The Rural General Hospital Model: A rapid needs appraisal to inform its development and implementation in Scotland

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BACKGROUND

A Rural General Hospital model described by a report of the national remote and rural workstream as:

“The RGH undertakes the management of acute medical, surgical emergencies and is the centre for the community, including the place of safety for mental health emergencies. It is characterised by more advanced level of diagnostic services than a Community Hospital and will provide a range of outpatient, daycase, inpatient and rehabilitation services.”

Six hospitals in Scotland were identified as Rural General Hospitals:

The model was described using hospital-based activity non-standardised for age and not informed by external evidence-base which doesn’t ask or assess whether current activity is proportionate to healthcare needs.

The North of Scotland Public Health Network was approached to assess what the model would mean in terms of meeting the population healthcare needs i.e. could/hould one model fulfil the healthcare needs of the rural populations around the six hospitals?

Time and resource constraints meant that a full health needs assessment could not be carried out.

OBJECTIVES

A rapid needs assessment was undertaken to establish:

1. the evidence base for healthcare services in Rural General Hospitals
2. how safe and quality can be assured in RGH
3. the sustainability issues and how they can be addressed
4. to what degree are the needs of the catchment populations around RGHs currently being met

METHODOLOGY

Methods used were:

1. A literature review (to address (1) to (3) above)
2. Analysis of population-based hospital activity data that was routinely available (to address (4) above)

LITERATURE REVIEW

Method

- Systematically retrieved from both electronic databases and from the grey literature.
- Search was limited to English language, and studies carried out in the UK, Australia, New Zealand, Canada, the United States and Western Europe.
- Two reviewers with an iterative approach.
- Thematic content analysis used i.e. recording the aspect of remote and rural health addressed in the paper.
- Evidence was graded according to hierarchy as per SIGN.

RESULTS

- Intensivist care should be provided only for low risk women with no identified risk markers at the time of birth and who have normal weight babies. (Level 2+)
- RGHs should have a defined level of diagnostic capability. (Level 3)
- Better outcomes for many of the cancers are associated with specialised care and if cancer care is to be delivered locally, it should involve shared care with outreach clinics and deliver the same outcomes. (Level 2+)
- Recruitment should take account of both nature and nurture factors i.e. rural backgrounds not necessarily help Scottish-based and involve specialist training programmes designed to promote rural healthcare. Although multiple barriers to retention exist, access to flexible continuous medical education including maintenance of advanced procedural skills is an important requirement. (Levels 2+ to 3)

ANALYSIS OF ROUTINELY AVAILABLE HOSPITAL DATA

Specifications

- SMR01 data (inpatients, with or without procedure and daycases, with only a primary procedure) covering the resident population in Scotland FYE 2004 to 2006 (3 years).
- Relative uptake based on expected as per the national age/sex specific rates and the observed for each catchment population.
- Specialties inclusive of all acute medical and acute surgical. GP other than obstetrics care provided in hospitals was included in the acute medical activity but also described separately.
- Catchment populations estimated from general medical uptake by data zone for mainlined RGHs.

From the literature review:

- Very little high grade evidence other than around obstetric care, recruitment of medical staff and cancer care
- From the analysis of routinely available data

3 TYPES OF ANALYSIS

1. Compare the hospitalisation rates of the catchment population (B) with the national average (A) by indirect standardisation method.
2. Proportion of catchment populations hospitalisation rate taken up at local RGH (C as a % of B)
3. Profile of uptake within each RGH from local or non-local flow (D + E) by main diagnosis and procedure

For each hospital for consultant episodes or by patients:

- Standardised hospitalisation ratio* for catchment populations’ and proportion of activity taken up at RGH

SUMMARY OF CONCLUSIONS

From the literature review:

- Little commonality in daycase procedures between hospitals
- Some major procedures are carried out in very small volumes (e.g. mastectomies) in certain RGHs
- In the medical specialties, the average consultant episodes per patient varied between RGHs from 1.1 to 4.0
- The percentage of acute medical activity by admission type varied between RGHs e.g. 56-85% emergency and 4-21% transfers

LESSONS LEARNED USING WITH THE RAPID NEEDS APPRAISAL

There were some key advantages in adopting it:

1. Making it clear that this was not an end product in itself - consultation of the results with clinicians was to be an equally important part of the needs assessment e.g. the discrepancies with the national average and the variations between hospitals still need to be explained by mapping patient pathways - a process that can only be adequately done by RGH-based clinicians.
2. Highlighting that the needs test did not provide the full activity profile of RGHs outpatient activity was not captured hence this is inadequately coded for procedure or diagnosis.
3. Flagging up that coding practices by the hospitals will have contributed to some of the variations found between hospitals.
4. Appreciating that perceptions of hospital activity by clinicians do not necessarily match the definitions used to collect activity data e.g. definition of emergency admissions.

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