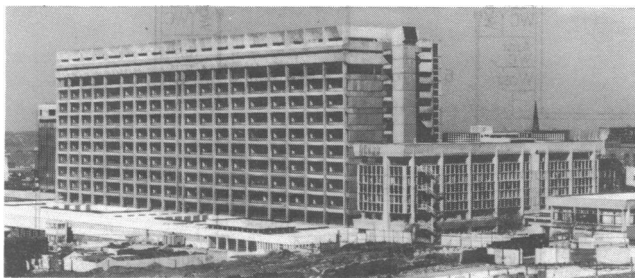


## Liverpool Royal Infirmary



Liverpool is an extreme case but it illustrates many of the things that went wrong in the '60s and '70s. Phases II and III were started in 1968 and due for completion in 1974 at a cost of £11.8m. The contractor got into financial difficulties early on and the site was dogged by strikes and pay claims. In 1975 the contractor went out of business and first one then another contractor was brought in to finish it. There were extra costs for remedying defects, for increasing the content of the hospital, and for bringing it up to current regulations on energy use, the housing of animals, and—most important—fire safety. In 1976 the DHSS told the Public Accounts Committee that the final building, still not complete, would cost £54.19m—much of it due to inflation. The hospital consisted of a two storey podium surmounted by a 12 storey ward block and five storey clinical block—a pattern typical of large hospitals in the '60s and still fairly typical abroad. Its problems with fire regulations arose partly from changes in the regulations in the eight or so years since it had been designed, but not entirely: the 4½ acre podium roof was made of flammable material, and there was inadequate compartmentalisation and inadequate fire escapes.

roofs for leaking, and large areas of glass and internal rooms for consuming more energy.

Some of these criticisms are easy with hindsight, and they are not confined to hospitals. Hospitals are the latest in a whole range of buildings built in the '60s to suffer from failure through the use of high alumina cement. Similarly, current moves towards smaller buildings on a domestic scale and constructed with traditional materials and pitched roofs (as exemplified by some nucleus hospitals) are not confined to hospitals. These days factories, offices, and hospitals may all look like suburban semis.

### Communications

Even if the brief is good, the design brilliant, and the construction sound a hospital will fail if its users do not use it as intended.

*What are the ideal criteria for emergency ventilators/resuscitators, and do any of the machines on the market measure up to this ideal? Have any machines specific advantages over the others, particularly in relation to carrying and using them in physically awkward conditions. What are the advantages/disadvantages of having a cylinder of air compared with carrying a cylinder of oxygen?*

In most cases in which respiratory assistance is required the most urgent need is to clear the patient's airway. In this reply I have assumed that the questioner can recognise and relieve airway obstruction and that he does not intend to use any resuscitator/ventilator before undergoing the appropriate training. The minimum criteria for an "ideal" emergency ventilator are that it should be portable and compact; simple and with clear controls; reliable and safe; flexible enough to permit its use with patients of different ages and sizes; economical in its use of driving gas; able to deliver both 50% and 100% oxygen; and that it should have an audible failure alarm. At least four devices at present available meet many of these criteria (Blease, Dräger, Penlon, Pneupac). The choice depends on the purchaser's specific needs. The only advantage of air over oxygen is that the former may be used in an environment in which fire or explosion presents a potential hazard. Air will not adequately oxygenate all patients who require resuscitation; most resuscitators have the facility to deliver either 100%

And this often happens because of a failure to communicate the brief—and its assumptions—to those commissioning the hospital. In 1955 the Nuffield study team said that proper timetabling in outpatient departments would remove the need for a large waiting area.<sup>6</sup> Twenty two years later the waiting area in surgical outpatients at St Thomas's Hospital was being criticised for being too small because "the strict appointments system envisaged by the designers was never implemented."<sup>7</sup> In tightly planned hospitals such as nucleus even minor changes in policy can create severe problems. Education centres shared between doctors and nurses work well in some hospitals, through cooperation and good timetabling; in others they do not. As part of the project to build a low energy hospital on the Isle of Wight a social psychologist has been appointed to help train the staff in energy conservation, because all the designed in equipment will be useless if it is not used properly.

### A vested interest in denigration

In fact the record of health authorities in building hospitals is not as bad as it might seem to an insider. Planning and building are undoubtedly more disciplined now, but even in the '70s a report quoted to the Public Accounts Committee showed that among public building authorities the NHS, although its record on time overruns was poor, was fairly good in containing costs. The NHS was third best out of 10 for controlling costs, with 71% of its schemes within 5% of the contract sum. Hospitals also had a much lower rate of failure of construction than new houses, factories, or offices.

Some of the criticisms of English hospitals are accounted for by what Enoch Powell called a vested interest in denigration, but, looking back, critics might be forgiven for wondering whether England ever had a hospital policy. The patchwork of large teaching hospitals (expensive to run and in London at least possibly in the wrong places), other "unfinished" hospitals throughout the country, and now little nucleuses suggests a failure of nerve as much as of money. It is as if the NHS was never sure of what it wanted from a policy, it couldn't manage it, it couldn't pay for it, and now that it is capable of managing a building programme it hasn't got a policy.

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oxygen or oxygen diluted with air, and this is adequate for any emergency need.—J C STODDART, consultant in charge, intensive therapy unit, Newcastle upon Tyne.

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### Corrections

#### Can we have safer cigarettes?

In error in this paper by Tessa Richards (17 November, p 1374) it was not mentioned that the meeting was initiated and sponsored by the Chest, Heart and Stroke Association.

#### Medicolegal: Dr Gee v the BBC and two doctors

We regret that errors have occurred in our two previous reports on this case (17 November, p 1386; 24 November, p 1460). The doses of tri-iodothyronine and thyroxine should have been in µg not mg.