Nursing Numeracy

The case for a benchmark

Mike Sabin, Carol Hall,
Diana Coben, Meriel Hutton, Norman Woolley,
Keith Weeks

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Nursing Numeracy

- Core Skill for professional practice
- Contextual
- Practice-orientated
- Exemplars
Such Exemplars Include......

- Drug administration
- Drug prescribing
- Fluid balance calculation
- Assessing Children’s nutritional needs
- Intravenous fluid requirements/rates
- Calculations related to weight/BMI
- Administration
- Plotting and recording data
- Understanding research and evidence
We are developing a national benchmark in numeracy for nursing related to medication related calculation...........

...........derived from research-based principles in:

- adult learning

- supported, contextualised numeracy

learning for safe practice
Why Benchmark Medication related Calculation?

- Nursing and Midwifery Council already require Universities to judge maths ability at entry and at registration (NMC, 2004)

- Medication related error rates remain high 41,217 to July 2006 (NPSA, HCC, 2006) Employers are charged with reducing error rates year on year (DoH 2002)

- New nurses can expect employers to include maths assessment as part of the interview process, and within their employment.

- Perceptions of poor maths in nursing sells newspapers........
A Third of New Nurses Fail Simple English and Maths Test....

By Celia Hall, Medical Editor
Daily Telegraph
Last Updated: BST 05/08/2006

These are the types of questions the ‘rigorously’ tested Christ Church students were having trouble with

You start your late shift at 8 p.m. Which of the following times is the same as 8 p.m?
- a 18.00  b 19.00  c 20.00  d 21.00

Ambulance staff have a holiday entitlement of 27 days per year, rising to 33 days after 10 years' service. Putting the small number first, how many must you add to get the larger number?
- a 4  b 5  c 6  d 7

Under the Agenda for Change, all directly employed staff of the NHS will work thirty seven and a half hours per week. One half hour is?
- a 15 minutes  b 20 minutes  c 30 minutes  d 45 minutes

The price of a prescription is six hundred and fifty pence. What is the correct format for the price of a prescription in decimal nomination?
- a £6.50  b £6.50  c £65.0  d £6.05

Blood can be frozen and stored for 10 years. The temperature of frozen blood must be greater than -40 degrees. Blood can be frozen at 40 degrees below zero. If frozen blood gets 40 degrees colder, what is the new temperature?
- a -80 degrees  b -0 degrees  c 0 degrees  d 40 degrees

One non-emergency volunteer driver carries six people in one journey. How many journeys must the driver make if he is to transport 24 patients?
- a 3  b 4  c 5  d 6
How Can a Benchmark Support Students?

- **Students in Nursing must be prepared effectively for professional practice**
  ............. A benchmark introduces a clear standard to be met.

- **Students need to be supported most effectively by their Lecturers**
  ............. A properly constructed benchmark could enhance teaching and learning as lecturers would have an evidence based outcome. A gold standard for teaching and materials can be tested. Interim support towards the benchmark can be devised and tested too.

- **Students who qualify need to be employed**
  ............. Nurses who attend employment interviews currently find different standards and, modes of testing and different levels of expectation – This is ineffective and stands to exacerbate stress and anxiety for applicants.
Numeracy for nursing needs to be:

Robust: to cope with stress, anxiety and time pressures

Situated in the nursing/healthcare context and capable of generating:

• independence
• good judgement (e.g., on how accurate to be, when to estimate, within what tolerance and why)
The Stakeholders

Educators

Students

Regulators

 Employers

The Public
Good practice principles for numeracy benchmark assessment

- Evidence-based literature in the field of nursing numeracy strongly supports a realistic approach to the teaching and learning of calculation skills, which in turn deserve to be tested in an authentic environment.

- The assessment tool should determine competence in the key elements of the required competence.

- There should be an element of differentiation between the requirements for each of the branches of nursing.
Good practice principles cont.

• The assessment should be consistent with the principles of adult numeracy learning teaching and assessment, having an enablement focus

• The assessment tool should provide a diagnostic element, identifying which area of competence has been achieved, and which requires further intervention

• The assessment should be able to demonstrate a clear relationship between ‘test’ achievement and performance in the practice context
Good practice principles cont.

The tool should provide:
- a unique set of questions with a consistent level of difficulty
- a structured range of complexity
- questions derived from authentic settings

- The assessment should take place within a defined framework, at points by which students can be effectively prepared, while allowing time for supportive remediation

- The assessment should be easy to administer, providing the opportunity for rapid collation of results, error determination, diagnosis and feedback