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<th>Hospitals must become 'focused factories'</th>
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Secondly, dietary intakes were recorded between 9 and 20 weeks’ gestation (mean 16.3 weeks). Our studies of nutritional intakes in east London have consistently shown that maternal nutrition before the end of the first trimester of pregnancy is related to birth weight. In a randomised controlled trial, although intakes of protein, six vitamins, and four minerals recorded by 513 women during the first trimester, were highly correlated with birth weight, supplementation with a broad based nutritional supplement starting in the second trimester failed to show a reduction in the incidence of low birth weight. Programme of nutritional intervention both preconception and during the first trimester with low income women in the United States have shown a reduction in the incidence of low birth weight.

To generalise the failure to find a relationship between low birth weight and maternal nutrition from this limited study is stretching the conclusion far beyond the evidence.

Wendy Doyle, senior research officer in nutrition, wendydoyle@nutrition.simplyonline.co.uk

Michael Crawford, professor of nutritional biochemistry
Institute of Brain Chemistry and Human Nutrition, University of North London, London N7 8DB

Kate Costello, professor of paediatrics
St Bartholomew’s and the Royal London Hospital School of Medicine and Dentistry, Homerton Hospital, London E9 6SR


Authors’ reply

Editor—Doyle et al argue that our failure to detect relations between birth weight and maternal diet was because our cohort was too high in social class and contained too few infants of low birth weight. However, the social class distribution of our subjects was similar to that of a nationally representative sample and to the cohort studied by Barker and colleagues.1 We based social class on the woman’s occupation, or that of her partner if this gave a higher grouping. Using the partner’s occupation alone would classify 62% of our cohort as manual/unemployed, compared with 30% of Doyle et al’s cohort.

Doyle et al were more interested in low birth weights than in the whole range. We specifically included only term infants—excluding many babies of low birth weight—to permit comparisons with Barker’s study. Nevertheless, at the time of recruitment our cohort was drawn from a population with an incidence of low birth weight (6.4%) similar to that of England and Wales (6.5%).1 Separate analyses using our entire cohort have found no associations between intake of any nutrient and poor outcomes of pregnancy, including preterm delivery and low weight for gestational age.2 Dietary data were available in our study for 51 mothers who delivered infants of low birth weight (<2500 g), compared with 28 in Doyle et al’s work.

The suggestion that pregnancy outcome is influenced by maternal diet in the first but not in the second trimester contrasts with Barker and colleagues’ work. Most women in Doyle et al’s project were probably 9-12 weeks pregnant. In our study all women were between 9 and 20 weeks’ gestation (mean 16 weeks). Even accounting for morning sickness, it seems improbable that the diets of our mothers would have been sufficiently different a few weeks earlier to have produced completely contrasting results.

Finally, Doyle et al argue that the mothers in our study had diets insufficiently poor to permit us to see a relationship with birth weight. Unfortunately, the distribution of intakes in Doyle et al’s study has not been published, so we cannot compare our study with theirs. Although 39% of our cohort had intakes below the reference nutrient intake for all nutrients examined except thiamin and vitamin B-2, we are now analysing the relations between pregnancy outcome and biochemical indices of nutritional status, paying particular attention to factors such as smoking and height, which complicate the interpretation of studies such as those presented by Doyle et al.

Fiona Mathews, university research officer
Department of Zoology, University of Oxford, Oxford OX1 3PS

Patrick Yalden, university lecturer
Andrew Neil, university lecturer
Division of Public Health and Primary Health Care, Institute of Health Sciences, University of Oxford, Oxford OX3 7LF


Assessing palliative care is difficult

Editor—Keeley rehearsesthe problems of recruitment, attrition, data collection, and ethical concerns which make Doyle et al’s research on palliative care so difficult.1 We recently conducted a comprehensive systematic review of the evidence for the effectiveness of different models of palliative care, commissioned by the NHS Executive.2,3

Our team reviewed more than 800 papers, but despite this volume of literature it was difficult to reach clear conclusions about any of the questions we considered. In addition to those listed by Keeley there are problems in the use of inappropriate outcome measures, the unreliability of using carers as proxies to provide assessments, the heterogeneity of patients receiving palliative care, rapid fluctuations in patients’ conditions, and the difficulty of generalising from local evaluations when other local support services vary so widely. These problems should now be familiar to, and anticipated by, researchers and funding bodies. Small scale, underfunded, and underpowered randomised controlled trials can no longer be supported. Well conducted observational studies, qualitative research, and a careful description of the process of care and the context may provide more useful information for evaluating local services.

At the national level, however, it would be possible to conduct a large scale trial of palliative home care teams. This would need to include several sites, with patients randomised by practice or by district.4 Although such a study would be expensive to mount, it would be a better investment than many small, inconclusive studies. It would also be fully justified in the light of the considerable national interest in different models of palliative care services, when evidence of effectiveness is lacking.

Chris Salisbury, consultant senior lecturer
Division of Primary Health Care, University of Bristol, Bristol BS8 2PR c.salisbury@bristol.ac.uk

Nick Bosanquet, professor of health policy
Department of Primary Health Care, Imperial College School of Medicine, London W2 1PG


Hospitals must become “focused factories”

Editor—I agree with Wilson that we will see many more specialised, niche-type health-care facilities in the future rather than the all purpose giant mammoths that dominate the hospital landscape currently.1 I believe, however, that this paradigm change will be brought about for reasons of operational efficiency as much as through technological advances.

There is a steep learning curve for most medical interventions. Centres that have a higher volume of cases generally report better clinical outcomes at a lower cost than do centres with a lower volume of cases.2,3 This phenomenon seems to hold true for most interventions irrespective of the technological sophistication involved.2,4 The experience of Shouldice Hospital in Ontario, Canada, is typical. The hospital performs only

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Hypotonic fluids to children at home. Lighted the dangers from giving excessive the medical community. Hypotonic intra-abdominal hernia repair, a relatively low tech procedure. Yet its excellent outcomes, low relapse rates, and relatively low costs have prompted former patients to celebrate anniversaries of their operations with a gala banquet every year. What is so special about the hospital? It is a “focused factory.” The term focused factory was first coined by Skinner, a Harvard Business School professor, when he argued that complex and overly ambitious factories were at the heart of the American productivity crisis in the late 1960s and early 70s. He concluded that “simplicity and repetition breed competence.” The parallel with the current healthcare industry is striking. Costs are soaring while most health indicators have remained static. In short, there is an efficiency and productivity crisis in healthcare provision.

Previous attempts to rectify this problem have met with little success: managed care has so far failed to satisfy Americans, and reforms of the NHS have yet to deliver its promise. It is high time for hospitals to learn how to focus on a limited and manageable set of services. Hospital chiefs must learn to structure policies and supporting services so that they focus on a few explicit objectives instead of many conflicting and inconsistent goals from different clinical departments. Only then can they realise the enormous clinical and financial economies of scale that have made Shouldice Hospital the envy of general surgical units everywhere.

Procedure (or organ system) based focused factories are already proliferating in the form of centres of excellence in some parts of the world. I believe that we should continue to move towards the focused factory model in delivering hospital services. Therein lies one solution to our current efficiency and productivity crisis.

Gabriel M Leung assistant professor Department of Community Medicine, Faculty of Medicine, University of Hong Kong, Hong Kong gmlueung@hku.hk

2 Bennett CL, Adams J, Bennett RL, Rodrique D, George L, gmleung@hku.hk

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Letters

Rapid responses

Correspondence submitted electronically is available on our website

Time could be the active ingredient in post-trauma debriefing

Editor—Evidence exists that debriefing after trauma is ineffective. I was one of three psychologists who ran post-trauma debriefing sessions after a fatal accident in a factory. Each psychologist dealt with a group of 10–15 workers and later we compared outcomes.

One psychologist said that staff were angry with management for allowing the accident to happen, but that she had successfully settled them down. The other said that just a little anger had been expressed. No anger had been expressed in my group at all, so I asked the other psychologists what they had said to their groups.

The first had done classic debriefing, warning workers that they might feel anger and other symptoms. The second had talked about how to handle any feelings that might arise, with less emphasis on listing the possible outcomes. I was already suspicious of “debriefing,” so I had taken what I called “the Country Women’s Association approach.” Country women have dealt with disasters for centuries and probably understand trauma better than psychologists do. They put up a tent near the site of the accident, keeping people comfortable, supported, and fed until they feel able to go home. This sounds just like the well tested behavioural treatment called exposure.

So I kept the tea and coffee flowing and protected the group against emotionally disturbing influences until everyone settled down. I explained what we were doing (waiting comfortably for reactions to settle, to prevent fear being learnt). They could relate to that and gave their own examples. I didn’t pressure anyone to volunteer symptoms. Mostly people just chatted to each other. I prompted people to speak about their best memories of the man who had died. I said that some people might find thoughts coming back and I told them how to deal with that. Anyone who was troubled could see me or ring me. Two people did, both of whom said that they had pre-existing problems and that the accident had brought those problems back to the surface.

So when dealing with people after an accident we need to remember that emotionally aroused people are suggestible. If we suggest that they might feel angry it is likely to be true. And if the secret of treatment is simply to keep people there for 90 minutes or so, feeling safe in the presence of the fearful thing, then we might need to consider eliminating the more confronting parts of the standard debriefing session.

David Brown consulting occupational psychologist Airport Health Centre, Mascot, NSW 2020, Australia davidbrown@onaustralia.com.au

1 Yamey G. Psychologist’s question “debriefing” for trauma-related employees. BMJ 2000;320:140. (15 January)

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