Data enhancement to support nursing and midwifery student recruitment and retention: the Scottish Experience

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Reshaping the nursing workforce

Outline

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Institutional framework

Data

Progression within pre-registration training

Avenues for future work

1. Institutional framework
   - Training market in Scotland

2. Data
   - Source
   - Structure

3. Progression within pre-registration training
   - Measurement
   - Determinants
   - Prediction

4. Avenues for future work

Controlled subject

- 8,044 FTE funded by Scottish Funding Council in 2011
- Intake target decreased by 10% in 2012 to 2430 FTE

Relatively low completion rates

- Attrition of 26.3% from 2006 cohort

Public sector subsidies

- Main Teaching Grant £55.3m in 2011 (£6880 per FTE)
- Nursing and Midwifery Student Bursary £66.7m in 2009

Budget

- Training budgets planned to decrease in real terms until 2014

Data for all Scottish nursing and midwifery programmes leading to registration or recording with the NMC is submitted to the NES records team from HEIs at the following events

- Commencement
- Discontinuation
- Completion

Therefore at any point in time each student is in one of three states

- Active
- Inactive
- Eligible

PIN	Start	Discontinue	Eligible	Course	HEI
1	01-Oct-05		01-Jun-08	Adult	A
2	01-Oct-05	01-Jun-06		Adult	A
3	01-Oct-05	01-Jun-06		Adult	A
3	01-Oct-06		01-Jun-09	Adult	A
4	01-Oct-05	01-Jun-06		Adult	A
4	01-Oct-06		01-Jun-09	Children's	A

Eligible

Cumulative Incidence Functions
estimate the probability of an
event occurring before t

- CIF for eligible students on
  36-month courses
  1998-2008
- Discontinuity at 36 months
- Substantial minority of
  students are eligible after
  36 months

Cumulative Incidence Functions estimate the probability of an event occurring before t

- CIF for inactive students on 36-month courses 1998-2008

- Concave: students more likely to become inactive at the start of their course

- Smooth: no obvious discontinuities

Eligible

Eligible

Probability vs Analysis time (days)

Legend:
- 36N
- SCHS
- CCRFLN
- 18M
- SCFG
- HDC
- CCRSLN

Progression within pre-registration training
Significant determinants of five-year completion rates

- Age

- Sex

- Educational qualifications

- Intake

- Course

- Institution

- Age
  - older students were more likely to complete

- Sex

- Educational qualifications

- Intake

- Course

- Institution

- Age
  - older students were more likely to complete

- Sex
  - 10% difference between men and women

- Educational qualifications

- Intake

- Course

- Institution

Progression within pre-registration training
Significant determinants of five-year completion rates

- Age
  - older students were more likely to complete

- Sex
  - 10% difference between men and women

- Educational qualifications
  - 11% difference between Access certificate and 3 or more Highers

- Intake

- Course

- Institution

NHS Education for Scotland

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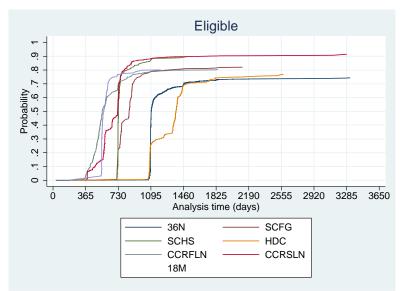
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Progression within pre-registration training
Significant determinants of five-year completion rates

- Age
  - older students were more likely to complete

- Sex
  - 10% difference between men and women

- Educational qualifications
  - 11% difference between Access certificate and 3 or more Highers

- Intake
  - 3.5% difference between Autumn and Spring

- Course

- Institution

Education
for
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Significant determinants of five-year completion rates

- Age
  - older students were more likely to complete

- Sex
  - 10% difference between men and women

- Educational qualifications
  - 11% difference between Access certificate and 3 or more Highers

- Intake
  - 3.5% difference between Autumn and Spring

- Course
  - 6% difference between Midwifery and Adult

- Institution

Progression within pre-registration training
Significant determinants of five-year completion rates

- Age
  - older students were more likely to complete

- Sex
  - 10% difference between men and women

- Educational qualifications
  - 11% difference between Access certificate and 3 or more Highers

- Intake
  - 3.5% difference between Autumn and Spring

- Course
  - 6% difference between Midwifery and Adult

- Institution
  - 7% difference between institutions

	p	$(1-p)$	
$\hat{p}$	0.72	0.26	0.99
$(1-\hat{p})$	0.01	0.01	0.01
	0.73	0.27	1.00

- Too much noise to predict at-risk students with these factors alone
- Residual variation is at the student level

Local labour market factors

- Wages
- Employment

Placements

- Timing
- Experience

Socioeconomic status

- Household income

Demographics

- Family composition

Progression within pre-registration training

- Determinants
- Prediction
- Impact of recruitment and retention strategies

Progression between training and employment

- Determinants
- Prediction
- Impact of recruitment and retention strategies

Methods can be applied across the UK

- Institutional framework
    - Organisation of training
- Data
    - Source, structure and content of data
- Collaborators