

### What is already known on this subject

Chest pain observation units have the potential to improve care for patients presenting with acute, undifferentiated chest pain and reduce costs to the health service

Care in the chest pain observation unit is safe and practical, but reliable evidence of effectiveness and cost effectiveness is lacking

### What this study adds

Care in the chest pain observation unit reduces hospital admissions without increasing inappropriate discharges with an acute coronary syndrome

Health utility is improved while costs to the health service are reduced

Care in the chest pain observation unit is therefore more effective and more cost effective than routine care

### Limitations

Since randomisation takes place before recruitment and consent to participate, it is possible for selection bias to influence results. We attempted to reduce this possibility by rigorous recording of selection criteria and by adjusting for known confounders in secondary analyses. This cannot, however, completely rule out the potential influence of selection bias. Secondly, since it is impossible to blind participants to the fact that they are receiving care in the chest pain observation unit or routine care, it is possible that a measure reported by patients, such as the EQ-5D, may be influenced by the patients' awareness that they are receiving "new" or routine care. Finally, further research is required before we can generalise the results from the Northern General chest pain observation unit to other hospitals.<sup>16</sup>

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**Competing interests:** SG, FM, SC, KA, JA, SR, and TL were involved in establishing and developing the Northern General Hospital chest pain observation unit. KA, JA, and SR are currently employed as chest pain nurses running this chest pain observation unit. JN, SD, EC, SJC, and DQ have no competing interests to declare.

**Ethical approval:** North Sheffield Research Ethics Committee.

- 1 Clancy M. Chest pain units. *BMJ* 2002;325:116-7.
- 2 Goodacre SW. Should we establish chest pain observation units in the United Kingdom? A systematic review and critical appraisal of the literature. *J Acad Emerg Med* 2000;17:1-6.
- 3 Goldman L, Cook EF, Brand DA, Lee TH, Rouan GW, Weisberg MC, et al. A computer protocol to predict myocardial infarction in emergency department patients with chest pain. *N Engl J Med* 1988;318:797-803.

- 4 Pozen MW, D'Agostino RB, Selker HP, Sytkowski PA, Hood WB. A predictive instrument to improve coronary-care-unit admission practices in acute ischaemic heart disease. A prospective multicenter study. *N Engl J Med* 1984;310:1273-8.
- 5 Fesmire FM, Percy RF, Bardoner JB, Wharton DR, Calhoun FB. Usefulness of automated serial 12-lead ECG monitoring during the initial emergency department evaluation of patients with chest pain. *Ann Emerg Med* 1998;31:3-11.
- 6 Fesmire FM, Percy RF, Bardoner JB, Wharton DR, Calhoun FB. Serial creatinine kinase (CK) MB testing during the emergency department evaluation of chest pain: utility of a 2-hour deltaCK-MB of +1.6ng/ml. *Am Heart J* 1998;136:237-44.
- 7 Hamm CW, Goldman BW, Heesch C, Kreyman G, Berger J, Meinertz T. Emergency room triage of patients with acute chest pain by means of rapid testing for cardiac troponin T or troponin I. *N Engl J Med* 1997;337:1648-53.
- 8 Kirk JD, Turnipseed S, Lewis RL, Amsterdam EA. Evaluation of chest pain in low-risk patients presenting to the emergency department: the role of immediate exercise testing. *Ann Emerg Med* 1998;32:1-7.
- 9 Department of Health. National schedule of reference costs. London: DoH, 2002. [www.doh.gov.uk/nhsexec/refcosts.htm](http://www.doh.gov.uk/nhsexec/refcosts.htm) (accessed 15 Dec 2002).
- 10 Netten A, Rees T, Harrison, G. *Unit costs of health and social care*. Canterbury: Personal Social Services Research Unit, University of Kent, 2001.
- 11 Briggs A, Fenn P. Confidence intervals or surfaces? Uncertainty of the cost-effectiveness plane. *Health Econ* 1998;7:723-40.
- 12 Raftery J. NICE: faster access to modern treatments? Analysis of guidance on health technologies. *BMJ* 2001;323:1300-3.
- 13 Farkouh ME, Smars PA, Reeder GS, Zinsmeister AR, Evans RW, Meloy TD, et al. A clinical trial of a chest pain observation unit for patients with unstable angina. *N Engl J Med* 1998;339:1882-8.
- 14 Roberts RR, Zalenski RJ, Mensah EK, Rydman RJ, Ciavarella G, Gussow L, et al. Costs of an emergency department-based accelerated diagnostic protocol vs hospitalization in patients with chest pain. A randomized controlled trial. *JAMA* 1997;278:1670-6.
- 15 Gomez MA, Anderson JL, Karagounis LA, Muhlestein JB, Mooers FB. An emergency department-based protocol for rapidly ruling out myocardial ischaemia reduces hospital time and expense: results of a randomized study (ROMIO). *J Am Coll Cardiol* 1996;28:25-33.
- 16 Goodacre S, Nicholl J, Beahan J, Quinney D, Capewell S. National survey of emergency department management of patients with acute, undifferentiated chest pain. *Br J Cardiol* 2003;10:50-4.

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### Corrections and clarifications

#### *Three journals raise doubts on validity of Canadian studies*

Three errors crept into this news article by Caroline White (10 January, p 67). In the sixth paragraph we inadvertently referred to datasets in two papers being the same, instead of two sets of patients being the same. In the following paragraph, we referred to the number of digits remembered by patients as part of a memory test. The numbers given in the submitted paper refer to scores, however, so cannot be reliably converted into digits. The relevant sentence should therefore read: "One was the implausibly high score relating to the number of digits remembered by the participants." Lastly, Dr Jack Strawbridge is director of faculty relations (not labour relations) at Memorial University.

#### *Clinical arithmetic*

A missing "t" in the author's email address may have prevented you from writing to Colin Currie about his editorial in the Christmas issue (*BMJ* 2003;327:1418-9; doi:10.1136/bmj.327.7429.1418). We slipped up here, although we can't work out what went wrong in our process, as we did mean to add the "t". The correct email address is [drocolintcurrie@hotmail.com](mailto:drocolintcurrie@hotmail.com)

#### *Of Struldbruggs, sugar, and gatekeepers: a tale of our times*

A crucial word change phoned to us by the author somehow did not find its way into the published version of this article by David Kerr in the Christmas issue (*BMJ* 2003;327:1451-3). The "standfirst" (the bit of editorial text that sits under the title to tempt you to read the article) should have read: "Socially isolated, depressed old patients most often end up on the diabetes wards after someone notices their blood sugar is high [not "low"] and all other specialists have lost interest."