted for 49.8 % of HCV infections, while surgery and blood transfusions account for 21.2% and 14.5% respectively.[14]

As expected, illegal drug use emerged as a significant risk factor for infection. However over a quarter of the HCV positive women in this study had no identifiable risk factor at the time of booking for antenatal care. In the absence of any self reported risks, it is possible that other risk factors such as heterosexual transmission need to be considered. To date the role of heterosexual transmission in the epidemiology of HCV remains controversial. One study calculated a heterosexual transmission rate of 5% in monogamous spouses of patients with chronic HCV infection and viraemia. However exclusion of spouses with differing genotypes and/or additional independent risk factors for infection, the interspousal transmission rate was only 1.25%.[15] In contrast another study suggested heterosexual transmission was the contributing risk factor in 8% of HCV infections in an antenatal cohort.[8] In this cohort 24% of HCV positive women revealed a current/ex partner was positive for HCV. In all but 1 case additional risk factors were disclosed, making conclusions about the role of sexual transmission difficult. HCV antenatal screening policies vary greatly across Europe; one review of 31 centres revealed an almost equal distribution of centres practicing universal screening, selective screening and no screening at all.[16] However the epidemiology of infection across Europe is constantly changing due to immigration from endemic areas and so prevalence data needs to be constantly reviewed to estimate the current and future burden of HCV infection and ensure appropriate policies are in place.[17,18]

At present the Rotunda hospital like many other maternity hospitals, operates a selective screening policy based on disclosed risk factors; however the data presented here reveals the shortcomings of this policy. Universal screening is recommended in populations where the prevalence rate is ≥1%. Others have discussed the pros and cons of selective testing.[19,20] Relying on self-reported risk behaviours and the underestimation of the importance of other risk factors such as heterosexual transmission and nosocomial transmission in high prevalence countries, means a significant proportion of cases will invariably remain undiagnosed under the current guidelines. This could have potential health implications for both mother and child.[21] While pregnancy management for HCV positive women is no different than for non-infected women (except if HIV co-infected), reports on the risks of obstetrical complications due to maternal HCV status are varied. In one US study, infants born to HCV positive mothers had an increased risk of low birth weight, being small for gestational age and admission to the NICU.[22] In contrast a smaller Irish study failed to show any increase in risk between infants born to HCV positive women versus a control group.[23]

Although there are currently no treatment options available in pregnancy to minimise the risk of vertical transmission, timely identification of infection will permit interventions to limit/reduce the risk of progression of liver disease e.g. avoidance of hepatotoxic medications and alcohol. Diagnosis also enables active immunisation against other types of infective hepatitides. In addition it has been suggested that the postpartum period is an optimal time to initiate treatment as the loss of pregnancy induced immunosuppression post delivery leads to decreased HCV RNA titres.[24,25] Early referral of mothers to treatment programmes could potentially eradicate their HCV so that future unborn children are not at risk of this infection. The provision of antenatal care can represent a unique opportunity to test women who otherwise may not have sought testing. While the prevalence of HCV noted here is below the recommended threshold for implementation of universal screening, the high proportion of HCV positive women with no epidemiological risk factors is cause for concern. Although the possibility of non-disclosure of perceived "negative" or "unacceptable" behaviours cannot be excluded, the data presented here provides persuasive evidence for the inclusion of HCV testing with routine antenatal screening or at a minimum highlights the need for ongoing review of the selective screening approach.

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Parental Patterns of Use of Over the Counter Analgesics in Children

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Abstract
Over-The-Counter Analgesics (OTCA) account for over a fifth of Irish pharmacy sales. Little is known about patterns of use, specifically in children. This study investigated parents' use of OTCAs in children. A questionnaire exploring use of OTCAs and knowledge of side-effects was distributed to guardians of children attending three GP surgeries in South of Ireland from June-September 2010. The questionnaire was completed by 183 parents (response rate 95%). Many respondents (n=121, 66.1%) were using analgesics when not required or using an inappropriate analgesic for a child's symptom. Private patients demonstrated better use (n=31, 40%) than those with Medical Cards (n=18, 22.5%) (p=0.016). Identification of potential side-effects was poor, with drowsiness (n=88, 49%), rash (n=39, 22%) and nausea (n=32, 18%) listed as potential side-effects. Inappropriate use of OTCAs is prevalent in Irish children. Parents need more information and guidance on their use.

Introduction

Over The Counter analgesics (OTCA) are among the most widely sold products in pharmacies, accounting for over a fifth of pharmacy sales in Ireland[1]. Pain, pyrexia and inflammatory musculoskeletal/joint conditions are the indications for OTCAs. Oral administration is the most common route of administration, but suppositories are preferred in vomiting children. They can be purchased directly from a pharmacy assistant/sales assistant without formal consultation. In an American study, over half of children under 3 years used OTCAs in the month of the study period[2] and other studies show that parents/guardians often choose to medicate their children for minor illnesses without first seeking professional advice[3,4]. Parents are unsure of the correct dosing and possible side-effects of these medications[5], and over half of all febrile children attending an Emergency Department in a US study, had previously received inaccurate doses of paracetamol or ibuprofen[6]. The 2010 Annual Report of the National Poisons Information Centre of Ireland, showed that of the 9330 enquiries regarding human poisoning, half concerned children less than 10 years of age[7]. Paracetamol was the most common drug reported followed by ibuprofen. While most paracetamol toxicity occurs as a result of a single overdose, toxicity can also occur as a result of numerous or repeated supra-therapeutic doses given at indicated intervals. Toxicity can be difficult to diagnose as early symptoms may mimic the underlying illness i.e. nausea, vomiting, anorexia and diaphoresis.

OTCA use, even when indicated and used appropriately, may have long-term health implications. There may be a relationship between paracetamol use in infancy and the development of atopic conditions[8,9]. Prophylactic use of paracetamol at the time of immunization has been shown to significantly reduce the primary antibody response to all serotypes of PCV 10 and to haemophilus influenza type b, diphtheria, tetanus and pertactin antigens[10]. For this reason, the Health Service Executive (HSE) of Ireland currently only recommends the use of paracetamol/ibuprofen for pyrexia >39.5°C or if a child has a large local reaction post-vaccination[11]. Several studies have described a relationship between OTCA use in children and socio-economic class, education and race[2,12]. Caucasian parents, parents with a higher level of education, and those with a higher income are more likely to use OTCAs. This increased use is also more prevalent among children whose parents do not have health insurance[2]. In addition, OTCA use for minor illnesses or for behavioural changes is more common in children whose parents work full-time[12].

While children in Ireland commonly use OTCAs, little is known of their patterns of use; this study investigated parental use of OTCAs in children in Ireland.

Methods

A cross-sectional survey of parents and guardians with at least one child was undertaken during a 4-month period (June to September 2010) across three family physician surgeries in the

South of Ireland. Reception staff at each of the sites invited all parents/guardians attending the medical centres with their children for appointments to complete a questionnaire. This was returned to the secretary in an anonymous, sealed envelope. A questionnaire was designed based on that of Allotey[13]. It was piloted and adjusted accordingly. Demographic data collected included age and marital status of parents/guardians, number of children under their care, health insurance status and age on leaving education. Questions regarding preferred types of OTCAs, knowledge of potential side effects and use in relation to immunisation were included. Use of OTCAs was assessed using 10 vignettes. Vignettes were constructed by a family doctor and paediatrician to reflect commonly encountered clinical scenarios. Participants indicated which analgesic, if any they would use in a particular situation. Participants were given the option of leaving a comment.

Results were dichotomized into appropriate or inappropriate use. Inappropriate use was defined as use of an analgesic that potentially did not optimise symptom control (e.g. oral medicines if a child is vomiting, and vice versa using suppositories if a child has diarrhoea) or use of analgesics not indicated (e.g. if a child is misbehaving, to induce sleep or to calm a child on long car journeys). Data was analysed with SPSS using a combination of both descriptive and inferential statistics. Chi squares were used to predict statistical relationships in which p-values <0.05 were taken to indicate a significant relationship. The Clinical Research Ethics Committee of the Cork Teaching Hospitals granted ethical approval.

Results

183 parents or guardians participated in this study; their mean age was 34 years (range 18-60 years). 9 parents declined to participate, citing time pressure. No questionnaire had more than 2 unanswered questions and all were included in subsequent analysis. All questions were answered in over 95% of questionnaires except educational status (74%) and insurance status (90%). Parents with and without health insurance, and those achieving each educational milestone were equally represented. Almost two thirds (62.3%) had more than one child and over 83% of participants indicated that their child/children attended a "Child minder", Montessori, Pre-school or Primary school. An overview of results is given in Table 2. The most common place of purchase of OTCAs was the pharmacy (92.9%), followed by the supermarket (6.6%).

Measurement of temperature

Eighty-six percent of participants reported using a thermometer to measure temperature prior to administering OTCAs. Many used other methods such as feeling a child's forehead (44.8%), instinct (22.9%) or the child's behaviour (20.7%) to determine whether or not the child was pyrexial.

Source of medicines information

24% consulted a pharmacist, 19% a doctor, 7% a nurse, 86% always consulted the label prior to giving OTCAs.

Preparations Used

Oral formulations were most frequently used. Suppositories were used by 20.4% of parents/guardians. Of those not using suppositories, over half stated that they have never had reason to use them and would only use suppositories as a last resort as they felt they were "stronger" than the oral alternatives: 15.7% didn't like administrating them and 2.2% of respondents had "never heard of them".

Clinical vignettes

Two thirds of respondents were using analgesics inappropriately, as determined by the clinical scenarios. 54% indicated that they would use the incorrect analgesic for a particular symptom and a third of respondents use OTC analgesics when there are no indications for use. Patients with private health insurance were more likely to have appropriate patterns of use (40%) compared to Medical Card/Doctor-Only Card holders (22.5%) ($p=0.016$).

Side-effects

Most parents (92.7%) purported that their child had never experienced side effects from OTCAs. However identification of potential side effects was poor, with drowsiness (49%), rash (22%) and nausea (18%) listed as the most commonly observed side effects. Approximately one in ten parents incorrectly indicated symptoms such as high temperature, headache and irritability as possible side effects. Almost 20% of parents/guardians said they would routinely give OTCA's to their children prior to vaccinations.

Table 1 Demographics of Population Surveyed

Demographics*	Practice 1	Practice 2	Practice 3
Mean parental age	34 yrs	35 yrs	36yrs
Marital Status			
Married	65.1%	36.1%	77.8%
Single	18.3%	34%	7.4%
Other	13.8%	25.5%	14.8%
Education Status			
Junior Certificate	25.7%	19.1%	29.6%
Leaving Certificate	23.8%	14.9%	25.9%
Higher	27.5%	27.6%	29.6%
No. of children			
1	39.4%	40.4%	25.9%
2	37.6%	42.5%	29.6%
3 or more	22.9%	17%	44.4%
Attending Childminder	73.4%	78.7%	88.9%
Insurance Status			
Private	47.7%	36.2%	44.4%
Medical Card	40.3%	53.2%	51.9%

*Results were calculated as percentage of total population surveyed in cases of partial completion.

Table 2 Summary of Results

Summary of Results*	
Products Used:	
Paracetamol	
Calpol	64%
Paralink Syrup	3%
Paralink Suppositories	2%
Dozol	<1%
Ibuprofen	29%
Other	2%
Route of Administration/ Would you use suppositories	
Yes	20.4%
No	79.6%
Place of Purchase	
Pharmacy	92.9%
Supermarket	6.6%
Measurement of Pyrexia	
Thermometer	86%
Feeling childs forehead	44.8%
Instinct	22.9%
Child's behaviour	20.7%
Source of Medicines Information	
Pharmacist	24.2%
Doctor	18.5%
Nurse	7.1%
Label	86%

*Results were calculated as percentage of total population surveyed in cases of partial completion.

Discussion

This study describes patterns of use of OTCAs in a paediatric population in Ireland. Pharmacies are the most common place of purchase. Parental misconceptions regarding correct route of administration, appropriate use, knowledge of side effects and use around time of vaccination, were observed. Previous studies have shown that many parents use OTCAs for unlicensed indications[13]. This was shown in our study, where one in three parents/guardians used OTCAs in situations in which they are not clinically indicated. In these instances, the OTCAs were used predominately for parental misconceived side effects, in particular sedation. Irish parents without private health insurance were more likely to incorrectly use OTCAs. This contrasts with an American study by Kogan et al[2], which reported a higher level of incorrect use of OTCAs among those with private health insurance. Despite the fact that over 90% of OTCAs are purchased from pharmacies, only a quarter of parents/guardians regularly consulted a pharmacist prior to administration of OTCA. In addition, 14% do

not routinely consult the label of the product prior to administration. Restricting OTCA availability to pharmacies, accompanied by a discussion with a pharmacist prior to sale, similar to measures implemented by the Pharmaceutical Society of Ireland (PSI) to increase awareness and reduce consumption of codeine containing products, could potentially result in improved use of OTCA amongst the Irish population.

In view of recent data assessing analgesic use and impaired immunological response to immunizations, it is reassuring that the majority of parents adhere to evidence-based guidelines and do not use OTCAs around the time of vaccination. Nevertheless, it remains common, with almost one fifth of those surveyed routinely administering OTCA prior to immunizations. This study consisted of almost 200 participants recruited from both urban and rural family practice surgeries, consistent with the current structure of primary care models in Ireland. As with all questionnaires, this study may have experienced recall bias in relation to OTCA use as it relied on a self-report method of data collection. In addition, the questionnaire was largely quantitative, such that explanations and causation factors for some of the research findings may not be generalisable.

In conclusion, incorrect OTCA use is prevalent in the Irish paediatric population. We recommend that all sellers of OTCAs should be aware of their responsibilities and use the point of sale to provide and reinforce correct information to parents. Finally, all healthcare providers should enquire about OTCA use at routine healthcare visits allowing for opportunistic parental education.

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Evaluation of an Innovative Recruitment Initiative on the Attitudes of Medical Students

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Abstract
Some medical specialties struggle to recruit sufficient trainees to their postgraduate programmes. In many countries including Ireland, psychiatry is one of these specialties. A psychiatric summer school was developed by the trainee committee of the College of Psychiatry of Ireland as a recruitment initiative. All applicants were invited to complete a questionnaire prior, on the day of and three months after the summer school assessing their attitudes to a career in psychiatry. The mean score on the modified Nielson questionnaire in the pre-summer school group was 26.7 (SD +/- 3.8) and this rose significantly 28.3 (SD +/- 3.2) after completion of the summer school. 64% (n=31) of applicants to the Summer school expressed an interest in a career in psychiatry. This rose to 88% (n=32) of those who attended. The findings of this study have national and international interest for all specialties who are struggling to recruit to their field.

Introduction
Some medical specialties are struggling to recruit trainees to their postgraduate programmes[1,2]. In many countries including Ireland, the UK and Australia psychiatry is one of these specialties[3,4]. In July 2011 less than 50% of first year Basic Specialist Training places in psychiatry were filled in Ireland. The Trainee Committee

is an elected body of the College of Psychiatry of Ireland (CPsychI) who provide representation for trainees in the College. Its broad remit is to promote greater involvement of trainees in College activities, and to contribute towards continued improvements in the standards of postgraduate psychiatric training in Ireland. One of the working groups of the Trainee Committee proposed and developed the summer school as a recruitment initiative. Similar initiatives such as The Institute of Psychiatry for Medical students in Toronto, The Claassen Institute in Western Australia and the summer school at the Institute of Psychiatry in London have been run with some success[5-7]. However, there are only two published reports worldwide on the impact of a summer school like initiative on student attitudes and interest in a career in psychiatry[5,6]. The aims of this study are to describe a recruitment innovation, evaluate the capacity of this innovation (a summer school) to affect student attitudes and to identify factors which influence medical student career choice.

Methods

On the 25th and 26th of August 2011 a one day psychiatric summer school was held at the College of Psychiatry of Ireland (CPsychI). The aim of the school was to offer medical students a positive, diverse and inspiring experience of psychiatry and psychiatrists. Sessions were informal and offered plenty of opportunity for feedback and discussion. The morning session was held in the CpsychI and included 2 consultant psychiatrists and one senior trainee discussing the breadth of a career in psychiatry. In the late morning students in groups of 4- 6 accompanied by a trainee from the Trainee Committee visited one of six different psychiatric services. Site visits included an early intervention service, a drug and alcohol service, a neuropsychiatry department, a forensic service, a private psychiatric hospital and a research facility. At each site students met with service users, psychiatrists and multidisciplinary team members. In the late afternoon the students returned to the College for a feedback session with trainees and the President of the College, followed by a social event where students had the opportunity to meet with other students, trainees and psychiatrists.

All seven Irish medical schools were requested to advertise the summer school to all their medical students (pre-clinical and clinical). Applications involved a written expression of interest. However due to the larger than expected response with 62 medical student applications received, it was decided to run the school twice i.e. on two consecutive days rather than on one day only as previously planned. No applications were received from University College Galway as this medical school was already on summer break at the time of advertising. No medical student was declined an opportunity to attend the summer school. In order to facilitate a comparison with previous studies we used a modified Nielson questionnaire[8,9]. This questionnaire has been validated as a measure of the attitudes of medical students to psychiatry and has previously shown to be sensitive to change[8]. Each question had four possible answers: strongly disagree, disagree, agree, and strongly agree, and was scored 1—4, respectively (Max score= 40, logical neutral point = 18). Students were also asked to indicate their interest in psychiatry as a career and asked to outline the factors which encouraged and discouraged them from considering a career in psychiatry. Data relating to gender, age and marital status were also compiled.

At the summer school, students were invited to complete an additional one-page questionnaire designed to identify the factors influencing their career choice. Respondents were asked to rank the factors that influence their career choice. The factors presented were chosen based on a literature review. Data were analysed using the Statistical Package for the Social Sciences (SPSS) version 17. Fischer's test was used in the analyses of pre- and post-summer school questionnaire items and conventional t-tests to examine group differences.

Results

Response Rate

62 students applied to attend the summer school, of which 50 students (36 female, 14 male) anonymously completed the pre-summer school questionnaire online (81%). On the day of the summer school 38 (30 female, 8 male) of the 44 (86%) who attended completed the questionnaires. 26 students (20 female, 6 male) who attended and one student who did not attend the summer school completed the questionnaire online 3 months later (43.5% of applicants to attend summer school, 59% of summer school attendees). The demographic characteristics of all respondents is shown in Table 1.

Table 1 Demographics of medical students

		Pre-summer school N (%)	Day of summer school N (%)	3 months after summer school N (%)
Gender:	Female	36 (72)	30 (79)	21 (78)
	Male	14 (28)	8 (21)	6 (22)
Nationality:	Irish	44 (88)	33 (87)	25 (93)
	European	1 (2)	1 (3)	0 (0)
	Non European	5 (10)	2 (5)	2 (7)
Medicine first degree?	Yes	44 (88)	33 (85)	24 (89)
	No	6 (12)	5 (15)	3 (11)
University:				
University College Cork		10 (20)	8 (22)	7 (26)
University College Dublin		13 (26)	11 (31)	8 (30)
Trinity College		14 (28)	7 (19)	5 (19)
Royal College of Surgeons		6 (12)	5 (14)	2 (7)
University College Galway		0	0	0
University of Limerick		4 (8)	2 (6)	2 (7)
Queens University Belfast		3 (6)	3 (8)	3 (11)

Attitudes to psychiatry

In the pre-summer school sample the mean score on the modified Nielson questionnaire was 26.7 (SD +/- 3.8) and this rose significantly (t= 2.06, p<0.05) to 28.3 (SD +/- 3.2) after completion of the summer school. 3 months later the mean score remained significantly higher when compared to the pre-summer school mean at 28.5 (SD +/- 3.1), (t= 2.10, p< 0.05). Three of the ten items on the modified Nielson questionnaire were significantly affected by attendance at the summer school. These are outlined in table 2.

Table 2 Modified Nielson Questionnaire Items

	Item	Pre-summer school Agree N (%)	Pre-summer school Disagree N (%)	Post-summer school Agree N (%)	Post-summer school Disagree N (%)	3 months post-summer school Agree N (%)	3 months post-summer school Disagree N (%)
Q4	If someone in my family was very emotionally upset, I would recommend a psychiatric consultation	17 (35)	32 (64)	18 (49)	19 (51)	12 (44)	15 (56)
Q5	Psychiatrists understand and communicate with people better than the average physician	31 (63)	19 (37)	33 (89)	4 (11)*	23 (85)	4 (15)
Q8	If a student is interested in Psychiatry as a career, other students or faculty will try to dissuade him or her	18 (36)	32 (64)	27 (73)	10 (27)**	16 (59)	11 (41)
Q9	Psychiatry is attractive as a discipline because it is more intellectually comprehensive than other medical careers	18 (36)	32 (64)	27 (73)	10 (27)**	15 (56)	12 (44)

Fishers exact test
* P <0.05 **p<0.01

Table 3 Scores assigned by medical students asked to rank factors influencing career choices from 1 (least important) to 9 (most important)

	Mean
Personal interest	7.73
Lifestyle	6.49
Aptitude in specialty	6.14
Personal reasons e.g. family, friends	5.44
Positive undergraduate experience of specialty	5.11
Future job opportunities	4.84
Influence from mentor	4.08
Financial rewards	2.97
Prestige	2.11

In response to the question 'How interested are you in a career in psychiatry?' prior to the summer school 64% (n=31) of students applying stated they were interested/ very interested, after attendance at the summer school 88% (n=32)(p= 0.01) of students stated they were interested/ very interested while 3 months after the summer school 85% (n=23) (p=0.06) of students stated they were interested/ very interested in a career in psychiatry.

Factors influencing career choice

"Personal interests" was ranked first, followed by "lifestyle," "personal reasons," and "aptitude in specialty." Selection factors that were considered less important were "influence from a mentor," "financial rewards," and "prestige". A summary of these findings is shown in Table 3.

Themes in the semi-structured component of questionnaire

In response to the question 'What factors encourage you to consider a career in psychiatry?' the most common responses volunteered were; an interest in the field (n= 40, 80%), the greater emphasis on the doctor-patient relationship (n= 10, 20%), lifestyle factors (n= 6, 12%), research opportunities (n= 4, 8%) and interface with the humanities (n=3, 6%). In response to the question 'What factors discourage you from considering a career in psychiatry?' the most common responses volunteered were; the emotional demands of the job (n=10, 20%), missing/ wasting medical training (n= 5, 10%), colleagues/ publics poor opinion of the field (n= 5, 10%), fear of 'dangerous' patients (n= 4, 8%), lack of resources (n= 3, 6%).

Discussion

The higher than anticipated number of students applicants for this summer school during their summer holidays indicate an appetite for such events. The Irish medical students who applied and attended this summer school held positive attitudes to psychiatry, even before attendance as evidenced by their scores on the modified Nielson questionnaire. These attitudes were comparable to those found in previous studies in Israel and the USA[9]. Attendance at the summer school positively affected student's attitudes to psychiatry both as a specialty and as a future career choice. While positive attitudinal change is a desired outcome of the summer school, the target outcome is that of increasing recruitment to the specialty. A similar recruitment initiative demonstrating a positive effect on recruitment, has been completed in Canada[5]. In Ireland it will take a number of years before we will know whether this outcome has been achieved.

Two somewhat surprising results on individual items of the modified Nielson questionnaire are worthy of comment. The number of students agreeing with the statement 'If a student is interested in Psychiatry as a career, other students or faculty will try to dissuade him or her' increased after completion of the summer school. A possible explanation is that attendance at the summer school increased students awareness of the negative opinions of some peers and senior colleagues, which may have only become explicit when they expressed their plan to attend the summer school. 64% of students prior to attendance at the summer school disagreed with the statement that 'If someone in my family was very emotionally upset, I would recommend a psychiatric consultation', a possible explanation for this result is that the wording of the question did not indicate the presence of a mental illness. Thus students may have interpreted this question as an assessment of their understanding of appropriate referral processes rather than an assessment of their attitudes to a family member attending a psychiatrist.

The reasons why medical students do and don't consider and chose a career in psychiatry are poorly understood[11]. This study highlights "Personal interests" and "lifestyle" were the two most important factors for these students when selecting their specialty, while "financial rewards" and "prestige" were not highly rated. These results correlate with those of Gowans et al who found that those medical students who chose a psychiatric residency programme had on entry to medical school demonstrated attitudes of 'interest in the patient population', 'social orientation' and valuing work-life balance[12].

The CPsychI plan to run the psychiatric summer school for medical students again this summer. In response to student requests it will be longer and include more site visits[13]. The feedback garnered from the students and the data included in this study will influence its' content. If specialties like psychiatry are to address their recruitment difficulties they need to be innovative, focussed and develop an evidence base for recruitment initiatives.

The sample size was small and the participant rate for the three month follow up was low. The sample is a self selecting, Irish sample so the results may not be generalisable to other medical student groups or countries. The study relied on the respondents to self-report their attitudes to psychiatry and what influenced their career choices and these responses, could be subject to nondisclosure bias.

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The Difficulty Identifying Intoeing Gait in Cerebral Palsy

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Abstract
In-toeing in children with cerebral palsy can lead to functional difficulties during gait. This may require surgical management to restore a normal foot progression angle. For this reason it is important to indentify the presence of internal rotation and to establish where the abnormal rotation is occurring. This can be done relatively easily in otherwise healthy subjects by examining foot progression angle as the subject walks towards the assessor. In cerebral palsy the often severely affected gait pattern and potential asymmetry at the pelvis means that in-toeing may be more difficult to identify. Gait laboratory data of 245 subjects with cerebral palsy were studied retrospectively. Of these 102 (41.63%) demonstrated in-toeing relative to the pelvis of one or both limbs. Eleven diplegic subjects (16.18%) in-toed bilaterally giving a total of 113 in-toeing limbs for analysis. Of those, 17 (50%) hemiplegic limbs and 20 (25.32%) diplegic limbs demonstrated a foot progression angle within normal limits due to compensations at the pelvis.

Introduction

Children with cerebral palsy often walk with an internal rotation of the lower limb. In the normal population in-toeing seldom requires treatment[1] and is often considered a variant of normal growth patterns[2]. In contrast internal rotation in the cerebral palsy population often needs to be addressed either conservatively or surgically depending on the severity. For this reason it is important to identify firstly the presence of any excessive internal rotation of the lower limb and then establish where the abnormal rotation is occurring. The three most common causes of in-toeing in the normal population are bony and due to internal tibial torsion, metatarsus adductus and femoral neck anteversion[3]. This can usually be assessed through a combination of visual assessment of gait and clinical examination[4,5]. Examining foot progression angle (FPA) relative to the line of forward progression as the subject walks towards the assessor determines the presence of and an estimation of the degree of intoeing. Internal rotation of the patella points to excessive internal rotation at the level of the hip while a normal, forward pointing patella means the internal rotation is occurring distal to the knee. Appropriate clinical examination of hip rotation range of movement, femoral anteversion, transmalleolar angle and foot line can help confirm where the excessive rotation lies.

In patients with cerebral palsy the complex nature of the pathology and often severely affected gait pattern means that both the presence and cause of in-toeing are more difficult to identify. Potential asymmetry at the pelvis means that visual examination of FPA alone may not be sufficient to identify internal rotation of the lower limb. In the less affected subject who does not demonstrate asymmetry at the pelvis internal rotation at any level in the lower limb will lead directly to an internal FPA relative to the line of forward progression (Figure 1) which can readily be visualized. In contrast retraction of the pelvis can compensate for internal rotation and disguise an internal FPA (Figure 2) meaning the in-toeing is not as obvious to the eye.

For this reason in the cerebral palsy population it appears more accurate to define in-toeing as excessive internal rotation of the foot relative to the pelvis rather than relative to the line of forward progression. The purpose of this study was 1) to establish the prevalence of true excessive in-toeing relative to the pelvis during gait in patients with cerebral palsy seen in this gait laboratory, and, 2) to establish how many of these show an internal FPA compared to both average normal values and relative to the line of forward progression.

Methods

A retrospective study of all patients who had attended the Gait Laboratory over a five year period was conducted. Criteria for inclusion in this study were a diagnosis of cerebral palsy, no previous surgical history and a full barefoot 3-dimensional gait analysis using the CODA mpx-30 system. This is a 3-D pre-calibrated system, which captures infra-red light signals from markers placed on anatomical landmarks in accordance with the model outlined by Charnwood Dynamics Ltd. Prior to storage in the gait laboratory database kinematic files are reviewed for known marker placement problems e.g. cross talk. Where possible, subjects walked independently. Where this was not possible subjects used their normal walking aids or, if marker identification was compromised, walked with hand support of a therapist in front of them. Only the subject's first assessment in this period was included.

The application of these inclusion criteria produced a study sample of two hundred and forty five patients. We used the data collected from 33 normal subjects (mean age 13.1, range 5-14 years) as a control group and this gave the mean and standard deviation of normal average foot rotation relative to the pelvis and relative to the line of forward progression during gait. Based on this data those patients with cerebral palsy showing excessive in-toeing during gait were identified. Excessive dynamic in-toeing was defined as average foot rotation relative to pelvis of less than 4.26° external rotation (2 SD from the mean of 33 normals). An internal FPA compared to average normal was defined as an angle less than 6.26° external (2 SD from the mean of 33 normals). An internal FPA relative to the line of forward progression was defined as any internal angle relative to the x-axis of the laboratory (i.e. line of forward progression).

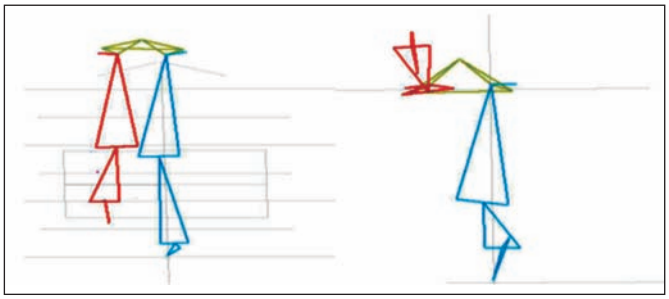

Figure 1 Diagrammatic representation of the lower limb segments and the pelvis in the frontal plane (left) and the transverse plane(right) Left leg (blue) is in-toeing relative to the pelvis and with a neutral pelvis is also in-toeing relative to the line of forward progression

Results

A total of 245 patients (mean age 8.89, range 3-50 years, 137 males, 108 females) with a diagnosis of Cerebral Palsy (hemiplegia 47.35%, diplegia 52.65%) were reviewed. One hundred and two patients (mean age 9.35 yrs, 60 males, 42 females) walked with at least one limb displaying excessive in-toeing during gait.

Prevalence of Excessive In-toeing

The prevalence of in-toeing during gait among cerebral palsy patients attending during this five year period was 41.63%. Among hemiplegics it was 29.31% (34/116 patients) while in the diplegic

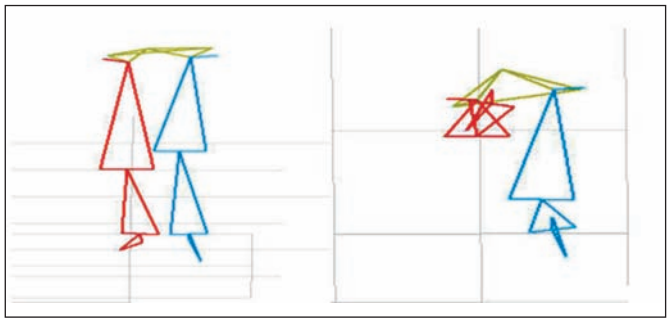

Figure 2 Diagrammatic representation of the lower limb segments and the pelvis in the frontal plane (left) and the transverse plane(right) Left leg (blue) is still in-toeing relative to pelvis but secondary to retraction on the pelvis on that side a normal foot progression angle is achieved

population it was 52.7% (68/129 patients). In the hemiplegic group the prevalence among those with left sided involvement was 38.46% (25/65 patients) while the prevalence in those with a right-sided hemiplegia was 17.65% (9/51 patients). In the diplegic group excessive in-toeing was a unilateral feature in 57 (83.82%) cases (left side – 73.68%, right side – 26.32%) while 11 (16.18%) showed excessive in-toeing bilaterally. The prevalence in males and females was 43.8% and 38.9% respectively. Table 1 shows the foot progression angle (FPA) of those limbs displaying in-toeing relative to the pelvis.

Table 1 Foot progression angle of limbs displaying significant in-toeing relative to the pelvis

Significant in-toeing relative to pelvis (N=113 limbs)	FPA within 2SD of normal	Internal FPA compared to normal controls	Internal FPA relative to x-axis
Hemiplegia (N=34)	17	17	9
Diplegia (N=79)	20	59	39

Discussion

This study reports the prevalence of in-toeing among the cerebral palsy population reviewed in our gait laboratory. Our centre is the national referral centre for physical disabilities in Ireland and the gait laboratory is the only clinical gait analysis service available in this country. All ambulatory cerebral palsy patients attending our centre are assessed in the gait laboratory and we also accept nationwide referrals. For this reason the population reviewed in this laboratory can be considered a reflective sample of the ambulatory cerebral palsy population as a whole. Therefore the prevalence reported in this study gives a good overview of in-toeing in the cerebral palsy population. We found that 41.63% of the cerebral palsy population who attended our laboratory in a five year period displayed excessive in-toeing during gait. There was a higher prevalence in diplegics compared to hemiplegics (52.7% and 29.31% respectively). Svenningsen et al[6] and Bleck et al[7] have reported a prevalence of in-toeing in the normal population of 16% and 16.4% respectively. This is less than half the prevalence (41.63%) found in the cerebral palsy population in this study.

In-toeing is often thought to be a bilateral problem in patients with diplegic cerebral palsy and in-toeing in the normal population has been shown to be predominantly bilateral[6]. In-toeing was found to be predominantly a unilateral phenomenon in the diplegic population. Our previous work[8] examining internal hip rotation in cerebral palsy showed similar findings. Unilateral in-toeing has been shown to be more common on the left side compared to the right in the normal population[5,6]. Similarly, we have shown that in-toeing is more common on the left both in hemiplegics and in unilaterally in-toeing diplegics. Authors who studied the normal population offered no explanation for this phenomenon and we are also unable to explain this. In-toeing in this study was defined objectively using full 3-dimensional gait analysis. This allowed the angle of the foot relative to the pelvis to be examined. A review of normative data from our control group gave the mean and standard deviation of normal foot relative to pelvis. In-toeing subjects were identified based on this data. Traditionally in-toeing is identified in the clinical setting through a visual estimation of the foot progression line as the subject walks towards the examiner[5] or by examining the angle of the foot relative to a straight reference line on the floor[9]. A potential error arises with both of these methods in the presence of pelvic rotation. A retracted pelvis can compensate for and disguise an internally rotated lower limb. 50% of hemiplegic subjects who intoed relative to the pelvis had a FPA within normal limits and the same is true in over one quarter of diplegic subjects. It is interesting to note that the incidence of excessive pelvic retraction in hemiplegic and diplegic subjects is very similar to these figures (46.3% and 30.4% respectively[10]).

It is recognized that while we objectively identified in-toeing based on normative data, we do not know how our definition of in-toeing correlates with clinically significant in-toeing. We have not reported how many of those found to be intoed relative to the pelvis had significant internal rotation at any anatomical level requiring significant treatment surgically or conservatively. The results of this work highlight the need for full assessment of the patient both statically and dynamically in a Gait Laboratory to identify the exact level of the intoeing particularly if surgical correction is being considered.

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This is the first in a series of twelve monthly cases in a new Respiratory Medicine series

Case 1: Chronic Thromboembolic Pulmonary Hypertension (CTEPH)

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Case Report

A 32 year-old man was referred to the pulmonary hypertension unit with increasing dyspnoea and multiple recent syncopal episodes. He had suffered a pulmonary embolism at the age of 17 and had received an appropriate course of warfarin therapy. Afterwards, he had remained well and in full-time employment until a recent presentation to his local hospital with increasing dyspnoea and syncope occurring episodically over a period of a few months. A computed tomographic pulmonary angiogram (CTPA) performed there was reported as showing evidence of pulmonary embolus.

On review at the pulmonary hypertension unit, he had oxygen saturations of 92% on room air, a raised jugular venous pulse to his earlobe, an S3 gallop and grade 2-3 pitting oedema. He was admitted immediately for further work up. As part of his evaluation he had an ECG, a ventilation/perfusion (V/Q) scan and a further CTPA study (shown). He also had a right heart catherisation that demonstrated pulmonary arterial pressures of 104/46 mmHg, with a mean pulmonary arterial pressure of 65 mmHg, wedge pressure of 5 mmHg and cardiac output of 2 litres/min. Thrombophilia screen was performed and was negative. He was commenced on bosentan, warfarin and diuretics. His 6-minute walk test had improved from 100 m to 305 m prior to discharge.

Figure 1
Axial CT of the thorax below the level of the carina shows a mosaic attenuation pattern (sharply demarcated areas of regional variation in attenuation of the lung parenchyma) that can be seen in the setting of chronic thromboembolic disease. Note the pruning and small calibre of the vessels in the regions of decreased attenuation (i.e. dark areas of the lung).

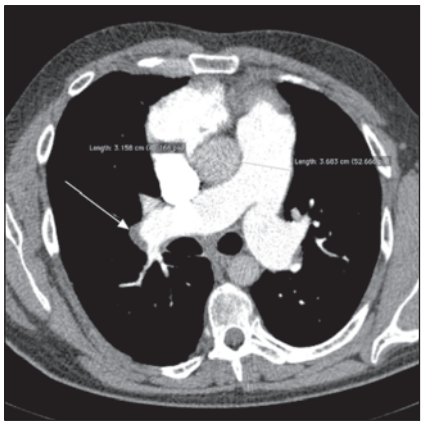

Figure 2
Axial CT demonstrates enlargement of the pulmonary trunk and pulmonary arteries as well as chronic mural thrombus in the right main pulmonary artery (arrow). Distally, there is a marked calibre reduction in a second order pulmonary artery to the right lower lobe.

Discussion

Pulmonary hypertension is defined as an abnormal elevation of pressure in the pulmonary circulation. The fourth World Symposium on Pulmonary Hypertension most recently updated the clinical classification system for pulmonary hypertension in 2008, called the Dana Point classification system[1]. Irrespective of the underlying aetiology, an elevated mean pulmonary arterial pressure above 25 mmHg is considered abnormal. The term 'pulmonary arterial hypertension' (PAH) should be reserved for those patients with a haemodynamic profile in which elevated pre-capillary pulmonary resistance causes high pulmonary pressure in the setting of normal venous pressure. PAH can be idiopathic, heritable, drug/toxin induced, associated with connective tissue diseases, HIV infection, portal hypertension, congenital heart disease, schistosomiasis, chronic haemolytic anaemia and persistent pulmonary hypertension in newborns. Other groups in the classification system include pulmonary venous occlusive disease (PVOD) and/or pulmonary capillary haemangiomatosis (PCH), pulmonary hypertension due to left heart disease, pulmonary hypertension due to chronic lung diseases/hypoxaemia, chronic thromboembolic pulmonary hypertension (CTEPH) and pulmonary hypertension with unclear multifactorial mechanisms including haematological, systemic and metabolic disorders.

Chronic thromboembolic pulmonary hypertension (CTEPH) is an important cause of severe pulmonary hypertension usually occurring as a long-term complication of pulmonary embolism. Previously the condition was thought to be rare, but recent studies have estimated that 3.8% of patients with a pulmonary embolus may subsequently develop CTEPH[2]. The severity of the disease depends on the degree of the underlying associated pulmonary hypertension and right heart dysfunction, but overall mortality is considerable. Further non-invasive imaging investigations include ECG, echocardiography, multi detector CT pulmonary angiography (including dual-energy CT) and cardiac magnetic resonance imaging (MRI). Signs of right heart strain on ECG and evidence of right heart chamber enlargement or an increase in tricuspid regurgitation velocities on ECHO are a cause for concern. The V/Q scan typically shows evidence of multiple areas of ventilation-perfusion mismatch, with a low probability scan effectively out ruling the condition. While CTPA findings include parenchymal and vascular signs that are highly suggestive of the cause[3], MRI gives functional assessment of the heart and in particular the right ventricle. CTPA may also be used to assess for any surgical benefit. Recent articles in the literature have described in detail the imaging features of pulmonary hypertension[4], as well as novel CT imaging techniques[5]. Thrombophilia screening should be performed if the cause of the pulmonary emboli is idiopathic. Of note, less than10% of CTEPH patients have an underlying thrombophilia.

When the bulk of the disease process occurs in the proximal vessels, pulmonary endarterectomy may be possible. Although associated with significant (5-10%) mortality surgery is the treatment of choice when available due to the excellent long-term outcomes. Where surgery is not a viable option, heart-lung transplantation and standard pulmonary hypertension medications have been utilised with varying degrees ofsuccess[6-8]. The patient discussed here was referred for pulmonary thromboendarterectomy.

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A Rare Case of Recurrent Urachal Adenocarcinoma of the Bladder

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Abstract

Urachal carcinoma is a rare, aggressive malignancy accounting for less than 1% of bladder neoplasms. These tumours are usually adenocarcinomas and occur at the dome or anterior wall of the bladder. They often escape early clinical detection, growing for prolonged periods prior to diagnosis, resulting in local invasion and systemic spread before therapeutic intervention is initiated. We present the case of a recurrent urachal carcinoma in a young female.

Case Report

A 35 year old female presented complaining of 3 episodes of visible haematuria. She had a prior diagnosis of polycystic ovarian syndrome, no past surgical history and a 20-pack year history of smoking. Abdominal examination was unremarkable. Routine bloods tests were within normal limits. Urinalysis revealed micro-haematuria. Renal tract ultrasound was unremarkable. Cystoscopy revealed a solid lesion at the bladder dome, biopsies of which showed invasive moderately differentiated adenocarcinoma. Pathologically the neoplasm was seen to be coming up from beneath the urothelial surface with an abrupt change to an ulcerated region at the surface. Immunohistochemistry ruled out metastatic carcinoma of colonic origin. A contrast enhanced CT showed focal thickening of the anterior wall of the bladder (Figure 1).

There was no lymphadenopathy or evidence of metastasis. A diagnosis of urachal cancer was made. She underwent a partial cystectomy and urachectomy. A 3cm solid lesion was evident at the bladder dome. Histology showed adenocarcinoma, with

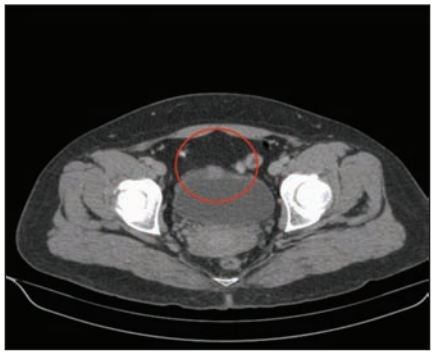

Figure 1
Pre-surgical contrast enhanced CT scan showing focal thickening of anterior wall of the bladder.

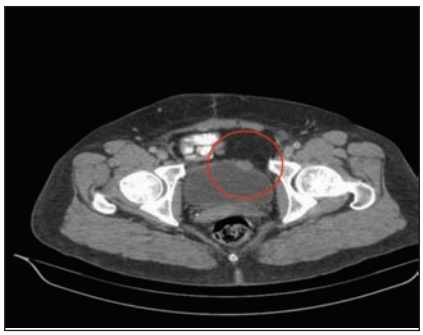

Figure 2
Contrast enhanced CT scan showing local recurrence in anterior wall of the bladder post partial cystectomy

lymphovascular invasion and no evidence of disease at the margins (pT3b N0 M0 / IIIa Sheldon classification). She proceeded to receive 9 cycles of adjuvant chemotherapy (FOLFOX) and was followed up on a 3 monthly basis with surveillance cystoscopy and CT. Twenty months post-operatively a small area of local recurrence in the anterior abdominal wall was observed (Figure 2). Cystoscopy showed a recurrent bladder lesion. She proceeded to have an anterior pelvic extenteration with ileal conduit diversion. Pathology again reported a poorly differentiated, muscle invasive adenocarcinoma (pT3b N0 M0 / IIIa Sheldon classification). Four months post-operatively there are no signs of local recurrence or distant metastases.

Discussion

Urachal cancers are rare and aggressive malignancies[1] and due to the lack of prospective studies there is a paucity of information on best management. Patients often present with higher stage cancers at diagnosis because disease arises outside the bladder where it is asymptomatic. The criteria for diagnosis include a midline tumour; sharp demarcation between tumour and normal epithelium; enteric histology; absence of urothelial dysplasia/cystitis glandularis; and absence of a primary adenocarcinoma of another origin[2]. Currently the consensus is that en bloc resection of the urachal ligament and umbilicus is best practice with complete or partial cystectomy and bilateral lymphadenectomy[2]. Local recurrence has been reported to occur in 15-18% in the first 2 years[3,4]. The majority recur in the bladder and urachal remnant, as was the case in this patient, with a smaller proportion occurring elsewhere in the pelvis[5].

Tumour stage, grade and margin status are the most important

factors predictive of recurrence and subsequent survival[3]. Currently there is no standard adjuvant chemotherapeutic regimen[1]. In this setting chemotherapy is usually offered to patients who wish to take an aggressive approach to their cancer, have a high likelihood of relapse (positive margins, node involvement) or when the umbilicus was not resected en bloc with the urachal ligament and bladder[6]. Histopathologically, urachal and gastrointestinal adenocarcinomas are similar and as such, colon cancer-specific FOLFOX- chemotherapy has been used in the adjuvant setting with moderate success[7,8].

Collected series of surgically treated urachal cancers show that nearly half of patients die from their disease[2-4]. Importantly however, not all had routinely undergone a complete urachectomy at time of surgery. Herr et al[3] retrospectively analysed a cohort of patients with localised urachal carcinoma. They reported en bloc resection of the tumour, urachus and an extended partial cystectomy cured 70% of patients with clinically localised disease and more than 80% with tumour confined to the surgical specimen. In conclusion, urachal carcinoma is a rare entity with a poor prognosis. Surgery remains the mainstay of therapy with the role of adjuvant therapies uncertain. The achievement of a complete urachectomy, umbilectomy and negative surgical margins, is critical to long-term survival. For recurrent non-metastatic disease, salvage resection is accepted as the most effective treatment and has been shown to result in prolonged survival[4].

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Atypical Melanocytic Naevi Following Melanotan® Injection

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Abstract
Melanotan® is a synthetic analogue of alpha melanocyte stimulating hormone (a-MSH) that stimulates melanogenesis. It is sold on the internet and tanning salons as a quick 'tanning jab'. We report a patient who developed multiple new onset atypical naevi within one week of receiving two Melanotan® injections. This case highlights the potential risk of Melanotan® in stimulating dysplastic naevi or possibly malignant melanoma.

Case Report

A 33 year old girl presented with several new onset naevi. Four weeks prior to presentation, she received two Melanotan® subcutaneous tanning injections from a beautician. She noted significant tanning within days. Within one week of the injections, multiple new darkly pigmented irregular naevi appeared. She also noted that her existing naevi had become darker. She identified a new naevus on her right thigh, much darker than the others (Figure 1). This naevus measured 4x4 mm. On clinical examination the pigment was uneven with a mildly irregular border (Figure 1).

Figure 1
Atypical naevus right thigh which became darker following Melanotan® injections

On dermoscopy there was an irregularity of pigment networks. The rest of her skin examination was normal apart from a deep tan. The patient was Fitzpatrick skin type II and gave a history of sun-seeking behaviour and sunbed use. There was no personal or family history of skin cancer. Her past medical history was unremarkable and she was not taking any prescription medication. The lesion was excised and histology revealed a benign junctional naevus.

Discussion

Melanotan® I and II are synthetic non-selective melanocortin receptor agonists. They are thought to induce skin tanning by mimicking the actions of a-MSH on the melanocortin type 1 receptors (MC1R) of melanocytes, which increases expression of eumelanin.[1] Melanotan® is one thousand times more potent than endogenous a-MSH.[2] In 2007, the U.S. Food and Drug Administration (FDA) advised consumers to stop using Melanotan® II. It is an unapproved drug, and there is no evidence that it is safe or effective for its labelled uses[3]. Several European countries have reiterated these safety concerns and Melanotan® is not licensed for use in the EU[4]. In spite of this, the uncontrolled and unlicensed use of Melanotan® to achieve tanning is widespread.[1] It can be purchased as a subcutaneous injection or

nasal spray from the internet and is often sold in tanning parlours, spas and gymnasiums. Serious concerns have been raised in respect to its stimulatory effects on melanocytic naevi.

A MEDLINE search reveals two cases of Melanotan® associated melanoma[5,6] and one case of Melanotan® associated melanoma in situ[7]. Ellis reported the first case of melanoma in a user of Melanotan® in 2009[5]. He described a 23 year old male who presented one month after finishing a four week course of Melanotan® I, with a rapidly enlarging pigmented lesion on his lower leg. Histology confirmed malignant melanoma. Paurobally reported a 42 year old female who presented with a suspicious enlargement and change in colour of a pigmentary naevus on her abdomen[6]. The changes appeared over a three month period following subcutaneous injections of Melanotan® I. The lesion was excised and melanoma confirmed. Ong reported the case of a 25 year old female who noticed that a naevus on her left knee, which she recalled being present since childhood, began to darken in colour and become itchy after just two Melanotan® II injections, one week apart[7]. Excision revealed melanoma-in-situ. The temporal relationship between receiving Melanotan® and subsequent development of clinically and histologically sinister naevi suggests that Melanotan® has carcinogenic potential. Both cases of melanoma associated with Melanotan® use noted that many pre-existing naevi became darker and changed in appearance following injection.

Eruptive and dysplastic naevi following Melanotan® use is well documented in the literature[8-10]. This presents diagnostic challenges for dermatologists and other doctors assessing naevi, particularly in patients who are reluctant to disclose use of this illegal product. The effect of superpotent melanocortins such as a-MSH on the development of atypical naevi and malignant melanoma is not yet well understood. Hence, patients using Melanotan® must be made aware of this risk. In addition, dermatologists, general practitioners, surgeons and any other doctors assessing pigmented lesions need to be aware of this 'tanning jab' and be especially vigilant during skin examination for melanoma.

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The Impact of Rolling Theatre Closures on Core Urology Training

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Abstract
Since 2008, government funding of the Health Service Executive (HSE) has decreased significantly. Our hospital, Cork University Hospital (CUH), implemented "cost saving" measures including scheduled operating theatre closures. We studied their affect on urological surgical activity at the hospital. A retrospective review was performed using theatre log books and theatre records to determine the number, type and training status of procedures performed for years 2009 and 2011. Scheduled theatre closures in 2011 resulted in 33 more theatre session cancelations compared to 2009. There was a reduction in the total number of procedures performed from 555 cases in 2009 to 443 in 2011 a 20.2(%) reduction. The number of "training" cases reduced from 325 (58.9%) in 2009 to 216 (48.7%) in 2011 a 10.2% reduction (Table 2). Eight out of the nine "core urology training" procedures reduced in number from 2009 to 2011 (Table 1). We have shown that scheduled theatre closures have reduced the number of procedures performed and have impacted on urology training. Scheduled theatre closures are expected to become more frequent in the future. Potential solutions to lessen the impact include providing simulation training using the Royal College of Surgeons in Ireland (RCSI) mobile skills unit during these theatre closures.

Introduction

Government funding of the Health Service Executive (HSE) has decreased significantly since 2008. As a result, management of Cork University Hospital (CUH) implemented so called "cost saving" measures, including scheduled operating theatre closures. These closures affect operating theatres one week at a time and rotate through all theatres in the hospital on a monthly basis. The acquisition of surgical skills is a complex process wherein opportunity for "deliberate practice" is essential. Deliberate Practice requires opportunities to practice, perform, receive feedback, re-practice and re-perform surgical skills. Trainees also learn by "modelling" expert practitioners. Surgical education relies upon both quality of tuition and quantity of training cases[1,2]. Decreased working hours resulting from the European working time directive (EWTD) has reduced exposure to operative procedures[2-4]. In addition, in Ireland, the National Treatment

Purchase Fund (NTPF), whereby long waiting public patients are treated in Private Hospitals, reduces the number of core urology training procedures performed[5]. Surgical trainees and trainers have become increasingly concerned at the impact on training of scheduled theatre closures at CUH. Our aim was to determine the effect of theatre closures on urology surgical activity at the hospital.

Methods

We undertook a retrospective review of all urology cases performed in 2009 and 2011. We collected data from theatre registers and operation notes on the type, number and training status of the procedures. We defined a "training" procedure as one performed in some part by a specialist registrar, registrar or senior house officer. Nine "core" training procedures were also sub-analysed (Table 1). We determined if there was a decrease in the overall number of operations, the percentage of "training" and "core" training procedures performed.

Table 1 Difference in number of "core urology" procedures performed between 2009 and 2011.

Procedure	2009	2011	Percentage difference
Cystoscopy	118	87	**-26%**
TURP	32	23	**-28%**
Hydrocele repair	21	16	**-24%**
Circumcision	58	49	**-16%**
Ureteroscopy	41	34	**-17%**
Epididymal cyst excision	5	2	**-60%**
Orchidectomy	18	8	**-56%**
Orchidopexy	51	63	+23%
Urethrotomy	14	5	**-64%**

Results

There were 33 fewer theatre sessions in 2011 compared to 2009. The total number of urological operations decreased from 555 in 2009 to 443 in 2011, a reduction of 20.2%. Eight of the nine "core" urology procedures were performed less commonly in 2011 (Table 1). The number of training procedures decreased by 10.2% in 2011 (Table 2).

Table 2 Difference in the number of training procedures in 2009 compared with 2011.

Year	Number of training procedures (total)	Training procedures
2009	325 (555)	58.9%
2011	216 (443)	48.7%
Percentage difference		**-10.2%**

Discussion

There was a significant (20%) decrease in the number of urological procedures undertaken at CUH. This decrease is an additional impediment to the provision of urological training. The numbers of "core" urology procedures being performed also decreased significantly (Table 1). The increase in orchidopexy operations in 2011 may be explained by the co-location of the Cork Maternity Hospital at CUH which has resulted in an increase in the number of referrals to the urology department in CUH.

In addition, there was a 10% reduction in "training" procedures which may be explained by the rolling theatre closures leading to growing waiting lists and increased difficulty for consultants to integrate training into more time-pressured theatre sessions. In the assessment of surgical skills, quantity of procedures performed rather than quality is emphasised[6]. With the introduction of the EWTD there has been a reduction in the volume of operations being performed by surgical trainees[4,7]. Added to restrictions in the duration of the working week, urology trainees are also required to attend centralised didactic training days, which amount to 14 working days. A previous study has also shown that the diversion of long-waiting public patients to the private sector via the NTPF scheme has altered the types and volume of procedures performed in teaching hospitals[5].

In 2012, theatre closures became more frequent and these are likely to increase in CUH, in many other hospitals across the country and affect other disciplines including anaesthesiology. It is essential that solutions to deficiencies in surgical training are implemented with a focus on quality of training[8]. The cost saving effects of sequential theatre closures must be questioned and substantiated by management; considering that numerous salaried staff are left unutilised in theatre and the resulting clinical back-log is referred to the Special Delivery Unit (SDU) often in private hospitals. There are several potential solutions to this problem. Urology training days could be co-ordinated to coincide with rolling theatre closures. This would reduce the number of missed theatre sessions. Coordinating consultant trainer and trainee annual leave to coincide with these theatre closure weeks would also minimise missed training opportunities. Simulation is a tool which could be used to minimise the impact of a reduction in case load on surgical training. Core surgical skills are currently taught via bench-top models. The simulations can be repeated, rehearsed and measured and lend themselves to the "deliberate practice" model which is an essential component of acquiring expert surgical skill[9]. The Royal College of Surgeons in Ireland (RCSI) currently has a mobile surgical skills unit which could be used and co-ordinated to be used around the country during these theatre closures[10]. An approach to the implementation of a urology simulator program has also been published[11]. A further possibility would be to co-ordinate rotations in private hospitals during SDU operating lists in private hospitals so that exposure would not be limited. This has been shown to be successful in Australia in the Expanded Settings for Specialist Training Program (ESSTP)[12]. This would need approval by the RCSI to introduce an integrated training program.

In this environment of increased cost saving and improved efficiency there has been an unexpected decrease in the percentage of training operations being performed. This shows the importance of a shift in the current urology training program to avoid a reduction in case load and to re-focus training on quality by incorporating a simulation program.

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Incidental Detection of Colorectal Malignancies using FDG PET-CT

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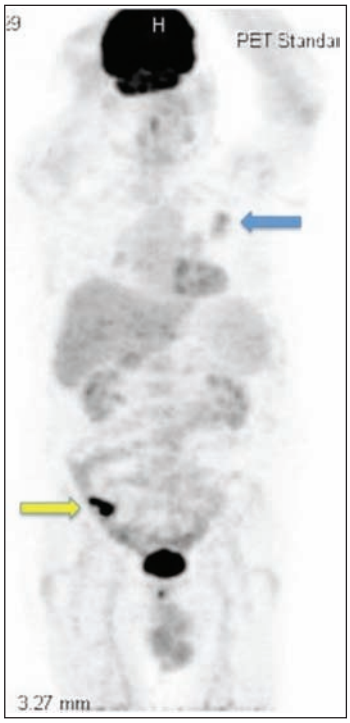
Abstract
The aim of this study was to evaluate the detection rate of incidental colorectal malignancies using whole-body 18FDG-PET/CT at an Irish teaching hospital. We performed a retrospective review of the records of 800 consecutive patients undergoing PET-CT scans at our institution from January 2009 – August 2009. The radiologic reports were analysed and all scans with focal colonic FDG uptake were audited. The colonoscopic and histologic records of the patients who underwent further investigation were reviewed for cancerous and pre-cancerous histology. A total of 643 patients were included in the study. Forty-eight patients (7.5%) had scans which demonstrated focal colonic FDG uptake. Of the 21 patients who underwent further investigation with endoscopy,14 (66.7%) had biopsies which were positive for dysplasia, this represented 2.2% of the total patients undergoing PET-CT. Eight of these fourteen patients (1.2% of the total) had biopsies demonstrating adenocarcinoma. Four of these patients (50%) had TNM stage 1 or 2 colorectal carcinoma and underwent subsequent curative surgical resection. We found a 2.2% rate of incidentally-diagnosed colorectal malignant and premalignant lesions in patients undergoing PET-CT at our institution. A 1.2% rate of adenocarcinoma was identified. This rate is higher than previously described in the literature.

Introduction

Colorectal cancer is the second leading cause of cancer-related death in the western world. Over 2,000 people are diagnosed and over 900 die of colorectal cancer in the Republic of Ireland every year.[1] It is generally accepted that adenomas are probably the precursors of most, if not all, colorectal cancers. The detection and removal of adenomatous polyps is important in the prevention of developing colorectal carcinoma. Positron emission tomography – Computed tomography (PET-CT) using 18 Fluoro deoxyribose glucose (18FDG) now forms the basis of radiological diagnosis and staging in many forms of malignancy, including colorectal malignancy. PET-CT like any radiological investigation, can demonstrate incidental findings. The rate of PET positive lesions concerning for a second primary malignancy has been found to be as high as 12%, however only 1.8% had second primary lesions pathologically proven.[2] PET-CT has also been shown to be useful in the detection of premalignant as well as malignant colonic lesions.[3] Several studies have evaluated the rate of detection of incidental unexpected colorectal carcinomas and colonic adenomas in patients undergoing PET-CT. Rates of between 0.3% and 2.3% have been found.[3-8] The aim of this study was to evaluate the detection rate of incidental colorectal malignancies using whole-body 18FDG PET-CT at a large Irish academic cancer centre.

Methods

We performed a retrospective review of the records of 800 consecutive patients undergoing PET-CT scans for staging of non-colorectal malignancies at our institution between January 2009 and August 2009. All patients were scanned on a GE Discovery PET-CT 64 slice scanner (GE Healthcare,USA), and all scans were performed for known or suspected malignancy. PET-CTs were performed with a routine protocol; all patients fasted for at least 4 hours so that serum glucose levels were less than 10 mmol/dl (usually < 7 mmol/dl). Sixty minutes after injection of 330 – 450MBq of 18F-FDG, 2D emission scans were obtained from base of skull to thighs. A low dose CT was performed for attenuation correction. Oral contrast was given. PET images were reconstructed with CT derived attenuation correction using ordered subset expectation maximisation (OSEM). Images were reviewed by 1 of 3 nuclear radiologists aware of the patient's clinical history. The radiologic reports were analysed and all scans with focal colonic FDG uptake were audited (Figure 1). The colonoscopic and histologic records of the patients who underwent further investigation were reviewed for cancerous and pre-cancerous histology. Patients with a previous history of colorectal malignancy or a PET-CT scan in the preceding year were excluded from the study. Patients with PET-CT scans demonstrating segmental uptake or obvious inflammatory findings were also excluded from the analysis.



Results

From a total of 800 scans performed, 157 patients were excluded; 84 patients had a previous history of colorectal carcinoma and 73 patients had a prior PET-CT scan in the preceding year. In all 643 patients undergoing PET-CT for staging of non-colorectal malignancies were assessed. The indication for the PET-CT scan was recorded (Table 1). The average age was 60.5 years (SD = 16). Forty-eight patients (7.5%) had scans demonstrating focal colonic

Figure 1
Coronal PET maximum intensity projection image demonstrating the known FDG avid squamous cell carcinoma in the left lung (blue arrow) and an incidental FDG avid lesion in the caecum (yellow arrow), a biopsy proven adenocarcinoma

Table 1 Top ten indications for PET CT for patient included in the study	
Indication	**n**
Lung Carcinoma (All types)	135
Head/Neck Squamous Cell Carcinoma	111
Oesophageal Carcinoma	96
Cervical Carcinoma	58
Lymphoma	49
Other Gastrointestinal malignancy (not included above)	24
Evaluation of Solitary Pulmonary Nodule	22
Breast Carcinoma	21
Query underlying malignancy	21
Malignant Melanoma	18

18FDG accumulation. Twenty-one of these patients (43.8%) underwent further investigation with endoscopy +/- biopsy. The remaining 27 patients did not undergo additional assessment after multi-disciplinary discussion or clinical review.

All lesions identified at endoscopy were biopsied or removed by polypectomy. Of the 21 patients who underwent endoscopy, 14 (66.7%) had biopsies which were positive for adenomatous polyps or colorectal adenocarcinoma. This represented 2.2% of the total patients undergoing PET-CT. Eight patients of these fourteen had biopsies which were positive for adenocarcinoma, representing 38.1% of the patients who underwent further investigation, or 1.2% of all the patients included in the study. Six patients had biopsies demonstrating tubular, villous or mixed-type adenomas, this represented 28.6% of the patients who underwent further investigation and 0.9% of all the patients included in the study. All of the biopsied lesions correlated with the sites of FDG uptake. None of the incidentally diagnosed colorectal lesions was metastatic in origin. Of the remaining seven patients, one patient had a biopsy which revealed a hyperplastic polyp and another patient had a biopsy of a visible lesion performed however no abnormal histologic findings were found. Five patients had endoscopies which did not demonstrate an abnormality.

Several studies have attempted to correlate the intensity of FDG uptake with endoscopy findings. We did not assess the FDG avidity or the size of the lesion on the PET-CT scan or at endoscopy or resection. The average age of patients with incidentally diagnosed colorectal adenocarcinoma and dysplastic polyps was 75.4 years and 66.5 years respectively. In all of the patients with incidental colorectal carcinomas identified the indication for the PET-CT scan was a primary cancer of the aero-digestive tract. Four patients had a known diagnosis of primary squamous cell carcinoma of the head and neck, 2 patients had primary oesophageal carcinoma and two patients had primary lung carcinoma. Four out of these eight patients (50%)had early stage (TNM stage 1 or 2) colorectal carcinoma and underwent subsequent curative surgical resection. The remaining cancers were at a more advanced stage.

Discussion

Overall 2.2% of patients who underwent PET-CT scan had biopsy proven incidental colonic lesions. Only one other study has shown a comparable rate. Farquharson et al demonstrated a 2.3% rate of incidentally detected colonic lesions.[8] Other similar published studies which have shown a 0.9 – 1.2 % detection rate for incidental colonic lesions.[3-7] We demonstrated a high rate of adenocarcinoma compared with that found in the published studies, 1.2% compared to 0.2- 0.45%. One possible reason for this may be that Ireland has a high incidence of colorectal carcinoma, ranking 8th highest of 30 European countries for the incidence of colorectal carcinoma.[1] The lack of a formalised screening programme for colorectal cancer may also have an impact on the rate of incidental diagnosis. The rate of incidentally detected colonic adenoma was 0.9%, this is comparable to most of the other studies with rates of 0.8 – 1.2%.[3-7] Farquharson et al demonstrated a higher rate of 2.0%.[8] A potential reason for this is that the mean age of patients in the Farquharsen et al study was 70.9 years compared to 60.5 years in our study and the incidence of colorectal malignancy has been shown to increase with advancing age.[9] Another reason for our lower adenoma rate compared to the high rate of adenocarcinoma could be a relatively low 43.8% of patients undergoing further investigation with endoscopy. This is comparable to rates seen in other studies (44-76%), however given our high incidence of carcinoma detection the lower adenoma rate may be related to our relatively low endoscopy rate.[3-8]

A total of 27 patients were not evaluated due to either physician or patient decision. One limitation of our study was that the reasons for this were not evaluated; however the primary malignancy and the patient's prognosis may have been a contributing factor. Farquharson et al noted that it is likely that the management dilemma encountered with incidental PET-CT findings will become a frequent issue in the Multidisciplinary Team framework.[8] It should also be noted that while a patient may not undergo further investigation with endoscopy, they may be having regular cross-sectional imaging as part of their ongoing oncology treatment. The radiological reports of patients with focal colonic FDG uptake advised either endoscopy or clinical correlation, this was at the discretion of the reporting radiologist. Of those patients who underwent endoscopy, 66.7% had lesions identified which were biopsy-positive for either premalignant adenomas or adenocarcinomas. This implies that colonoscopy is a justified next step in the diagnostic evaluation of patients who display focal FDG uptake in the colon. It also highlights the importance of clearly indicating the finding of focal colonic FDG uptake on radiological reports.

Unexpected colorectal FDG uptake on PET-CT is increasingly common with the availability and expanding use of the technology, especially in oncology. We found a 2.2% rate of incidentally-diagnosed colorectal malignant and premalignant lesions inpatients undergoing PET-CT at our institution. This is higher than that seen in most other published studies[3-7] and similar to the rate described by Farquharsen et al.[8] We demonstrated a 1.2% rate of incidental colorectal carcinoma, which is higher than the rates in the published literature (0.2-0.45%).[3-8] Half of the patients with incidentally diagnosed colorectal adenocarcinoma had TNM stage I and II tumours and these patients went on to have curative surgical resection. Early identification of both cancerous and pre-cancerous occult lesions with PET-CT has a major impact on patient treatment and long-term outcome.[10,11]

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Factors Involved in Unplanned Admissions from General Surgical Day-Care in a Modern Protected Facility

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Abstract
The aim in this audit study was to identify the rate of and the reasons for unanticipated admissions in general day surgery. All day ward procedures performed during the one year period from January 2011 to January 2012 were reviewed. Of 560 procedures performed, 25 (4.4%) patients were admitted. The age range of the patients admitted was from 26 to 83 years. The average BMI of the admitted patient was 28.9 (range 24-39).The average stay in hospital was 1.7 days (range 1-3 days). The reason for admission was potentially preventable in ten (40%) patients. This included eight (80%) out of ten admissions for control of postoperative pain, nausea and vomiting. Two (20%) were admitted for surgical observation due to high risk of bleeding. Fifteen (60%) of admissions were due to a non-preventable source, including 5 with a drain inserted at a perceived difficult laparoscopic cholecystectomy, 5 for urinary retention post open inguinal hernia repair, 2 for a cardiology review and 2 for further urgent investigations because of an unexpected intraoperative finding of malignancy. The rate of un-planned admission can be reduced by controlling potentially preventable causes, however a small contribution from unexpected scenarios is inevitable.

Introduction

Day surgery has provided a major advance in the process management of a broad spectrum of general surgical activity. Greater efficiencies reduce health care cost while maintaining or enhancing quality of care. With limited in-hospital capacity, there is an increasing trend to perform most low to medium risk surgery in a day care facility, and such structures have been widely developed in Ireland over the last decade in both the public and private hospitals. The quality of such a structure is rarely audited, and one rarely explored question is the frequency of unanticipated admissions, which is reported at between 0.3-9.5% in international series[1-4]. The principal factors in unplanned admissions are surgical (38-58%) medical (17%) and social reasons (4.6-19.5%)[1-4]. The goal in any day surgical centre is to improve the efficiency of ambulatory services, and regular audit of quality and treatment intent is required, and the purpose of this study was to audit the quality of the day care service at a large university teaching hospital using unanticipated admissions as an index of case selection.

Methods

The Day Surgery Unit at St James's Hospital caters for up to 6000 attendances per year covering a number of specialities. It is a separate unit from the main operating theatre but is situated within the hospital complex. It consists of two major and one minor operating theatre, a recovery unit, pre and post-operative patient wards and an admission area. The day surgery pre-assessment clinic is led by an experienced clinical nurse specialist with dedicated consultant anaesthetic support. The general surgical department in St. James's hospital is run by five gastrointestinal surgeons, breast and vascular being separate sub-specialities. There are two upper gastrointestinal surgeons and three colorectal surgeons.

Our standard patient selection criteria for day cases include patients of ASA status I to III, between 18 to 85 years old, undergoing procedures lasting less than 90 minutes that are not expected to cause excessive fluid shift or physiological impairment postoperatively. As a rule, no general anaesthesia is administered after 1500 hours to allow patients ample time to recover from the effects of anaesthesia prior to close of the day surgery centre. Patients are discharged by the surgical staff using Korttila's criteria[5], that is, stable haemodynamics, have minimal

Table 1 Range procedures and % of admissions

Procedure	No of cases %of total (% of total)	No. of admissions (% of patients admitted secondary to procedure)
Laparoscopic Cholecystectomy	78 (13)	06 (7.8)
Diagnostic Laparoscopy	52 (9.2)	03 (5.7)
Laparoscopic Nissen Fundoplication	17 (3.0)	01 (5.8)
Laparoscopic inguinal hernia repair	18 (3.2)	
Laparoscopic umbilical hernia repair	12 (2.1)	
Open inguinal hernia repair	86 (15.3)	09 (10)
Epigastric hernia repair	16 (2.8)	
Umbilical hernia repair	53 (9.4)	01 (1.8)
Femoral hernia repair	03 (0.5)	
Pilonidal sinus excision	45 (8.0)	
Oesophageal PVC bougie dilatation	65 (11.6)	02 (3.0)
Lymph node biopsy	24 (4.2)	01 (4.1)
Examination under anaesthesia	75 (13.3)	01 (1.3)
Excision of large skin lesion	16 (2.8)	01 (6.25)
	560 (Total no of cases)	25 (Total no of admission)

Table 2 Reason for admission	
Potentially preventable	
(A) Surgical related	24%
Pain	4
Surgical observation	2
(B) Anaesthesia related	16%
Nausea and vomiting	4
Non-preventable	
(A) Surgical related	24%
Bleeding	5
Direct surgical complication	1
(B) Miscellaneous	36%
Acute retention of urine	5
Medical problems	2
Further investigation/treatment	2
Total number of patients	**25**

pain, minimal nausea, no vomiting, are able to drink, void and walk unaided and must be discharged to the care of a responsible adult[5]. Those who are unable to fulfil the criteria are admitted to hospital. In this study, all patients who were admitted after day surgery procedures from January 2011 to January 2012 were recorded. The medical records of these patients were then reviewed retrospectively to determine their physical status, perioperative complications and the main reason for their hospital admission.

Results

There were a total of 560 procedures performed (Table 1). Of these, 25 patients were unexpectedly admitted (unanticipated admission rate of 4.4%) (Table 2). The age range of the patients admitted was from 26 to 83 years (median of 55 years). 20 (80%) of the patients admitted were male. Eight patients had an ASA score of I, fourteen patients had an ASA score of II and three patients of III. The average BMI of the admitted patient was 28.9 (range 24-39). All patients were living within a one hour radius of the day surgery unit and were preoperatively assessed. The average stay in hospital was 1.7 days (range 1-3 days). The reason for admission was potentially preventable in ten (40%) patients. This included eight admissions for control of postoperative pain, nausea and vomiting. Open inguinal hernia repair and laparoscopic cholecystectomy were the operations that resulted in significant postoperative pain and nausea. Two patients (8%) were admitted for surgical observation due to high risk of bleeding. One was a patient who had a laparoscopic cholecystectomy and other was a patient with factor VIII deficiency post a large lipoma excision. These patients were discharged the next day without any complications or further treatment.

Sixty percent (15/25 patients) of admissions was due to a non-preventable source. A drain insertion in patients undergoing perceived difficult laparoscopic cholecystectomy was the reason in 5 patients. One patient had a direct surgically related complication resulting in a bile leak from an injury to the cystic duct stump post clipping. Two patients were admitted postoperatively for a cardiology review due to abnormalities in their ECG during anaethesia. Two patients were admitted for further urgent investigations because of an unexpected finding of malignancy intraoperatively. Five patients developed urinary retention post open inguinal hernia repair and required urinary catheterisation and admission.

Discussion

Auditing the reasons for unplanned admissions in day surgery can identify potentially preventable causes of these admissions. Instigating changes in patient or anaesthetic selection based on the results could improve the overall efficiency of ambulatory surgery services.[6] The unanticipated admission rate in our general surgical patient population was 4.4%, comparing favourably to other studies but perhaps higher than those at free standing ambulatory centres. A major difference is that the ambulatory unit at this centre allows for unanticipated admissions whereas at freestanding centres the operation would not proceed and the patient would be rescheduled for further surgery as an inpatient.

In this audit, 32% of unanticipated admissions were for post-operative pain and nausea. Notably, none of these patients received local anaesthetic. Adequate pain management remains a challenge in day surgery. A combination of infiltration with local anaesthesia or regional anaesthesia combined with an NSAID is usually sufficient for the range of cases done in day surgery, and this is now the unit standard. A commonly neglected area preoperatively is patient education[1,2]. Patients often have unrealistic expectations of post-op pain relief. Perioperative anaesthetic related morbidity such as nausea and vomiting can also be reduced. Yogendran et al found that patients who received 20 versus 2 ml/kg of intravenous hydration had less giddiness, nausea and vomiting postoperatively[8]. Routine use of a prophylactic antiemetic in susceptible patients who have previous history of postoperative vomiting and for those with significant risk factors for post-operative nausea vomiting (e.g. history of motion sickness, laparoscopic surgery, middle ear surgery), can prevent unnecessary delay in discharge or unanticipated admission. Simple measures like ensuring adequate hydration can contribute to reducing post-operative nausea and vomiting and admission rate.

A number of admissions could not be anticipated. Acute urinary retention was the reason of unplanned stay in 20% of patients. The results show that all patients admitted unexpectedly secondary to acute urinary retention were age 75 and above, falling in a group which is considered a high risk for this particular complication. Careful history and clinical examination and patient selection can avoid unplanned stay in the hospital.

Some admissions could be avoided by careful scheduling. This should take into account the complexity, duration of surgery and expected recovery period. The later slots of the day should be reserved for shorter procedures and those with least potential for complications. Other predictive factors for unanticipated admissions include male gender, surgery finishing after 1500 hours, postoperative bleeding, excessive pain, nausea, vomiting, drowsiness and dizziness[7]. In this study, we noted that the majority of unanticipated admissions were due to non-life threatening causes which were non-preventable. Despite careful patient selection, there will always be a small contribution from unrelated medical causes or direct surgical complications. It is essential to monitor admission rates in order to maintain a high quality of patient care in this era of cost containment.

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Using HIPE Data for Research and Audit: Critical Factors for Success

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Introduction

The Hospital Inpatient Enquiry is funded by the HSE and collects information on day and inpatient discharges from the acute public hospital system in Ireland. The Health Research & Information Division at the ESRI manages the HIPE system on behalf of the HSE. As data from the HIPE system are increasingly being used for a wide range of applications, audits of HIPE data by clinical teams are also expanding. This is a very positive development as greater involvement by clinicians in validating clinical data reported to national information systems is to be welcomed.

While there are increasingly important research papers published using HIPE data[1], problems have been identified with a number of studies undertaken to audit HIPE data. With the aim of ensuring that such data audits are appropriately conducted, we are proposing here a number of factors which would be considered essential to validating the quality of such initiatives. As the person currently responsible for managing this system, I can readily acknowledge that the task of ensuring that an annual database of over 1.4m records achieves the standards aspired to in terms of quality, validity and timeliness is an ongoing challenge. Where problems and deficiencies are identified, the HIPE team at local and national level are committed to making the necessary changes to ensure that the system and the data are improved. Difficulties arise, however, when the process of undertaking a HIPE data audit is flawed. In that situation we are faced with the problem that it may not be clear if the findings are a true reflection of data quality or emerge because of problems arising in the study. Deficiencies in papers published by O'Callaghan et al[2] and Udoh et al[3] have prompted us to outline here a number of factors we consider essential to ensuring that the problems evident in these papers are avoided in future such initiatives.

Ensure an understanding of the HIPE data collection process

Where parallel data collection/coding processes are being compared, it is essential that the process in place for collecting and coding HIPE data is understood and correctly reported[4]. Udoh et al[3] illustrates where failure to adhere to this guidance becomes problematic. These authors did a survey of how diagnoses assigned to psychiatric patients by 3 consultant psychiatrists compared with diagnosis data reported by the HIPE team[3]. The very serious flaw in this study is that the authors did not indicate whether they had checked what information on diagnoses had been available to the HIPE team to code. The fact that the data they cited is different for reports submitted by the consultant psychiatrists and the HIPE team could be due to a number of factors, including that the data on diagnoses may not have been reported by clinicians on the HIPE summary sheet and therefore would not have been available to code; data correctly reported may also not have been correctly coded. The fact that this information is not available in the paper greatly diminishes the potential value of the paper.

Liaise with clinical coders

Clinical coding is a very specialised undertaking which requires dedicated training. Without appropriate training, clinicians would not be expected to have coding level expertise for the ICD-10-AM/ACHI/ACS[5] system which is currently used to code diagnoses and procedures in the HIPE system. Where the focus of an audit is on the accuracy of clinical coding, at the very least collaboration with an expert in the area is strongly advised. Where this happens, the study benefits from access to this expertise, as is the case with the paper by Clarke et al[6]. Ensuring that appropriate clinical codes are used is also essential. The study by O'Callaghan et al[2] is greatly weakened by deficiencies in this area, including the fact that no information on the coding system which was intrinsic to the system against which HIPE data was being compared could be made available. It was therefore not possible from reading that paper to determine if 'like and like' were being compared. An additional basic error in the O'Callaghan et al[2] paper was reference to ICD-10 codes for indexing of procedures when such do not exist.

Check and Report the Facts

Where sources of any problems identified with the HIPE or any other system have been identified, it is important that this information is available so that the reader has a comprehensive understanding of why a problem occurred and people working within the system can learn how to improve it. The fact that O'Callaghan et al[2] chose not to report on the reason why the problem they reported occurred greatly diminished the educational value of that paper. For the period of study for the O'Callaghan et al[2] paper (2005/2006), there had been an overreliance on a theatre booking system to report procedures to HIPE in one hospital. The theatre booking system did not facilitate changing the status of procedures cancelled or deferred with the result that there was duplication in the reporting of procedures performed to HIPE in some instances.

Sole reliance on the theatre booking system for reporting to HIPE was in contravention of the national coding guidelines which state that "The clinical record should be the primary source for the coding of inpatient morbidity data" and any additional information source being used must be verified prior to being reported to HIPE[7,8].The problem arising with use of the theatre booking system for reporting to HIPE was identified by the Hospital in 2006 and the coding team reverted to coding procedures from the clinical record (in accordance with national coding and reporting guidelines). Despite the ESRI team reporting this information to the authors in February 2011, the reasons for the duplicate reporting and the fact that the problem had been addressed (in 2006), it is very regrettable that this critical information was not reported in the paper by O'Callaghan et al[2] when it was published in January 2012. Failure to report all relevant information greatly devalued the contribution of this paper and deprived readers of a comprehensive understanding of all the relevant issues.

Use current data and current literature

A recommendation to use current data and current, relevant literature seems rather obvious but nevertheless is warranted given recent experience. For the paper by Udoh et al[3], five of the 9 references are between 9 and 22 years old, two references are to websites and the final two references are to papers on stroke and otolaryngology so there is no current reference for the relevant area of investigation. It is also noteworthy that for O'Callaghan et al[2], the data published in 2012 refer to 2005/2006 (which predated an update of the clinical coding scheme in use). While some hospitals are not as current as they should be in reporting HIPE data, the current target is that all hospitals should have coding completed within three months of discharge. The use of current HIPE data for research purposes is therefore to be supported and encouraged.

Greater use of HIPE data for research and other purposes is to be welcomed. Those charged with responsibility for the data set at

the ESRI are keen to support such initiatives and welcome requests for data and/or supplementary information. Where researchers new to HIPE are embarking on studies using HIPE data, we hope that the suggestions in this paper as to factors to note will be helpful in ensuring that the results will be valid, of high quality and help to inform future policy development in relation to service provision and system development.

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Author Response

RE: Using HIPE Data for Research and Audit: Critical Factors for Success

Sir

In response to the concerns raised by Prof. Wiley, we fully agree that this is an important area for joint working between clinical and support services, and are delighted to be engaging in discussions around this. Prof Wiley's concerns are clearly stated. However, in our opinion, the points made do not in any way change the central finding of our audit, whereby the HIPE assigned codes, derived from the case notes, did not reflect a specialist service's input into the patients' care, in contributing to the discharge diagnoses. We believe that the next step in this audit cycle is to determine the reasons for this and to address these reasons.

Regarding data collection processes, as stated in our paper, samples were drawn from all in-patients who were referred for liaison psychiatric assessment and assessed by liaison psychiatrists over the study period. Coding for DRGs are usually undertaken by clerical personnel[1] using detail documentation of diagnosis and medical procedures based on a common terminology[2]. As rightly highlighted by Prof. Wiley in her paper "The clinical record should be the primary source for the coding of inpatient morbidity data". Beaumont hospital (our study site) was no exception to this accepted practice and information used by the HIPE team were obtained from Liaison psychiatrists' clinical notes for these patients.

One of the particular strengths in our study was the joint working with our data management team, one of whom is a named author in our follow up paper[3], reflecting his important contribution to this study. We are happy to clarify that the (very experienced) coders had followed the appropriate procedure of analysing each page of the patient's clinical record. We fully accept that the difference between the psychiatrists and HIPE coding could be due to many factors, separate from the coders accuracy in carrying out this process, as noted in our paper.

The aim of our study, as explicitly stated in our paper, was to determine if HIPE assigned codes were accurate and reflective of Liaison psychiatrists input into patients' care. Though desirable, our aim did not include exploring the possible factors that might contribute to any identified incompatibility in the coding between the clerical personnel and the psychiatrists.

We agree that the use of up to date HIPE data is essential to this process, again as used in our study. We do not view this as linked with the date of publication of previous research in this area. Whilst acknowledging the importance of using the most recent, relevant literature, it is not possible to do this if this research is not there. In our case, there have been very few studies to date in the area of psychiatry and coding for DRGs. The only relevant studies we could find were by Oyebode et al, from 20 years ago, whilst the more recent studies by Clarke et al and Nouraesi et al were only related to stroke and otolaryngology respectively. However, these studies all raised issues that were relevant to our area of study and current practice which is "the need for accurate clinical data coding". The only other recent study[3] that we are aware of was carried out after this one by ourselves. We would be very pleased to hear if there are other more relevant and recent studies that we have missed in our review of the literature. In the absence of these, we view our contribution as a step forward in this area.

We appreciate and welcome the issues raised by Prof. Wiley. This is an opportunity, at a time of great need for clinicians to be involved in helping to optimise the accuracy of our data collection, and supporting important Health Service initiatives, for us to move into joint working relationships and closer mutually educational dialogue. We hope this further clarification of our work will aid this.

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Author Response

RE: Using HIPE Data for Research and Audit: Critical Factors for Success

Sir

In our paper we compared the number of vascular procedures reported by two different databases (HIPE and VascuBase) and found that the numbers did not tally. The numbers should be identical regardless of the data collection process.

This is something we did from the outset. The hospital clinical coding office understood that the comparison being studied and worked closely with us throughout. Acknowledging the contentious nature of our findings, we communicated directly with Prof Wiley before any submissions or conclusions were made. We would respectfully suggest that such two-way communication serve as a blueprint for addressing differences, rather than basing a defence on, what we feel is a misrepresentation of our research. Prof. Wiley justifiably questions our own database and asks if we compared like with like. In contrast to the impression given in her paper we referenced and explained the database we employed.

Prof Wiley was provided with both our original draft paper (2005/2006 data) and our final paper (2005, 2006 and 2009 data) prior to submission for publication for her input and comments. We state clearly in the paper that we were informed of problems with early data collection and that this was rectified in 2006. Hence our reason for looking at 2009 data which though better were still far from accurate. Prof Wiley takes issue with our choice of timeline. As stated in our paper there is a 24 month lag before central data is available, which is why we choose such a seemingly distant comparison point. Rather than disregard a publication due to its age it is far better to address the arguments within. Furthermore there are very few recent publications looking at similar work.

Data collection is an integral part of decision-making. We believe that improved data collection requires a closer alliance between coding and clinical staff. It is our responsibility as clinicans to ensure that information is both reliable and valid. However the ESRI must do its part in recognising the potential for error and provide the means for hospital staff to engage meaningfully and have "ownership" of the data collected.

In summary, clinicians who study HIPE data do so because they understand the importance of, and are committed to, data collection. They also understand that quality assurance is paramount.

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Rejoinder: Using HIPE Data for research and audit

Sir

The O'Callaghan et al[1] article published in January 2012 made a number of assertions in relation to the HIPE system. In their letter published in this issue, the authors raise a number of points on which we would like to offer clarification.

The HIPE system uses ICD-10AM/ACHI for coding diagnoses/procedures. To the best of our knowledge, the VascuBase system does not use these coding systems. Where data coded by different systems are being compared, it is generally necessary to do a mapping to ensure that 'like with like' is being compared. While the authors assert that "the numbers should be identical" when these databases are compared, it is more likely that lack of compatibility across the coding systems used may contribute to differences in the estimates reported. It is incorrect to state that there is a 24 month lag before central data are available from the HIPE system. A provisional HIPE national file is available three months after years end and a finalised national file is available six months after years end.

The ESRI readily acknowledges the potential for error in compiling a large national dataset of over 1.4m records and provides inhospital tools including the HIPE Coding Audit Toolkit (HCAT) and the Checker software to facilitate local audit and data quality initiatives. With regard to the response to our paper from Udoh et al published in this issue, it should be noted that only diagnoses reported as 'principal' or 'additional' are coded and reported by the HIPE system. A consultant (and an associated specialty) can be associated with each diagnosis and procedure reported to HIPE. Because assignment to a DRG is based on the application of a multivariate model, the assertion that "Coding for DRGs are usually undertaken by clerical personnel" is incorrect.

In a letter[2] to the IMJ in 1982, Dr Geoffrey Dean, then Director of the MSRB, expressed "reservations concerning the checking procedures adopted for the study" using HIPE data that had been published by the Journal earlier that year. It would be hoped that, more than 30 years later, all those engaged with the HIPE system could work collaboratively to develop the system and use the data in an informed way to guide advancements in clinical audit and service development.

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Fabry's Disease in a Female, Still an Under-Recognised Disease

Sir

A nine-year-old girl presented with an asymptomatic eruption on her right leg which had been present for 2 years. She complained of severe acral pain and paraesthesiae for several years, despite treatment with numerous analgaesics, amitriptyline, gabapentin and carbamazepine. On occasion she had been confined to a wheelchair and required home schooling. On examination she had a unilateral eruption affecting her right thigh and lower leg (Figure 1). On closer view, there were erythematous, hyperkeratotic and haemorrhagic papules. Histopathological examination of a skin biopsy showed hyperkeratosis and dilated blood vessels in the dermis consistent with angiokeratomas. Electron microscopy demonstrated intralysosomal glycolipid deposits, arranged in a lamellar fashion, within the endothelial cells lining dermal blood vessels (Figure 2).

Figure 1 There was an eruption on the posterior aspect of the right thigh extending distally in a serpiginous pattern. Topical anaesthetic under occlusion is visible on the right thigh at the biopsy site.

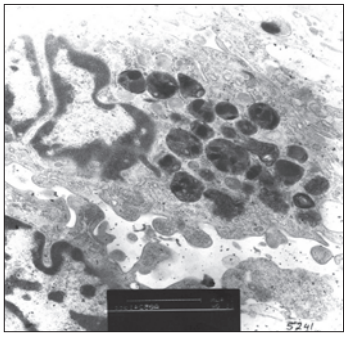

Figure 2 This electron microscopy picture reveals the intralysosomal glycolipid deposits.

Further investigations showed a normal lysosomal enzyme screen. Her -galactosidase A enzyme level was at the lower limit of normal at 3.1 U (reference range 3.0 – 12 U). Globotriaosylceramide to sphingomyelin urinary sediment ratio was raised at 0.08 (normal < 0.03). DNA mutation analysis showed a point mutation at position 514 of thymine for cytosine. This mutation is heterozygous for Fabry's disease. Ophthalmology examination revealed corneal verticillata and tortuous retinal vessels – features highly suggestive of Fabry's disease. A whorled corneal opacity was also seen, which is an associated finding. Our patient was commenced on enzyme replacement therapy with marked reduction in her pain and significant improvement in her quality of life.

Fabry's disease is a rare, x-linked lysosomal storage disorder caused by deficiency or absence of -galactosidase A. This results in the accumulation of globotriaosylceramide in the lysosomes of pericytes, smooth muscle cells and endothelial cells resulting in multi-organ involvement. Recent data demonstrates a high incidence of affected females.[1,2] Presentation varies widely due to x-linked mosaicism.[1,2] Females usually present at a later stage than males, however, also often develop symptoms in childhood.[2] Neurological, gastrointestinal, ophthalmological and dermatological manifestations are common. Angiokeratomas are the characteristic cutaneous manifestation. ngiokeratoma corporis diffusum is the typical association. Cherry angiomas and telangiectasia also occur. Sweating abnormalities are common.[3]

Females with Fabry's disease may develop serious manifestatations including cerebrovascular events, renal failure and valvular heart disease.[1] Without enzyme replacement therapy, there is an average reduced life expectancy of 15 years in females and 20 years in males.[1] As females can have normal levels of -galactosidase A, the diagnosis depends on using molecular studies to demonstrate a specific family mutation on Xq22[1] encoding -galactosidase A gene. More than 300 mutations have been identified; most are missense or nonsense mutations. Enzyme replacement therapy is of benefit in stabilising renal function, reducing heart size, reducing pain and improving quality of life.[4] It is expected to reduce mortality but this data is not available yet. Agalsidase alpha and beta are both licensed for use.

In conclusion, our patient was a young female with typical features of Fabry's disease, yet despite this her diagnosis was delayed. She required chromosomal analysis to confirm the diagnosis. Treatment with enzyme replacement therapy can significantly reduce symptoms as in our patient, and may reduce long-term sequelae and improve life expectancy.

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A Profile of Hospital Consultants: The Health Practices of a Cohort of Medical Professionals

M O'Cathail, M O'Callaghan Ir Med J. 2013; 106: 134-6.

Question 1

The response rate to the questionnaire was

a) 40-45%
b) 46-50%
c) 51-55%
d) 56-60%
e) 61-65%

Question 2

The proportion of doctors who smoked was

a) 5-10%
b) 11-15%
c) 16-20%
d) 21-25%
e) 26-30%

Question 3

The average BMI of the female doctors was

a) 18-21
b) 22-24
c) 25-27
d) 28-30
e) 31-33

Question 4

The number of male surgeons in the study was

a) 31-35
b) 36-40
c) 41-45
d) 46-50
e) 51-55

Question 5

The proportion of male doctors who hadn't undertaken any vigorous exercise in the previous week was

a) 21-25%
b) 26-30%
c) 31-35%
d) 36-40%
e) 41-45%

The Impact of Rolling Theatre Closures on Core Urology training

DW Good, N Khan, E Kiely, C Brady. Ir Med J. 2013; 106: 149-51.

Question 1

The number of cystoscopies performed in 2011 was

a) 51-60
b) 61-70
c) 71-80
d) 81-90
e) 91-100

Question 2

The total number of procedures undertaken in 2009 was

a) 301-400
b) 401-500
c) 501-600
d) 601-700
e) 701-800

Question 3

The number of training cases in 2011 was

a) 51-100
b) 101-150
c) 151-200
d) 201-250
e) 251-300

Question 4

The number of TURP procedures in 2009 was

a) 21-23
b) 24-26
c) 27-29
d) 30-32
e) 33-35

Question 5

The number of orchidoplexies in 2011 was

a) 51-55
b) 56-60
c) 61-65
d) 66-70
e) 71-75

Factors Involved in Unplanned Admissions from General Surgical Day-Care in a Modern Protected Facility

FN Awan, MS Zulkifli, O Mc Cormack, T Manzoor, N Ravi, B Mehigan, JV Reynolds. Ir Med J. 2013; 106: 153-4.

Question 1

The number of day case general surgical procedures was

a) 351-400
b) 401-450
c) 451-500
d) 501-550
e) 551-600

Question 2

The number of laparoscopic cholecystectomies was

a) 71-75
b) 76-80
c) 81-85
d) 86-90
e) 91-95

Question 3

The number of day care patients that required admission was

a) 11-15
b) 16-20
c) 21-25
d) 26-30
e) 31-35

Question 4

The average BMI of the admitted patients was

a) 20-23
b) 24-27
c) 28-31
d) 32-34
e) 35-37

Question 5

The criteria for selecting a patient as a day case included a procedure lasting less than

a) 15-30 mins
b) 31-60 mins
c) 61-90 mins
d) 91-120 mins
e) 121-150 mins

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