



Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive



Attrition from undergraduate nursing education programmes in Ireland

Findings from programmes which commenced in
2002, 2003 & 2004 and recommendations for
addressing attrition in the future



Office of the
Nursing Services Director

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FOREWORD

Student attrition from nurse education is not a new phenomenon. High attrition rates from undergraduate nursing and midwifery ultimately affect the number of qualified nurses and midwives available to work in the health service in a negative capacity as this graduate pool is an essential contributor to the nursing and midwifery workforce. This dictates the need to monitor and track student nurses progress, or non progression, through Higher Education Institutions as well as monitoring trends in attrition from nursing and midwifery undergraduate programmes.

On behalf of the Office of the Nursing Services Director, I am delighted to publish this report *Attrition from undergraduate nursing education programmes in Ireland*. This report, examined attrition from the undergraduate nursing degree programmes of students who commenced from 2002-2004. It highlights that although attrition rates from pre-registration undergraduate nursing programmes in Ireland are comparable with international rates, a number of initiatives can be undertaken that may reduce these.

The findings and comprehensive recommendations in the report will assist the Higher Education Institutions, An Bord Altranais, the Health Service Executive, and other stakeholders define, measure, report and address attrition in this undergraduate group. The implementation of these recommendations provides all the stakeholders the opportunity to further enhance the number nurses and midwives who graduate each year thereby maximising the output from nursing undergraduate programmes.

I would like to thank the staff from the Schools of Nursing and Midwifery in the Higher Education Institutions who completed and returned the questionnaire. Further appreciation is extended to the Workforce Planning Officers in the Nursing and Midwifery Planning and Development Units who facilitated the distribution and collection of the questionnaires. Finally, I wish to note particular thanks to the Nursing and Midwifery Planning and Development Unit in Palmerstown for supporting the initiative and in particular to Susanna Byrne, Project Officer - Workforce Planning who undertook the project and compiled the report.

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EXECUTIVE SUMMARY

Attrition in the context of this report refers to attrition from undergraduate nursing education programmes. Attrition relates to the percentage of an entry cohort who fails to complete the course successfully, for whatever reason (Coakley 1997). There are various definitions of and methods utilised to calculate attrition. In this report attrition is calculated by examining the number of students completing the programme against the number of students who started the programme four years earlier.

The report examines attrition rates among nurses who commenced the four year general, psychiatric and intellectual disability nursing degree programmes in the three consecutive years commencing 2002, 2003 & 2004. It examines these statistics and presents overall and division specific trends for the three years examined.

A summary of the main findings from this survey are as follows:-

- The overall finding from this survey indicates that attrition from pre-registration undergraduate nursing programmes in Ireland compares favourable with the international experiences.
- The number of first preference applicants to nursing undergraduate programmes is gradually decreasing as revealed in statistics from An Bord Altranais.
- The data collected indicates that commissioned undergraduate nursing places are in certain instances subject to under and over filling in some HEI's. Both scenarios have consequences from a financial, clinical and workforce planning perspective. However, the under filling or over filling of programme places did not seem to impact upon student attrition.
- The overall combined attrition from nursing programmes commencing 2002, 2003 & 2004 was 15% from General nursing programmes, 20% from psychiatric nursing programmes and 25% from intellectual disability nursing programmes.
- The three-year trend in attrition between 2002, 2003 and 2004 programmes was a downward one for general nursing but increasing for psychiatric and intellectual disability nursing divisions.
- Attrition from general nursing programmes was 17% for the 2002 and 2003 intakes but this reduced to 10% for those who commenced the 2004 programme.

- In the psychiatric nursing programmes, attrition was 18% for 2002 course, 22% for the 2003 intake and 20% for 2004.
- Attrition was highest within the intellectual disability nursing programmes. It was 21% for the 2002 intake and increased to 26% for both 2003 and 2004 programmes.
- Regional variances in attrition are apparent. For both general and psychiatric nursing programmes, attrition was higher in the more densely populated areas namely HSE Dublin Mid Leinster, followed by HSE Dublin North East. A different trend emerged from intellectual disability nursing programmes in that HSE South displayed the highest attrition of the four HSE Administrative areas.
- Overall, the data collected in this survey also revealed that HEI's in the larger cities tended to have higher attrition.
- It is suggested that the higher the entry points (academic ability) required for entry to undergraduate education programme, the lower the attrition. The points required for entry on to nursing programmes were explored in this report to see if a relationship exists. In general, points increased in 2004 compared to 2003 across all HEI's and programmes but there was not a corresponding decrease in attrition.
- However, of the three nursing divisions, general nursing required the highest entry points and in the three years studied attrition is lowest in this division. Intellectual Disability Nursing has the highest attrition and has the lowest entry point requirements of the three divisions.

Taking these findings into account, the report concludes by making recommendations for defining, measuring, reporting and addressing attrition in undergraduate nursing programmes in the future with the objective of identifying and subsequently addressing problem areas with a view to maximising the output from nursing undergraduate programmes.

RECOMMENDATIONS:

Recommendation 1: The focus on promotion of nursing as a career should continue, with the ultimate aim of getting the appropriate information disseminated to potential candidates so that they can make a confident and informed choice thereby reducing the likelihood of transfer or deferral from a nursing programme.

Recommendation 2: Monitoring and reporting of uptake of commissioned undergraduate places annually in each division of nursing in each HEI is essential so that appropriate remedial action can be taken if places are not optimally utilised.

Recommendation 3: Due to the complexity of the CAO application process, there may be a requirement for greater understanding/ clarity on the students' behalf of how this process works. A greater insight may ultimately curb the number of transfers, deferrals, change of minds following programme place offers. This initiative could be linked with career promotion strategies.

Recommendation 4: Monitoring and reporting processes for nurse undergraduate attrition statistics that have been recommended heretofore need to be reviewed. The HSE should work closely with An Bord Altranais and Higher Education Institutions to clarify and determine a definition of attrition and together devise means of effectively measuring same.

Recommendation 5: Once formal processes for measuring and monitoring attrition have been agreed, a communication process for the reporting of this information should be agreed so that data relating to student discontinuation from nursing undergraduate programmes can be communicated in a timely fashion to relevant parties.

Recommendation 6: National and regional statistics relating to student attrition from nursing programmes should be analysed and published annually. This information could be used to generate trends and assist in providing more informed estimates for workforce planning purposes.

Recommendation 7: Each HEI should monitor their own attrition rates from undergraduate nursing programmes annually so that individual trends in attrition can be monitored and addressed appropriately.

Recommendation 8: The analysis and presentation of statistics for attrition from undergraduate nursing programmes should be division specific. The findings/trends will illustrate where inputs are required to enhance retention on undergraduate programmes for specific divisions.

Recommendation 9: Particular attention should be paid to variation in attrition trends across geographical areas/ HSE Administrative areas. Alternative remedial strategies may be required for different HSE Administrative areas.

Recommendation 10: Evaluate current systems used to collect information on students' reasons for leaving undergraduate programmes and adapt and standardise this data collection process to determine reasons why student nurses discontinue from undergraduate programmes.

Recommendation 11: The reasons students discontinue nursing programmes should be explored, analysed and reported upon from a national, regional and institutional perspective. This information should be used to inform appropriate retention strategies e.g. information could be presented by HEI's and discussed at joint working groups with service representatives to formulate preventative solutions.

Recommendation 12: Strategies to reduce attrition from undergraduate nursing programmes should be formulated and implemented. The catalysts which can contribute to attrition and the factors which can potentially reduce attrition which are discussed in the literature review should be considered when formulating a student retention strategy. The impact of implementing such retention strategies should be evaluated by monitoring attrition statistics.

Recommendation 13: The HSE should liaise closely with HEI's regarding their retention initiatives when formulating a strategy to reduce undergraduate student nurse attrition.

Recommendation 14: The correlation between academic ability (as determined by CAO points) and attrition rates needs to be explored in more depth in order to prove/ discount the speculation that there is a positive correlation between academic achievement and successful student outcome.

Recommendation 15: The required number of undergraduate students nurse/midwife commissioned places should be constantly reviewed and undertaken in tandem with other workforce planning strategies

Recommendation 16: The findings and recommendations of the Expert group on Future Skills Needs (FAS) Report should inform/advise future work in relation to reviewing and planning undergraduate requirements.

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1.0 INTRODUCTION:

Student attrition in nurse education is not a new phenomenon and despite a long history of research into its incidence, attrition rates remain a cause of concern. This is particularly so, if a certain expected attrition rate is not figured into forecasting supply and demand. High attrition rates in undergraduate nursing ultimately affect the number of qualified nurses and midwives available to work in the health service in a negative capacity as this graduate pool is an essential contributor to the nursing workforce. This dictates the need to monitor and track student nurses progress, or non progression, through colleges as well as monitoring trends in attrition from nursing and midwifery undergraduate programmes.

Anticipating an appropriate return on investment, particularly during the current economic downturn is central to good financial management; high undergraduate nurse attrition rates does not represent good value for money and should be closely monitored and addressed. Furthermore, the ongoing availability of nursing and midwifery resources to meet future service requirements is vital for efficient and effective healthcare service delivery. This report highlights the importance of workforce planning in addressing the issue of undergraduate nurse attrition to ensure that there are sufficient numbers of appropriately qualified and trained staff to meet the strategic and operational needs of the service.

This report specifically measures, analyses and reports on attrition from pre-registration undergraduate nursing education programmes. There are many definitions of and methods used to calculate attrition. Attrition, in the context of this report, relates to the percentage of an entry cohort who fail to complete a course successfully four years later.

The report examines attrition rates among nurses who undertook the four year undergraduate general, psychiatric and intellectual disability nursing degree programmes in the three consecutive years commencing 2002, 2003 & 2004. It examines these statistics and presents overall and division specific trends for the three years examined. Providing a three year trend of attrition from undergraduate nursing programmes in Ireland has proved useful as it is difficult to make judgements or projections on data from a single year. The report also attempts to compare these statistics with international trends in nursing undergraduate attrition.

The uptake of places on each programme will also be explored and the consequences of under filling or overfilling of commissioned programmes places will be discussed. The impact of academic requirement/ CAO points on student outcomes will also be explored. The main findings from a literature review which include identified factors which both contribute to and reduce attrition rates are summarised. To conclude, the report discusses and makes recommendations for measuring and addressing this phenomenon in the future.

2.0 CONTEXT –Undergraduate nurse training:

2.1 Nursing programmes and commissioned places in Ireland

There are a predetermined number of nursing undergraduate places available on nursing programmes nationally as outlined in **table 1** below. The Department of Health and Children (DoHC), through workforce planning processes, determine the number of places (supply) necessary annually to sustain the nursing workforce and to counter balance retirements, resignations and cope with increased demand.

Table 1: Commissioned programmes and places 1999 - 2008										
Programmes & Places	2008	2007	2006	2005	2004*	2003*	2002*	2001	2000	1999
General Nursing Places	1,057	1,057	1,057	1,057	1,057	1,057	1,057	1,042	1,004	819
Psychiatric Nursing Places	343	343	343	343	343	343	343	305	302	256
Intellectual Disability Nursing Places	240	240	240	240	240	240	240	200	200	200
Total Places	1,640	1,640	1,640	1,640	1,640	1,640	1,640	1,547	1,500	1,275

* denotes the years under review in this study

Nursing Career Centre – An Bord Altranais

The current number of commissioned places nationally across the three divisions of general, psychiatric and intellectual disability nursing stands at 1,640 places. This comprises of 1,057 places on the general nursing programme, 343 places on the psychiatric nursing programme and 240 places on the Intellectual Disability nursing programme. These figures have not changed since 2002 when the four year degree programme in nursing was first introduced in place of the Higher Diploma programmes.

However, September 2009 will witness a reduction of 310 places nationally across the three divisions. The original allocation of places on the general programme will be reduced by 197 to 860 places, the number of places on psychiatric nursing programmes will be reduced by 53 places to 290 and intellectually disability will have 180 places annually following a reduction of 60 places. This decrease will not actually manifest until 2013 when this cohort of students will be due to graduate.

As the number of places commissioned for the three years under review (years commencing 2002, 2003 & 2004) was unchanged, this makes interpretation and comparisons of data easier and equitable.

2.2 Student Applications per programme – historical perspective

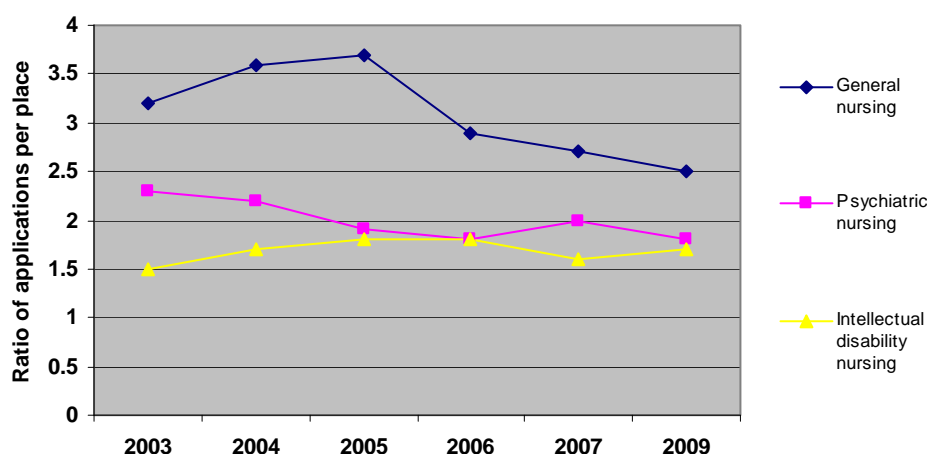
The information presented in **table 2** below is taken from the Nursing Career Centre Career Booklet (An Bord Altranais 2009). It indicates the number of first preference applications per programme (general, psychiatric & intellectual disability) nationally from 2003 to 2008. This information is not available for year commencing 2002. The information does not reveal regional variances.

Table 2: First Preference Applications per programme 2003 - 2008						
Programme	2008	2007	2006	2005	2004	2003
First Preferences – General Nursing	2,687	2,806	2,929	3,904	3,763	3,367
Ratio	2.5:1	2.7:1	2.9:1	3.7:1	3.6:1	3.2:1
First Preferences – Psychiatric Nursing	617	689	625	671	751	776
Ratio	1.8:1	2:1	1.8:1	1.9:1	2.2:1	2.3:1
First Preferences - Intellectual Disability Nursing	407	396	444	423	410	366
Ratio	1.7:1	1.6:1	1.8:1	1.8:1	1.7:1	1.5:1

Nursing/ Midwifery a Career for you (p 50) – An Bord Altranais

The trend is that overall, the number of students choosing general and psychiatric nursing as their first choice on their CAO application is gradually declining (figure 1). Demand for intellectual disability nursing remains reasonably constant however this division of nursing has the lowest demand of the three programmes. It is important to continue to measure demand for nursing programmes as there may be a link between demand for places and potential for students staying on the programme.

Figure 1: First preference applications per programme 2003 - 2008



2.3 The process of allocations of offers by CAO

The Central Applications Office (CAO) have the responsibility for processing applications centrally for admission to all first year undergraduate programmes in Higher Education Institutions (HEI's) throughout Ireland. In August each year, after the leaving certificate results have been announced, the CAO make first round offers of programme places to students who have highlighted their preference for this programmes and have attained the points required. If more applicants have achieved the points required than there are places available, then offers are made in order of merit. In this instance CAO point requirements may increase (equally, if demand for places reduce and there are less applicants than palaces, the points requirements may reduce). Once an offer has been made, the students are given a deadline for indicating their acceptance of this offer.

If a particular programme is not filled on the first round, then students further down the order of merit (who have not yet been offered or accepted a place) who have indicated their preference for this programme and who have the required points will be offered a place on the programme, and so on until all places are filled.

2.4 Why are commissioned places under filled or over filled?

It is difficult to estimate with any precision the ultimate decision of students and hence the final uptake of places. Students may have been offered a place but do not always subsequently take up this place. Students also have the option to apply for a transfer to another programme or another HEI, or they can also defer entry on to the programme. Therefore it will not be clear until registration day which programme students are opting for, by which stage, it will be too late to make offers to other applicants if all places are not filled.

For this reason many HEI's try to factor this in, and based on previous trends, offer places over and above the number of commissioned places in the anticipation that the number of deferrals/ transfers will match the number of extra offers; hence balancing the numbers.

2.5 Consequences of under filling places

In simple terms, under filling of commissioned places means that ultimately there may be fewer graduates for the nursing workforce signifying that potentially there may be an imbalance between supply and demand. Shortage in supply of newly qualified nurses ultimately affects service delivery. Additionally the full amount of funding allocated for the purpose of nurse training may not optimally utilised.

2.6 Consequences of over filling places

Overfilling of places puts additional pressure on healthcare services as they may not have the capacity to provide clinical placements for increased numbers of students. There are financial implications also (cost of programme delivery exceeds planned delivery cost – particularly for internship year where student are on the health services payroll). Additionally if more nurses graduate than expected there may be a situation where there is a greater supply than demand and subsequently there may not be employment for all graduates.

2.7 Summary

For the reasons discussed here it is important to optimally utilise every commissioned undergraduate nursing place. This requires careful planning by all stakeholders in this process. It also requires promotion of nursing as a career to enhance the number of first preference applications and to ensure that candidates who apply are confident in their knowledge and choice hence unlikely to transfer or defer. There may also be a requirement for greater understanding, particularly by the students, of how the CAO application process works. Monitoring and reporting of uptake of places annually in each division of nursing in each HEI is essential so that appropriate remedial action can be taken if places are not optimally utilised.

3.0 LITERATURE REVIEW:

3.1 Attrition

Student attrition in nurse training is not a new phenomenon and despite a long history of research into attrition rates this continues to be a cause of concern internationally. Numerous studies have identified a diversity of contributing factors from stress to academic failure, personal problems to disillusionment; which reflects the complexity of issues surrounding nurse attrition rates from undergraduate training. A considerable amount of research has subsequently been conducted investigating factors which may assist in reducing attrition with analysis or evaluation of the success or failure of measures implemented to address these factors. Both contributory factors and remedial strategies identified in the literature will be discussed here.

Recent interest and indeed concern over attrition rates in many countries has been spurred on by political concern and media interest. The recent rise in concern about attrition appears to be related to the wider, politically based issue of accountability within the public service (Glossop 2001). Attrition, or non-completion, of education programmes can be seen as a policy issue from many perspectives (Morgan et al 2001).

Student attrition has obvious financial repercussions. There is a potential financial loss to society, the students and their family. The profession cannot afford to educate nurses if they subsequently fail to practice (Coakley 1997). From a non-financial perspective, discontinuation for a programme has other repercussions and personal consequences for the student such as reduced self-esteem and self-confidence (Morgan et al 2001).

3.2 Workforce planning

Workforce planning is fundamental to critical quality performance; it contributes to achievement of health system goals by providing a basis for justifying budget allocation and workload staffing. There is a need for prior identification of the numbers of qualified nurses required in order to be proactive in meeting service needs and to exercise flexibility in the amount of student training places commissioned.

Nurses/Midwives comprise of 35% of the total healthcare workforce in Ireland (Health Service Employment Statistics 2008). It is therefore fundamental that there is an adequate supply to sustain this vital core workforce both in the short term and long term as a shortage in supply would potentially undermine the effectiveness of our health system. Undergraduate nursing students are a key component of future nursing workforce supply therefore it is important that a profile of this group is monitored and tracked so that projected numbers of graduates can be

anticipated and counted upon. Projected workforce supply from this undergraduate source should ideally factor in trends in attrition in order to have realistic expectations. Gaynor et al (2008) recommend that it is imperative that key stakeholders are aware of demographic profile of nursing student population and can quantify attrition rates for programmes in order to take these issues into consideration for workforce planning. From a 'workforce planning perspective, it is essential to monitor the trend in attrition from pre-registration education programmes by division' (DoHC 2002 P102)

3.3 Undergraduate attrition from nursing education programmes in Ireland

Undergraduate pre-registration nursing education (general, psychiatric and intellectual disability) became a direct entry four year honours degree programme in 2002. The first graduates emerged from these programmes in 2006. Given the recency of this initiative it is timely to ensure that there is robust research and/or analysis of attrition from pre-registration undergraduate nursing programmes in Ireland.

Some work has been carried out exploring non-completion in a range of other undergraduate programmes in Ireland. According to a submission by the Inter-Universities Retention Network to the OECD (2004), the Universities in Ireland identified retention, completion and student withdrawal as important issues which need to be addressed. The network identified those overall, figures on student completion of university courses in Ireland indicate that an average of 83.2% of students complete the university course on which they originally enrolled. This data was collected in a study by Morgan et al (2001) which tracked students who entered higher level education in seven universities in Ireland in 1992/1993. The study found that 67.9% of students graduated on time, 15.3% graduated late and 16.8% did not complete the course. These are findings from a range of undergraduate programmes and because the nursing degree programme had not commenced at the time of this study, there are no nursing related figures within the report. However, there are other interesting findings such as the fact that at the time of the study, university completion rates in Ireland compared very well internationally.

Completion rates in Institutes of Technology are not as positive however. In a study by Eivers et al (2002) exploring non-completion in institutes of technology in Ireland in the mid 1990's it emerged that 43% did not complete their course. Furthermore a greater proportion of males (47%) than females (37%) did not complete.

An Bord Altranais (ABA) maintain statistics/record of the numbers of nurses on the candidate register and a comparison of this number against those subsequently registering qualifications with ABA will technically reveal the percentage who do not complete, whether it be due to discontinuation, transfer to another programme, unsuccessful in exams or do not register on successful completion. This is considered attrition from nursing whereas this report measures

attrition from nurse education i.e. it compares the number who start against the number who complete four years later (it does not measure those who complete but do not subsequently register or join the workforce).

Some data relating to numbers of students discontinuing nursing programmes in the 1990's or not registering following graduation is presented in the Report *'Towards Workforce Planning'* (DoHC 2002), it is difficult however to generate percentages from this data, additionally it is not division specific.

Despite the fact that there have been no formal studies or reports on attrition from undergraduate nursing degree programmes in Ireland, there is a formal mechanism for reporting the progress of students' nurses through their programmes which also captures attrition. The Higher Educational Institutes (HEI's) submit a report, which contains details regarding undergraduate students' progress/ non progress through the various nursing programmes and years, to An Bord Altranais annually.

At the outset of the four year nursing degree programme in 2002, a four step plan for monitoring attrition rates was set out in the *Towards Workforce Planning* report (DoHC 2002) with the purpose of collecting key indicators of attrition on an annual basis in order to provide data to assist with forecasting the potential numbers of newly qualified entrants to the workforce.

The report made the following recommendations:-

- Application for pre-registration nursing degree education and the numbers commencing programmes should continue to be monitored by An Bord Altranais (ABA) through the operation of the Candidate Register, and through liaison with the Central Applications Office (CAO) and Admissions officers of the Higher Education Institutions (HEI's). This process should be done in close collaboration with the DoHC
- Attrition from pre-registration programmes should be monitored by the head of department/school through the nursing allocations function in each of the HEI's and reported to ABA at an agreed time on an annual basis
- ABA should monitor and evaluate the operational aspects of collating information on national attrition from pre-registration degree programmes and subsequently supply this information to the Nursing Policy division in the DoHC
- The Nursing Policy Division in turn should evaluate the effectiveness of the information on attrition for human resource planning and publish the rate on an annual basis

(Towards Workforce Planning DoHC 2002; p102 - 103)

In July of 2005 An Bord Altranais first collated and published these attrition rates from the four year degree programme on their web site www.nursingcareers.ie (Table 3).

The statistics presented were sourced from the Candidate Register which contains the number of candidates admitted for training combined with the annual consultation between the HEI's and ABA. No official data had been published to indicate the attrition rates amongst undergraduate nurses in Ireland prior to this year.

Table 3: Attrition Total Number on Candidate Register			
Year of Intake	Number on Candidate Register	Attrition Numbers per Candidate Register	Attrition % to Candidate Register (07/07/05)
2001*	1552	127	8%
2002	1466	034	2%
2003	1754	024	1%
2004	1671	026	1.5%
Total	6443	211	3%

* Higher Diploma Programme

(Excerpt from www.nursingcareers.ie July 2005) accessed 3rd October 2005

The data indicates that at the time of publication the overall attrition rate was 3%. Consideration must be given to the fact that undergraduate students represented in the table above are in different stages of training and only one group have completed (the 2001 student group identified were the last group to complete the Higher Diploma programme as the BSc degree programmes commenced in 2002). In addition, it is possible that some students could have discontinued, but this information may not yet have been relayed to ABA and therefore these students may have not been taken off the candidate register, thereby giving a low attrition rate which may increase later.

The information is helpful, however it would be beneficial if the data presented could be examined per region and per division in order to examine variances in these areas.

It should be noted that no official data on nursing undergraduate attrition has since been published; this may be due in part to changes in the structure of the HSE.

Recently, the Office of the Nursing Services Director published a report entitled *'Findings from the Survey of 2007 Nursing Graduates; Where are they now?'* (HSE 2009). Information in this report highlights the number of nurses who registered with An Bord Altranais following completion of the BSc undergraduate programme in nursing in 2007. This figure varies slightly from the number of 2007 graduates identified later in this report as the information was collected from the

register of An Bord Altranais whereas the data in this report was collected directly from the HEI. The information that can be gleaned by comparing the two reports is the number of students who actually graduated but did not subsequently register to practice as a nurse in Ireland (in other words one can compare attrition from nursing and attrition from nursing education).

3.4 Undergraduate attrition from nursing education programmes internationally

Statistics regarding nursing attrition vary and there is concern regarding discrepancy between 'official' and 'true' figures; this is due to confusion about measuring attrition and defining it accurately. According to Glossop (2002), comparison of attrition rates between universities, or at an international level, has been hampered by lack of common definitions of attrition and variations in the methods used to calculate attrition. Difficulties persist due to nuances and variances in the systematic collection and analysis of data. This should be borne in mind when attempting to compare national with international statistics.

The majority of international literature reviewed examines the attrition problem in nursing education in the UK as this is the country most widely examined and documented. They define attrition as 'the difference between the numbers of students beginning each cohort and the number who completed that cohort' (Glossop 2001 p377). Those who take a break for whatever reason are included in the statistics for the cohort to which they return.

In both England and Wales, an attrition rate of 15% is considered normal or acceptable but remains the constant unachievable goal of workforce planning. Glossop (2001) in her review of several studies examining attrition rates over the decades revealed the following statistics in the UK. In the 1960's and 1970's = 23% - 34%, 1980's = 15% - 20% and 1990's = 15% - 20%.

According to Waters (2008b) drop-out rate from nursing pre-registration programmes in the United Kingdom was 24.8% in 2006 and two years later it has increased to 26.3%. In the same report by Waters, she identifies that the Departments of Health in the England, Scotland, Wales and Northern Ireland estimations of attrition in nursing fall well short of that reported by Universities in the same areas.

A study of attrition from programmes over an 8 year period by Glossop (2002) in the UK revealed that the attrition rate fluctuated between 12% and 24%; the average rate for the period being 19%. Some nursing programmes in the UK had attrition as high as 50% (Waters 2008a). In relation to attrition from division specific branches of nursing, a study by Glossop (2002) identified that from UK nursing programmes commencing between 1992 – 2000, attrition rates

were lowest for children's nursing (16%) followed by mental health nursing (18%) and then adult nursing (19%). Attrition was particularly high from the intellectual disability nursing programme at 34%.

Gaynor et al (2008) in their retrospective analysis of attrition from nursing undergraduate programmes across ten universities in Queensland, Australia found that the average attrition rate was 24.5%. There was a wide range in attrition between universities (9.7% - 41.8%). The method used to calculate attrition in this instance was by comparing aggregate undergraduate nursing students' enrolments against the corresponding aggregate graduates presented by each University to the Queensland Nursing Council.

3.5 Historical perspective of student nurse attrition

Discontinuation of student nurses from pre-registration courses has been a recognised long standing problem, spanning the last 60 years (Glossop 2001). Approaches to studying the many reasons for attrition have evolved over time. In the 60's and 70's emphasis was placed on student characteristics (academic ability, personality), whilst studies in the 80's focused on external influences (pay issues, stress) whereas today the full plethora of contributing factors are scrutinized.

Coakley (1997) looked at the issue of attrition over the decades and linked reasons and percentage. In the 1930's, 33% attrition rates were reported and the primary reasons at the time included hierarchical structures, restrictions on behaviour and lack of communication from trained staff. In the late 1940's, following the introduction of the National Health Service (NHS) in the UK, attrition rates had reached an all time high fluctuating between 38% and 59% (the highest rates of 82% were identified within psychiatric nursing). Contributing problems identified in this phase were homesickness, long awkward hours and inadequate teaching. In the 1950's attrition rates ranged from 23% to 34%, most of which occurred during the first year of training. Of these figures psychiatric nursing contributed to the most at 60%. At this period emphasis was placed on personal and psychological suitability for nursing.

In the 1970's it was deemed that personality testing would potentially reduce attrition rates by identifying those potentially unsuitable for nursing. It remains unclear how much this proposition was acted upon but in the 1980's figures continued to drop, reported at 15% - 20%. Towards the end of the 1980's psychological and academic deficits took a back seat as new issues and attitudes came to the fore such as low pay, stress, lack of support and poor job satisfaction. In attempt to take action on these issues, new proposals for nurse education were recommended

including closer links with higher education institutions and supernumerary placements for students during training. Project 2000 emerged from this recommendation in the UK.

3.6 Factors contributing to attrition

Discovering the reasons for students discontinuing is essential if steps to reduce attrition rates are to be implemented. Johnson et al (2007) maintain that early identification of contributory factors to attrition can help students' access appropriate services and therefore potentially enhancing opportunity for success/completion. As stated by Pearse (2004) the reasons for leaving are difficult to quantify, often because reasons elicited at exit interview do not reflect the true reasons. However, recurring themes are evident.

Morgan et al (2001) maintain that non-completion may be due to individual factors (age, personality characteristics, ability/achievement, background, finances, degree of match between student's expectations and actual reality), institutional factors (selectivity and size of institution) or interaction of individuals (student – staff interaction) or indeed a combination of these factors. Glossop's study (2002) identified the main reasons for leaving as being for family reasons, academic difficulties (including exam or assignment failure), financial problems, ill health and wrong career choice in the order. She highlighted that 42% of students who left identified two or more reasons for leaving.

3.6.1 Wrong career choice

In Institutes of Technologies in Ireland in the mid 1990's when attrition was as high as 43%, only a small percentage of these leavers indicated that they had good understanding of the course they had been undertaking (Eivers et al 2002). Bowden (2008) warns to take this information with caution as often students may claim they have chosen the wrong career rather than admit they were not succeeding academically. In an Irish study by Baird (2002) into withdrawal from college programmes in Trinity College Dublin, the importance of course choice was found to diminish as students progressed through their degree. A study by White et al (1999) identified 'nursing as wrong career choice' as contributing to 24% of leavers.

3.6.2 Academic pressure

Glossop (2001) reviewed international nursing literature revealing academic factors as the prime contributor to attrition rates in the following countries, Israel = 77%, Kuwait = 39% and South Africa = 64%. A study in the USA by Stickney (2008) found that the main factor in high attrition was the documented low academic ability of some students. In a study by White et al (1999) academic failure was reported as contributing to 39% of students' reasons for discontinuing. Richardson (1996) cited a slightly lower percentage for academic failure at 20%. Kervan et al

(1999) who examined the relationship between academic performance and completions found that younger students with modest qualifications contributed to higher attrition rates compared to colleagues in the same age group with good qualifications. However, despite qualifications, course completion in this latter group was not guaranteed and attrition rates in this category were related to

personal reasons. Coakley (1997) reveals that in the 1930's it was recommended that poor academic achievements should not influence entry into training whereas in the 1950's it was discovered that lower academic achievement prior to entry was linked to higher attrition.

In Bowden's (2008) study of nurses who had considered leaving the programme but who ultimately stayed, academic issues (stress caused by exams followed by written assignments) were cited most frequently by respondents as the reason they had considered leaving. In the same study, fear of academic failure had been found to be a particular concern for mature students and first year students.

Morgan et al (2001) also cite that student's performance in secondary school is a major predictor of college attrition. In Ireland, pre-college performance is measured by CAO scores which is a good benchmark of a student's academic ability.

An Irish study of undergraduate programmes by Morgan et al (2001) found that for courses with high entry points, 82% graduated on time and only 9% failed. For courses with medium entry points, 72% graduate on time and 15% did not complete the courses. For courses with low entry points less than two thirds graduates on time and 20% did not complete the course. Additionally, a higher proportion of females than males graduated on time. In this study, none of the courses referred to were nursing courses as nursing education had not transferred to the third level sector at that point in time of the study (1990's) but the findings do indicate that the higher the points/academic requirement the less chance of non completion.

3.6.3 Clinical pressure

In Bowden's study (2008) of nurses who almost left undergraduate education, the stress of undertaking clinical placement was the second most common reason given by respondents when asked why they had seriously considered leaving. Some respondents in the same survey who had no prior healthcare experience said dealing with sick and dying patients had been a source of stress. Conversely, a study by Glossop (2002) exploring reasons for leaving over an eight year period revealed that no students identified clinical difficulties as being a catalyst for leaving.

3.6.4 Stress

Deary et al (2003) in their attempt to prove the relationship between stress, burnout and attrition amongst undergraduate nursing students measured student opinions at the outset of training and at yearly intervals thereafter. The results acknowledged the link between stress and discontinuation but highlighted that personality was a more important indicator of attrition than cognitive ability. Baird (2002) found that attrition may be related to different factors at different time over the duration of the programme. In a study by Glossop (2002) it transpired that the majority (56%) who left did so during the first year. This is a particularly vulnerable time for all students whilst they adapt and get accustomed to third level education. Eivers et al (2002) acknowledged that many students undergo considerable stress in their transition from second level to third level education. Baird (2002) found that in the middle years of an undergraduate programme students reported that stress and wanting a break from education were main contributors to attrition. Students in their final year were more likely to report problems balancing work and study, financial difficulties and falling behind on assignments.

3.6.5 Job security & attrition to work in healthcare

Waters (2008b) suggests that in the UK, financial constraints (NHS) have impacted on employment opportunities for graduating nurses. Similarly some negative publicity relating to the health services such as healthcare-acquired infections, have complicated the attractiveness of the health sector as a career option.

3.6.6 Gender

Stott (2007) identified that in Australia, despite an increasing number of males choosing nursing as a career, attrition by males from nursing courses is problematic. She noted that issues relating to feminine stereotyping of nursing as a career often means that male nursing students must cope with this additional challenge during their training. Findings from Stott's study (2007) revealed that male nursing students were more likely to leave due to issues such as concern regarding their ability to fulfil the nursing role, and the fact that nursing is a caring profession strongly identified with being female. The lack of male role models was also cited as a negative factor for male students.

3.6.7 Family circumstances

In a review of nurse attrition rates by Glossop (2002), the most common reason for leaving was family circumstances; which was reported by almost 20% of students. White et al (1999) reported that personal or family difficulties were identified by 32% of students who discontinued

3.6.8 Miscellaneous

There are other reasons which are identified less frequently in studies but which also have a significant impact on attrition from nursing undergraduate programmes. A study by White et al (1999) reported financial problems as contributing to 9% of student's who left nursing programmes, travel difficulties 5%, poor course organization and management 5% and negative staff attitudes 4%. Paerse (2004) quotes a study which identifies a number of attrition inducing factors which include communication and operational difficulties between universities and clinical areas, feelings of not being valued and unmet expectations. Richardson (1996) identified health problems as contributing to 10% of overall attrition rates. Universities in the greater London area in England reported an attrition rate as high as 32% (Waters 2008b) signifying that attrition may be higher in urban rather than rural areas.

3.6.9 Summary

All of the above catalysts can be attributed to attrition internationally. The degree to which they contribute may vary and this is primarily due to variations in the definition of attrition and the methods in which it is measured and education systems which are in place in various countries.

Bowden (2008 p57) acknowledges that *'while institutions are rightly held accountable for attrition rates, it must be acknowledged that students share some of the responsibility; it is incumbent on them to choose their programme of study carefully and to use mechanisms created to support them'*.

3.7 Factors reducing attrition rates

Stickney (2008) maintains that addressing attrition and promoting student retention in nursing programmes are strategies which are useful to ensure that nursing resources are sufficiently available. For both workforce planning and financial purposes, it is essential that strategies to enhance retention throughout undergraduate nursing programmes are implemented. This can only be done once these strategies are identified.

For many years governments, health services and Universities have examined ways to avoid losing nurses from the profession. In Ireland, all universities received funding in 2000 from the Higher Education Authority (HEA) under a targeted initiative to address retention across all undergraduate programmes (Morgan et al 2001). The universities who received funding under this initiative set up a network to facilitate discussion of approaches to addressing retention. The network is called the Inter-Universities Retention Network and their work continues in the form of annual inter-university retention colloquiums where ideas are exchanged and best practice is disseminated. Morgan et al (2001) indicates that there will be a continuing role for the HEA in

undertaking further research into the underlying factors which influence non-completion and in supporting and evaluating retention strategies.

3.7.1 Student support networks

Bowden (2008) suggests that, the quality of the student's journey through higher education and the support that the students receive is arguably as important as their ultimate destination. She examined attrition from the perspective of those who almost left, but ultimately stayed. She explored the experiences of nursing students who considered leaving but who stayed with the course in order to enhance the understanding of attrition in nursing education. Her findings demonstrated that the most positively influential group for these students were personal tutors in that students saw their personal tutor as their 'safety net' when they experienced difficulties; the next most important source of support was peers followed by family and friends. An Irish study by Baird (2002) found that of those students who sought support/ consultation re their decision to leave, the majority had approached their tutors. In the same study, students proposed that the college provide more individualised support and advice to students. Stickney (2008) acknowledged that social integration which can be accomplished through study and support groups, through student service and via advisers on the nursing programme to be important. Waters (2008b) identifies that student support is a key priority and that attracting the right student is also crucial.

3.7.2 Right student for the right course

If nursing students are happy that they have chosen the right course and career decision then they are more likely to be satisfied with their choice hence more likely to stay. Waters (2008b) stipulates that students have to know what they are signing up for. Face to face recruitment and where appropriate prior work experience would help alleviate misconceptions and help potential student make an informed decision consequently eradicating 'wrong career choice' as a cause of discontinuation. It is evident from the literature that students who are better informed have more realistic expectations and therefore cope better. Appropriate preparation for and support during training courses were key factors identified by Glossop (2001) as a method of reducing attrition.

3.7.3 The Education Environment

PROJECT 2000 was introduced in the UK in 1989 which incorporated a professional model of nursing education with the purpose of improving the quality of the education environment. This mainstreaming of education was implemented in an effort to address attrition rates related to student dissatisfaction with traditional training and accordingly reduce wastage. It comprised of an eighteen month common foundation programme which would prepare all nursing students together academically, and also prepare them for work in the clinical area. Coakley (1997), states that figures from the Project 2000 initially showed similar attrition to that reported from

conventional ENB training. Furthermore, following the introduction of Project 2000, a re-emphasis was made regarding the concept of 'home trusts' as students were articulating that they did not feel a sense of belonging to any particular organisation, this was an effort to reduce the initially high attrition rate. If the student felt a sense of belonging to a specific employer they were more likely to be retained on the course and as staff on qualifying. This demonstrated the need for close working relationships between the HEI's and the health providers. By the second intake discontinuation from the Project 2000 was calculated at a reduced figure of 14% and by the fifth intake attrition rates were between 2% and 7% according to the National Audit Office (Coakley 1997).

3.7.4 Course Flexibility

Course Flexibility is an important incentive for some students and by facilitating part-time courses and making training as family friendly as possible could result in an incentive for more mature students (Pearse 2004). This would also be an option for students who find the course academically challenging, as it would give them additional time to study/ prepare assignments.

2.7.5 Recruiting mature students

It can be debated that mature students, particularly those who have not studied in some time, will be challenged academically. However, the advantage of recruiting mature students is the fact that life experience has provided them with useful time-management and multi-tasking skills, which they can apply to their learning situation (Kervan & Webb 2004). In some instances academic achievements of mature students acquired through life experience can be higher thus eliminating this as a contributory factor for attrition unlike their younger peers. Mature students due to their life experience are less naïve and are more likely to stick with their informed decision to stay in nursing according to Pearce (2004). Mature students are an important source of recruitment into nursing in Ireland and An Bord Altranais demonstrate their recognition of this as they commit to allocating a quota of places for mature code applicants. However, mature students bring their unique reasons for discontinuation such as family and financial problems and lack of recognition for maturity and life experience (Kervan et al 1999). In order to address this problem unique to this group, part time courses for mature students have proven successful in the UK (Parish 2004).

3.7.6 Intervention programmes

In the USA Intervention programmes have been implemented for students who have been identified to be a high risk for discontinuation e.g. ethnic minority students or those with poor academic qualifications (Childs et al 2004). These programmes varied in nature with the ultimate goal being to retain the students. Study skills development and stress management courses are other interventions used successfully in the USA and in the UK.

3.7.7 Financial incentives for students

Financial support in the form of tuition fees can be the ultimate decider for some students who may be experiencing financial pressure. In Ireland all first time degree candidates are funded by the Government. This is an excellent initiative and reaps benefits by having a positive knock on effect on retention.

Nursing students in Ireland have an added incentive in that during their internship year (4th year) they are paid at 80% staff nurses salary for the duration of their clinical placement. This is a major bonus for students who may previously have had to work evenings and weekends to earn some extra money. This incentive should be promoted during recruitment initiatives.

3.7.8 Academic V/s practical course content

Deary et al (2003) discussed the recommendations made by the Department of Health (DoH) UK 1999 which were to reduce the education component and increase the skills training aspect in nursing programmes and to increase the entry criteria to encourage a broader range of applicants. In a column by Parish (2003) he identifies a school of nursing that claims it has reduced its 'drop out' rates dramatically by placing less emphasis on academic ability and more on the students' attitudes, values and experience. The school in question saw a drop in attrition to 8% following widening of entry criteria to the course and focusing on the candidates' motivation, experience and ideals. Stickney (2008) recommends evaluating admission criteria as a method of reducing attrition.

3.7.9 Class size

Goodling (2004) reveals the results of an on line survey (betterbursary.com) which reflect nurse students opinions, it reports that 80% of respondents thought attrition rates would drop if student numbers were reduced. This reflected the concern that class sizes were increasing with not enough resources to teach them. Additionally, if student encounter problems during their course these problems will be less easily hidden in smaller class and therefore highlighted and addressed before spiralling out of control and potentially resulting in discontinuation.

3.7.10 Financial penalties

In a bid to drive down attrition rates, Dreary et al (2003) informs us that in the UK, higher education institutions are required by the Government to maintain attrition below 13% and new legislation may result in incurring financial penalties for failing to achieve this level. A feature by Scott (2004) adds that as an incentive for universities, they would be rewarded with bonuses if attrition rates are kept below the national average. He informs us that this change is set to be introduced alongside the national nursing education contract being negotiated between the Department of Health (DOH) UK and, the Department for Education and Skills (DfES) and universities. It could be argued unfair as some reasons for attrition cannot be addressed or

avoided by universities therefore unfair to penalise them. Statistics presented in section 3.4 of this report indicates that in the interim period, the collective attrition rate in undergraduate nurse education in the UK has not reached this target.

A more recent report by Waters (2008b) outlines that in the UK the current system now means that if a student drops out, funding stops which means that Universities have a tangible incentive to keep students. White et al (1999) acknowledged that there is a considerable financial incentive in reducing nurse wastage which would of course have the added benefit of enhancing recruitment and retention of nurses.

3.7.11 Summary

Many retention strategies are discussed and promoted in the literature but often evaluations of proposed preventative measures are vague. Glossop (2002) maintains that the use of exit-interview procedures to collect information regarding reasons for leaving from discontinued students is important as these catalysts need to be identified accurately in order to be addressed appropriately. If steps are to be taken in relation to exit interviews to elicit reasons for leaving nursing programmes, the perception of Bowden (2008) should be considered. She claims that often the ability of those who leave to be objective must be questioned; she feels that those who are still on the programme are more in touch with the practical day-to-day stresses of undergraduate nurse training.

Targets for reducing attrition in the UK are agreed between workforce development confederations and individual higher education institutions and these are in line with government policy. Could a similar approach be taken in Ireland? This is done to a certain extent through the Inter-Universities Retention Network.

4.0 METHODOLOGY

4.1 Introduction

The initial purpose for the collection of data on undergraduate nurse completion rates was to inform a report on the healthcare workforce '*Healthcare Skills Monitoring Report*' which was being compiled by FAS for the DoHC. Subsequently, the Office of the Nursing Services Director have supported the analysis of this data and the production of a separate more detailed report on undergraduate nurse attrition. This report compliments another recent report which investigated and reported upon new graduates' preparedness for the workforce in 2007 (HSE 2009).

4.2 Aims and objectives

The aim of this project was establish and report on attrition rates from undergraduate nurse education in Ireland.

This will be achieved by examining the number of undergraduate students who commenced general, psychiatric and intellectual disability nursing programmes in the three years commencing 2002, 2003 and 2004 and to subsequently compare these figures against the numbers graduating four years later i.e. 2006, 2007 and 2008 respectively. Comparing the number of nurses who graduated from each HEI and nursing programme against the numbers of students starting the programme four years earlier will enable the calculation of attrition rates from undergraduate nurse education. This information will be analysed and reported upon nationally and per HSE Administrative areas. Furthermore the attrition data will be presented per division. The data collected will also enable analysis of uptake of commissioned undergraduate nursing places.

4.3 Development of survey tool

Information in relation to the numbers of candidates who commenced general, psychiatric and intellectual disability nursing degree programmes in the three years under review (2002, 2003 & 2004) and the numbers who completed four years later (2006, 2007 & 2008) was collected. An Excel template was developed for each HEI which requested the number of undergraduate students who started in each nursing division in each year and the number who graduated four years later. The template was pre populated with the commissioned number of undergraduate places available. An example of template used is presented in **Appendix 1**.

4.4 Sample (Participating Higher Education Institutions)

Higher Education Institutions (HEI's), also referred to as third level colleges, universities, institutes of technology and others, offer education programmes for nurses and midwives at pre-registration and post-registration level. There are thirteen HEI's throughout the Republic of Ireland who provide undergraduate nurse training programmes. These colleges are presented in **Appendix 2**.

4.5 Data Collection

The Nursing and Midwifery Workforce Planners in each of the Nursing and Midwifery Planning and Development Units (NMPDU's) facilitated the collection of this information from the HEI's in their respective areas by distributing the templates to Heads of School and relevant personnel in each HEI in September 2008. There was a response rate of 100%. The workforce planners acknowledge the support of Heads of School of Nursing & Midwifery, allocations officers, admissions officers, course co-ordinators and other staff members within the HEI's who kindly provided this information.

4.6 Formula for calculating attrition

Attrition relates to the percentage of an entry cohort who fails to complete the course successfully, for whatever reason (Coakley 1997). There are many variations in the methods used to calculate attrition rates (Glossop 2002). In this report attrition is calculated by examining the number of students completing the programme against the number of students who started the programme four years earlier as outlined in the formula below:-

$$\frac{\text{Total completers in a given year}}{\text{Total starters 4 years previous}} \times 100 = \% \text{Attrition}$$

4.7 Data Analysis

The data was entered on to one Excel sheet for analysis. Formulas were used to calculate attrition and these were double checked manually. The data was maintained on a secure password protected computer.

5.0 FINDINGS

For the purposes of confidentiality the findings of this review will be presented from a national perspective and HSE Administrative area perspective thereby protecting the identity of individual colleges.

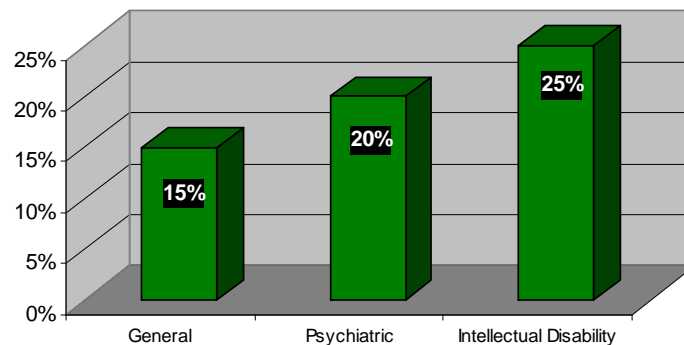
5.1 Overall attrition from nursing programmes nationally

The information presented in **table 4** below represents data collected from all 13 HEI's nationally. The three divisions of nursing examined are general, psychiatric nursing and intellectual disability nursing. The years examined are 2002 to 2006, 2003 to 2007 and 2004 to 2008.

Table 4: Average attrition from nursing undergraduate nursing programmes commencing 2002, 2003 & 2004									
	General Nursing			Psychiatric Nursing			Intellectual Disability Nursing		
	Number Commencing	Number Completing	Attrition	Number Commencing	Number Completing	Attrition	Number Commencing	No Completing	Attrition
2002 to 2006	1,039	860	17%	317	259	18%	169	134	21%
2003 to 2007	1,142	948	17%	375	294	22%	229	169	26%
2004 to 2008	1,062	959	10%	356	285	20%	241	178	26%
Total	3,243	2,767	15%	1048	838	20%	639	481	25%

In the three years examined, the highest attrition has been in the intellectual disability programme (25%) followed by psychiatric nursing programmes where average attrition over the three years in question was 20%. Average attrition from the general nursing undergraduate programme was 15%. This information is resented in **figure 2** below.

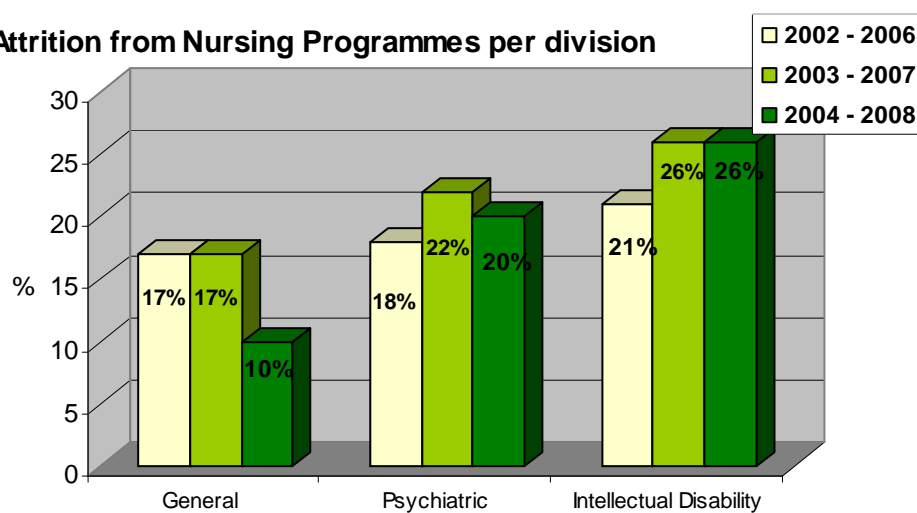
Figure 2: Average attrition from nursing programmes (2002, 2003 & 2004 intake combined)



5.2 Overall attrition per division form nursing programmes nationally (3 year trend)

Table 4 above also presents information in relation to attrition each year for the three divisions. This is translated in **figure 3** below for ease of interpretation. What is apparent is that over the three years attrition from general nursing programme has reduced, attrition from intellectual disability nursing programme has increased and attrition for the psychiatric nursing programme has been variable.

Figure 3: Attrition from Nursing Programmes per division



It is possible that some starters in a given year may not complete four years later due to several reasons such as sick leave, repeat exams etc. These students will be captured in the completion statistics for the following year.

5.3 Under filling/ over filling of programmes nationally

The consequences of under filling or overfilling of commissioned undergraduate nursing places has already been discussed in section 2.4 – 2.6. It is prudent to monitor the uptake of places on programmes in order to monitor trends and take appropriate action. **Table 5** outlines the uptake of places for programmes in all three divisions for the three years under review.

It appears that in 2002, when the first nursing degree programmes commenced, commissioned places on programmes for all three divisions were not optimally filled. Overall there was a 7% under fill of places. In attempts to rectify this the following year there was a 6% overfill of places. By the third year of the nursing degree intake the filling of places almost equated to the number of places commissioned with only 1% overfilling of places. This indicates that following initial teething problems all commissioned places are being optimally filled. This can only be

confirmed or refuted by measurement and examination of outcome of current and future programmes.

Table 5: Filling of nursing programmes nationally

Year	Division	Number of places commissioned	Number of students commencing programme	% Under / Over fill
2002 to 2006	General	1,057	1,039	2% under fill
	Psychiatric	343	317	8% under fill
	Intellectual Disability	240	169	30% under fill
	Total	1,640	1,525	7% under fill
2003 to 2007	General	1,057	1,142	8% over fill
	Psychiatric	343	375	9% over fill
	Intellectual Disability	240	229	5% under fill
	Total	1,640	1,746	6% over fill
2004 to 2008	General	1,057	1,062	1% over fill
	Psychiatric	343	356	4% over fill
	Intellectual Disability	240	241	0
	Total	1,640	1,659	1% over fill

On further analysis of division specific information in **table 5** above, it transpires that intellectual disability nursing places have never been overfilled, and ranges from 30% under fill in 2002, 5% under fill in 2003 to filling all places in 2004. General and psychiatric nursing on the other hand only under filled in the first year (2002) and over filled in the two consecutive years although to a lesser extent in 2004.

Furthermore, the data collected indicates that over filling or under filling of programmes do not have an impact either way on attrition given that HEI's that filled more than their commissioned places had the same range of attrition as HEI's who did not fill all programme places.

5.4 Overall attrition from general nursing programmes per HSE Admin area

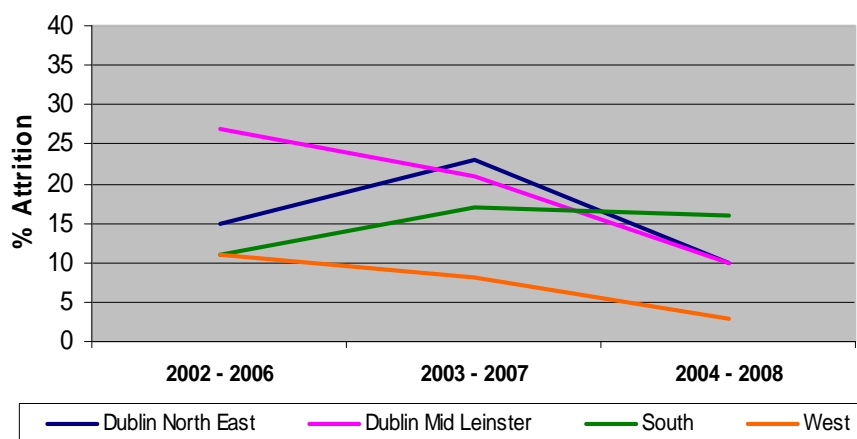
The average attrition from general nursing undergraduate programme for the three years in question was 15%. This ranged from 17% for both 2002 and 2003 intake and 10% for the 2004 intake. However the attrition per HSE Administrative area varies greatly as outlined in **Table 6**.

Table 6: Overall attrition from GENERAL nursing programmes per HSE Administrative area

Year	HSE Admin. Area	Number commencing	Number completing	% Attrition
2002 - 2006	Dublin North East	151	129	15%
	Dublin Mid Leinster	376	274	27%
	South	250	223	11%
	West	262	234	11%
2003 - 2007	Dublin North East	168	129	23%
	Dublin Mid Leinster	396	314	21%
	South	282	234	17%
	West	296	271	8%
2004 - 2008	Dublin North East	164	148	10%
	Dublin Mid Leinster	369	333	10%
	South	259	217	16%
	West	270	261	3%

The information above is translated in graph format in **figure 4** below. It is apparent that attrition is on the decline in all HSE Administrative areas. Some areas namely Dublin Mid Leinster and West have had a reduction in attrition for two consecutive years whilst Dublin North East and South have had a reduction in the last year only. However, it is clear that attrition is highest in Dublin Mid Leinster followed by Dublin North East and then HSE South.

Figure 4: Attrition from GENERAL nursing programmes by HSE Administrative Areas



5.5 Overall attrition form psychiatric nursing programmes per HSE Administrative area

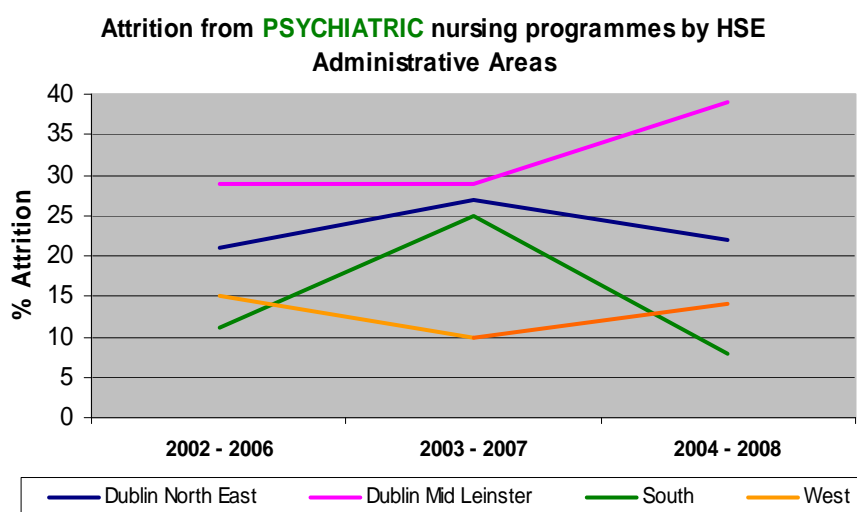
On average 20% of all students who commenced psychiatric nursing undergraduate programmes for the three years under review did not complete in the time studied. This ranged from 18% attrition for the 2002 intake, 22% attrition for the 2003 intake and 20% for the 2004 intake. The percentage of leavers per HSE Administrative area is presented in **Table 7** below.

Table 7: Overall attrition form PSYCHIATRIC nursing programmes per HSE Administrative area

Year	HSE Admin. Area	Number commencing	Number completing	% Attrition
2002 - 2006	Dublin North East	56	44	21%
	Dublin Mid Leinster	76	54	29%
	South	84	75	11%
	West	101	86	15%
2003 - 2007	Dublin North East	82	60	27%
	Dublin Mid Leinster	70	50	29%
	South	106	79	25%
	West	117	105	10%
2004 - 2008	Dublin North East	87	68	22%
	Dublin Mid Leinster	85	52	39%
	South	103	95	8%
	West	81	70	14%

It is obvious that attrition has been higher from the psychiatric nursing programme than from the general nursing programme. The trend is similar however to attrition from general programmes, in that, Dublin Mid Leinster had the highest attrition followed by Dublin North East, then the South and lastly the West. Dublin Mid Leinster has the highest attrition of 39% from the 2004 programme.

Figure 5:



5.6 Overall attrition from intellectual disability nursing programmes per HSE Administrative area

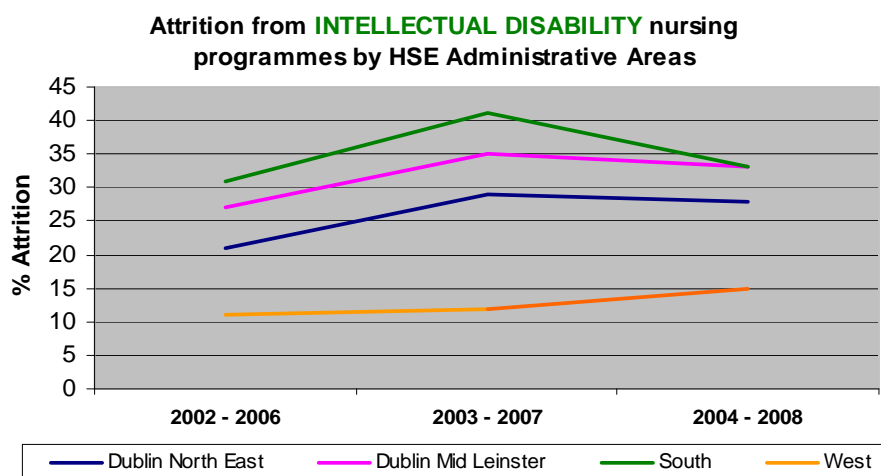
Eight third level institutions deliver the undergraduate programme in Intellectual Disability Nursing. The average overall attrition from the 2002, 2002 & 2004 intellectual disability undergraduate nursing programmes combined was 25%, the highest of the three nursing divisions. This attrition data is broken down and presented per HSE Administrative area below (Table 8).

Table 8: Overall attrition from intellectual disability nursing programmes per HSE Admin area

Year	HSE Admin. Area	Number commencing	Number completing	% Attrition
2002 - 2006	Dublin North East	47	37	21%
	Dublin Mid Leinster	26	19	27%
	South	39	27	31%
	West	57	51	11%
2003 - 2007	Dublin North East	62	44	29%
	Dublin Mid Leinster	23	15	35%
	South	56	33	41%
	West	88	77	12%
2004 - 2008	Dublin North East	85	61	28%
	Dublin Mid Leinster	30	20	33%
	South	54	36	33%
	West	72	61	15%

In the intellectual disability nursing programme, a similar trend exists for three of the four HSE Administrative areas in that attrition increased in the 2003 programme from the previous year and then decreased again for the 2004 programme (figure 6). HSE West being the exception where there has been a gradual increase over the three years; however, HSE west displays the lowest attrition of the four areas. The trend is a little different also for intellectual disability nursing programmes in that HSE South exhibits the highest attrition of the four administrative areas.

Figure 6:



5.7 The relationship between CAO entry points and attrition rates

Is there coloration between entry points and attrition rates? In general high CAO points reflect high academic achievement. There is speculation that the higher the entry points the less the attrition. This perception may be for two reasons; students with higher points may potentially have the academic ability to complete the course. Additionally, evidence presented earlier in this report suggests that programmes with higher entry points have lower attrition and vice versa. If one looks at information presented so far; general nursing which has the highest entry points has the lowest overall attrition over the three years and intellectual disability nursing which has the lowest entry points has the highest overall attrition in the three years examined.

However, these are overall findings, therefore one needs to examine the information more closely to decipher this relationship. The CAO points cited below were sourced from the Nursing Career booklet *Nursing & Midwifery: A career for you*. (An Bord Altranais 2009). There are no CAO points available for the 2002 entry cohort therefore CAO points for 2003 and 2004 programmes only are presented in the following tables.

Table 9: Relationship between CAO entry points and attrition form GENERAL nursing programmes per HSE Administrative area

Year	HSE Admin. Area	CAO Points (range)	% Attrition
2003 - 2007	Dublin North East	325 - 350	23%
	Dublin Mid Leinster	335 - 390	21%
	South	370 - 380	17%
	West	335 - 380	8%
2004 - 2008	Dublin North East	345 - 380	10%
	Dublin Mid Leinster	360 - 380	10%
	South	370 - 400	16%
	West	345 - 405	3%

For the general nursing programme CAO points have increased in the two years examined. This indicates increased demand for places. If one examined the first preference applications (outlined in section 2.2) in these two years it transpires that in 2003 there were **3.2** first preference applicants for every place and in 2004 this had increased to **3.6** first preference applications for every place. The theory that the higher the points the lower the attrition is not supported by the figures above.

Table 10: Relationship between CAO entry points and attrition form PSYCHIATRIC nursing programmes per HSE Administrative area

Year	HSE Admin. Area	CAO Points (range)	% Attrition
2003 - 2007	Dublin North East	235 - 206	27%
	Dublin Mid Leinster	280 - 330	29%
	South	300 - 340	25%
	West	260 - 345	10%
2004 - 2008	Dublin North East	310 - 325	22%
	Dublin Mid Leinster	325 - 340	39%
	South	340 - 370	8%
	West	310 - 350	14%

The points for this programme also increased over the two years but unlike the general programme demand for places did not increase in tandem. The data above indicates that the increase in points did impact positively on attrition in HSE Dublin North East and South but had the opposite effect in HSE Dublin Mid Leinster and West. Therefore one cannot draw conclusions about the impact CAO entry points have on a students potential to complete the course.

Table 11: Relationship between CAO entry points and attrition form INTELLECTUAL DISABILITY nursing programmes per HSE Administrative area

Year	HSE Admin. Area	CAO Points (range)	% Attrition
2003 - 2007	Dublin North East	185 - 200	29%
	Dublin Mid Leinster	260	35%
	South	235 - 325	41%
	West	190 - 305	12%
2004 - 2008	Dublin North East	220 - 285	28%
	Dublin Mid Leinster	300	33%
	South	325 - 340	33%
	West	205 - 235	15%

Similar to the general programme the points along with demand for places on the undergraduate intellectual disability nursing programme has increased between 2003 and 2004 from 1.5 first preference applications per place in 2003 to 1.7 first preference applications per place in 2004. It should be noted that, of the three divisions, intellectual disability nursing has the least demand. Again from the data presented in **table 11** it is apparent that the increase in points did not enhance retention on the programme, however the points are lower than those required for general or psychiatric nursing yet the percentage of students who do not complete is higher.

6.0 DISCUSSION & RECOMMENDATIONS

6.1 Monitoring demand for places on undergraduate nursing programmes

Statistics from the Nursing Career Centre in An Bord Altranais indicates that the number of candidates selecting nursing as their first choice on CAO applications has been gradually reducing over the last number of years. Historically there have been more first preference applicants per commissioned place. As discussed earlier in the report, the numbers selecting nursing programmes as their first choice can be deceiving as this figure does not always reflect dedicated interest in and ultimate uptake of places on a nursing programme. History has revealed there can be change of mind on the students' part; students can also transfer to other courses and of course there is potential attrition during the course even if students do enrol on the first day of term. Ensuring prior awareness of course requirements on various nursing programmes and what the role of a nurse in the various distinct nursing divisions involves, can be extremely beneficial. A recent survey conducted by a regional Promoting Nursing and Midwifery as a Career Group entitled '*An Evaluation of 1st Year Undergraduate Nursing and Midwifery Students' Perceptions of Promotional and Marketing Strategies in Dublin, Kildare & Wicklow*' (NMPDU 2008) examined reasons 1st year student nurses chose nursing as a career. The report identifies what attracts students to the nursing profession and how students feel the career can be best promoted.

Recommendation 1: The focus on promotion of nursing as a career should continue, with the ultimate aim of getting the appropriate information disseminated to potential candidates so that they can make a confident and informed choice thereby reducing the likelihood of transfer or deferral from a nursing programme.

6.2 Optimally filling commissioned nursing undergraduate places

The data collected in this survey indicates that between 2002 and 2004, HEI's had difficulty in getting the balance right between making place offers to candidates and student acceptance of places. There was more than one applicant per commissioned place for all three programmes in the period studied yet some HEI's under fill their programmes whilst others over filled their programmes. The data collected reveals large discrepancies across HEI's as reflected by under filling or over filling of commissioned undergraduate nursing places; by as much as 30% in some instances. Overall, intellectual disability nursing undergraduate programme places were not filled to capacity each year whilst general and psychiatric nursing programmes fluctuated between being under or over filled over the three year period. Some HEI's were more effective than others in appropriately filling places.

The data collected does indicate however that a balance is slowly being achieved as the year's progress. Overall there was a 7% under fill of places in 2002, in 2003 there was a 6% overfill of places and in 2004 filling of places almost equated to the number of places commissioned with only 1% overfilling of places. This positive trend can only be confirmed or refuted by measurement and examination of uptake of places on future programmes. An examination of annual trends regarding the filling/uptake of commissioned undergraduate nursing programme places will reveal if HEI's are getting the balance between offers and acceptances of places hence appropriately filling nursing programmes. If places are not optimally utilised, HEI's need to be made aware of the impact/consequences of under filling or over filling of programme places.

Recommendation 2: Monitoring and reporting of uptake of commissioned undergraduate places annually in each division of nursing in each HEI is essential so that appropriate remedial action can be taken if places are not optimally utilised.

As discussed earlier, an incomplete uptake on nursing undergraduate programmes may be due to change of mind or course transfers before the programme starts. This may be in part due to lack of clarity or understanding in the students' part on how the CAO process works.

Recommendation 3: Due to the complexity of the CAO application process, there may be a requirement for greater understanding/ clarity on the students' behalf of how this process works. A greater insight may ultimately curb the number of transfers, deferrals, change of minds following programme place offers. This initiative could be linked with career promotion strategies.

It is interesting to note that whether programmes were under filled or overfilled in the three years reviewed, this did not appear to impact one way or the other on attrition.

6.3 Measuring/monitoring attrition from nursing undergraduate programmes

If the collection of data relating to student nurse attrition is consistent, the advantages for future planning are obvious. Data should be systematically collected to reflect national trends, regional variances and speciality specific variances. The role of An Bord Altranais, in relation to collection and collation of nursing statistics was set out in The Nurses Act (1985) which states that the Board is responsible for maintaining statistical records and for making such records available for research and planning, including workforce planning purposes. A four step plan for monitoring attrition rates was set out in the *Towards Workforce Planning* report (DoHC 2002) with the purpose of collecting key indicators of attrition on an annual basis in order to provide data to assist with forecasting the potential numbers of newly qualified entrants to the workforce.

However, the complex issue of measuring attrition are apparent, not just nationally but internationally. It is plagued with diverse perspectives and dimensions. In the UK the Royal College of Nursing (RCN) have called for an agreed definition of attrition so that data can be collected using the same method and therefore creating an up-to-date and accurate picture (Waters 2008a). The stimulus for such a request is the fact that there have been discrepancies between what governments and universities report as attrition. The DoHC agree in their report 'Towards Workforce Planning' (2002) that with no standard measure or consensus on dropout rate, attrition is difficult to assess.

Due to the paucity of data available to date on undergraduate attrition from nursing programmes in Ireland, it is clear that there is a deficiency in data collection and monitoring processes.

Recommendation 4: Monitoring and reporting processes for nurse undergraduate attrition statistics that have been recommended heretofore need to be reviewed. The HSE should work closely with An Bord Altranais and Higher Education Institutions to clarify and determine a definition of attrition and together devise means of effectively measuring same.

6.4 Reporting attrition from undergraduate nursing programmes

There is a plethora of information, statistics and research relating to attrition from undergraduate nursing programmes available from international sources but there is difficulty in sourcing historical information on attrition for undergraduate nursing programmes within Ireland. Therefore, the information collected from the HEI's in this report was not comparable with other sources. From a financial and workforce planning perspective it is vital that processes for collecting and reporting this information should be formalised. Each party (HEI's, ABA, DoHC, The Office of the Nursing Service Director (ONSD) and Nursing and Midwifery Planning & Development Units (NMPDU's)) should be clear about their role in the collection and reporting of this information.

Recommendation 5: Once formal processes for measuring and monitoring attrition have been agreed, a communication process for the reporting of this information should be agreed so that data relating to student discontinuation from nursing undergraduate programmes can be communicated in a timely fashion to relevant parties.

Once a communication process for the dissemination of information in relation to undergraduate nurse attrition data has been formalised, plans should be made regarding the formal analysis and reporting of this information. Measurement of attrition needs to be accurate and reported annually. This information should be available to all stakeholders. The data should be detailed enough to allow possible trends in student nurse attrition to be identified.

Recommendation 6: National and regional statistics relating to student attrition from nursing programmes should be analysed and published annually. This information could be used to generate trends and assist in providing more informed estimates for workforce planning purposes.

Recommendation 7: Each HEI should monitor their own attrition rates from undergraduate nursing programmes annually so that individual trends in attrition can be monitored and addressed appropriately.

In the period studied, general nursing had the lowest attrition (average 15% over the three years), psychiatric nursing programmes has the next highest attrition (20% average for the three years) and intellectual disability nursing programmes had the highest attrition rates. This report reveals that the three-year trend in attrition from undergraduate nursing between 2002 and 2004 was a downward one for general nursing but gradually increasing for the other two divisions (psychiatric and intellectual disability nursing). This heralds the need for action particularly for intellectual disability programmes where attrition reached 26% for the 2003 and 2004 programmes. Additionally, the higher rate of attrition from intellectual disability nursing programmes can inflate the overall rates of attrition from nursing programmes collectively or form individual HEI's. This highlights the requirement to monitor the trend in attrition from pre-registration education programmes by division. Patterns of attrition and reasons for it should be explored and examined per division so that retention efforts are concentrated in key problematic areas.

Recommendation 8: The analysis and presentation of statistics for attrition from undergraduate nursing programmes should be division specific. The findings/trends will illustrate where inputs are required to enhance retention on undergraduate programmes for specific divisions.

A regional variance in attrition from general nursing undergraduate programmes is evident from the data collected. It is apparent that attrition was higher in the more densely populated areas namely HSE Dublin Mid Leinster, followed by HSE Dublin North East. A similar regional variance is noted from psychiatric undergraduate nursing programmes in that attrition is highest in HSE Dublin Mid Leinster followed by HSE Dublin North East. A different trend emerged from intellectual disability nursing programmes in that the HSE South displayed the highest attrition of the four HSE Administrative areas.

Overall, the data collected in this survey also revealed that HEI's in the larger cities tended to have higher attrition

Recommendation 9: Particular attention should be paid to variation in attrition trends across geographical areas/ HSE Administrative areas. Alternative remedial strategies may be required for different HSE Administrative areas.

These procedures should ideally be linked with other workforce planning processes.

6.5 Exploring reasons students discontinue

Attrition rates in undergraduate nursing ultimately affect the number of qualified nurses available to work in the health service in a negative capacity as this graduate pool is an essential contributor to the nursing workforce. It is fundamental that the nursing profession develop their ability to forecast the size and characteristics of nursing resources. Workforce planning is central to ensuring the right amount of nurses with the right skills are available to work in the health service at the right time. The monitoring and development of actions to address attrition in undergraduate students is a key workforce planning activity.

Gaynor et al (2008) maintains that understanding of the factors that impact on undergraduate students and their outcomes is central to ensuring appropriate workforce planning strategies. Given the importance of student's experience in their first year in a university, there is a need to study the problems that students may encounter in adapting to third level institutions (Morgan et al 2001).

When a student nurse ceases education before completion of the course the reasons for this decision can inform actions to prevent discontinuation of future students. There is an absence of concrete information pertaining to the reasons why nurses do not complete undergraduate programme in Ireland, therefore it is difficult to make precise preventative recommendations.

Attrition levels and reasons for discontinuation need to be tracked more accurately and reported upon if appropriate and effective intervention is to be implemented. There should be a clearly defined exit procedure and the opportunity to obtain valuable information relating to reasons for leaving should be utilised. It is understood that each HEI collects a certain degree of information regarding students reasons for leaving but this information is not formally analysed or reported outside of individual HEI's other than to An Bord Altranais in their annual report.

Recommendation 10: Evaluate current systems used to collect information on students' reasons for leaving undergraduate programmes and adapt and standardise this data collection process to determine reasons why student nurses discontinue from undergraduate programmes.

Recommendation 11: The reasons students discontinue nursing programmes should be explored, analysed and reported upon from a national, regional and institutional perspective. This information should be used to inform appropriate retention strategies e.g. information could be presented by HEI's and discussed at joint working groups with service representatives to formulate preventative solutions.

6.6 Addressing attrition from undergraduate nursing programmes

The overall combined attrition from nursing programmes commencing 2002, 2003 & 2004 was 15% from General nursing programmes, 20% from psychiatric nursing programmes and 25% from intellectual disability nursing programmes.

These statistics compare favourably with international statistics presented in the literature review. However, as noted earlier, comparisons should be made with caution as various definitions of attrition exist and formulas for calculating same can also differ.

Nevertheless, the attrition statistics revealed in this report have individual, financial and workforce planning consequences. Therefore, efforts should be made to reduce the rate of attrition.

Recommendation 12: Strategies to reduce attrition from undergraduate nursing programmes should be formulated and implemented. The catalysts which can contribute to attrition and the factors which can potentially reduce attrition which are discussed in the literature review should be considered when formulating a student retention strategy. The impact of implementing such retention strategies should be evaluated by monitoring attrition statistics.

As discussed earlier, the Higher Education Authority (HEA) provides funding to HEI's to focus on retention of students in all undergraduate programmes, of which nursing is a component. The Inter- Universities Retention Network actively encourage and support the sharing of information between educators, academics, tutors, administrators, managers and leaders in higher education to discuss the issue of student retention. Further collaborative research work between hospital training sites and HEI's would be of value to make progress on improving student retention.

Recommendation 13: The HSE should liaise closely with HEI's regarding their retention initiatives when formulating a strategy to reduce undergraduate student nurse attrition.

6.7 Exploring the relationship between academic ability and attrition

There is a strong link between academic achievement/ability and successful completion of undergraduate education programmes in the literature. This suggests that the higher the entry points required for entry to an academic programme, the lower the attrition. The data collected in this survey was compared with the CAO entry points required at the time to see if there was a link between entry points and attrition rates. In general entry points required increased in 2004 compared to 2003 across all HEI's and programmes but there was not a corresponding decrease in attrition. However, of the three divisions, general nursing requires the highest entry points and in the three years studied attrition is lowest in this division. Intellectual Disability Nursing has the highest attrition and has the lowest entry point requirements of the three divisions.

The analysis was inconclusive however which indicates that more exploration and analysis of this phenomenon is required.

Recommendation 14: The correlation between academic ability (as determined by CAO points) and attrition rates needs to be explored in more depth in order to prove/ discount the speculation that there is a positive correlation between academic achievement and successful student outcome.

6.8 Continuous review of undergraduate requirement to meet service demand

Ensuring a guaranteed supply of nursing staff for the delivery of nursing and midwifery services is essential. The undergraduate portion of this supply source should be kept under continuous review. Gaynor et al (2002) recommend that nursing needs to monitor and examine attrition trends over time, and provide data to inform appropriate numbers of undergraduate funded places.

There is a need for prior identification of the numbers of qualified nurses required in order to be proactive in meeting service needs. Therefore the number of undergraduate student nurse places commissioned and available would have to be flexible and decided on a year to year basis to meet this fluctuating service demand. This recommendation is in line with by DoHC - Towards Workforce Planning (2002) who recommended that pre-registration nursing education places for general, psychiatric and mental handicap nursing should continue and be reviewed in light of workforce plans. Being cognisant of the fact that programmes run over four years, projections need to be determined well in advance in order to ensure that adequate numbers are trained and in the appropriate speciality.

Recommendation 15: The required number of undergraduate students nurse/midwife commissioned places should be constantly reviewed and undertaken in tandem with other workforce planning strategies.

Cognisance should be taken regarding other workforce planning and capacity building policies and activities that are in progress within the HSE. Currently FAS are undertaking a review of future healthcare needs. This report will be published imminently and findings and recommendations should inform future planning in relation to undergraduate training requirements.

Recommendation 16: The findings and recommendations of the Expert group on Future Skills Needs (FAS) Report should inform/advise future work in relation to reviewing and planning undergraduate requirements.

7.0 CONCLUSION

Research has demonstrated that there is global concern over the issue of attrition from nursing education programmes and Ireland is no exception. High attrition rates in undergraduate nursing ultimately affect the number of qualified nurses available to work in the health service in a negative capacity as this graduate pool is an essential contributor to the nursing workforce. Staff requirements are a complex resource to manage and plan, this highlights the need to have structures in place that provide the necessary data to forecast and plan future need. Workforce planning is central to ensuring that strategies are developed to ensure that there are sufficient numbers of appropriately qualified and trained staff to meet the strategic and operational needs of the service. This highlights the need for prior identification of the numbers of qualified nurses (to include undergraduate source) required in order to be proactive in meeting service needs.

Reliable and consistent attrition data should be the cornerstone of good management practice. With no standard measure or consensus on current attrition rates, this leaves the phenomenon difficult to assess. Attrition levels and reasons for discontinuation need to be tracked more accurately if appropriate and effective intervention is to be implemented. There should be standard systems designed and developed to facilitate the collection and maintenance of accurate data on student progression and attrition.

Collecting key indicators of attrition on an annual basis to provide data which will assist with forecasting the potential numbers of newly qualified entrants to the nursing workforce is essential. This data should be systematically collected to reflect national trends, regional variances and division specific variances.

There should also be a mechanism to identify students who may be at risk of withdrawing from nursing programmes so that the necessary retention strategies/ supports can be implemented.

The heightened focus on pre-registration undergraduate nurse attrition as outlined in this report and the awareness of the critical need to maximise student nurse retention will initiate appropriate interventions which will contribute to students 'staying the course'. Without established initiatives the attrition rates may continue to be problematic. Undergraduate student nurses are the nurses of the future, they need to be valued and recognised as a valuable part of the health service of the future.

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Appendix 1: Example of data collection templates sent to HEI's

Course commencement 2002 - Course completed 2006

HEI	Healthcare Agency	Number of commissioned students places	Number of Student Places filled in 2002	Number of students graduated in Summer 2006	% Attrition during the programme
DCU					
General	Beaumont Hospital	75			
General	Connolly Hospital	27			
Intellectual Disability	St Josephs ID services	15			
Intellectual Disability	Daughters of Charity, Clonsilla	35			
Mental Health	St Ita's, Portrane /St Brendans/Conolly Norman Hospitals	40			
Mental Health	St Vincent's Hospital, Fairview	20			
TCD					
General	Adelaide and Meath AMNCH	148			
General	St James Hospital				
Intellectual Disability	Moore Abbey	40			
Intellectual Disability	Stewarts Hospital				
Mental Health	South & West Dublin, Kildare, Wicklow Mental Health Services	45			
Mental Health	St Patrick's Hospital				
UCD					
General	Mater Hospital	75			
General	St Michael's Hospital, DunLaoighaire	40			
General	St Vincent's Hospital, Elm Park	65			
Mental Health	St John of Gods, Stillorgan	15			
Total					

APPENDIX 2:

Higher Education Institutions which provide undergraduate nursing programmes

HSE Administrative Area	HEI	Nursing Programme		
		General Nursing	Psychiatric Nursing	Intellectual Disability Nursing
Dublin North East	Dublin City University	✓	✓	✓
	Dundalk University	✓	✓	✓
Dublin Mid Leinster	Athlone IT	✓	✓	x
	University College Dublin	✓	✓	x
	Trinity College Dublin	✓	✓	✓
South	IT Tralee	✓	✓	x
	University College Cork	✓	✓	✓
	Waterford University	✓	✓	✓
West	Letterkenny IT	✓	✓	✓
	Mayo Galway IT	✓	✓	x
	NUI Galway	✓	✓	x
	St Angela's Sligo	✓	x	✓
	University of Limerick	✓	✓	✓