Casting care aside

A response to Worcestershire Health Authority's proposals for rationalisation of hospital services, researched for Wyre Forest District Council by John Lister of London Health Emergency.

Introduction

THIS IS a response to Worcestershire Health Authority's (WHA) proposals as spelled out in the Consultation Document *Investing in Excellence*: these plans can only be seen as a major threat to the availability, quality and accessibility of health services, not only for local people in Wyre Forest and north Worcestershire, but also for the whole of the county.

WHA's favoured proposal (the so-called Option 4) would effectively close acute in-patient services at Kidderminster Hospital, together with its Accident & Emergency department, obliging many of the most seriously ill local patients to travel to Worcester, Redditch or Dudley for emergency and in-patient treatment.

Kidderminster Trust has been shown to deliver top quality services, winning a Charter Mark for excellence,topping the national league of NHS Performance Tables, with 34 five star ratings in June 1997, as well as winning commendations for individual departments. It is one of only three Trusts in the West Midlands to have reduced junior doctors' hours to meet government targets, has the shortest waiting lists in the country (with only 18% of patients waiting over 6 months for treatment), and has managed to run against the national trend by achieving a 3% reduction in emergency admissions. All these achievement would be put at risk by the WHA proposals.

Bed numbers in Kidderminster would be drastically reduced from a total of over 300 to a maximum of 35 community beds; up to 60% of the Kidderminster General Hospital site would be left surplus to requirements; and hundreds of jobs would be lost, along with local access to first rate health care.

While Kidderminster faces the loss of 100% of its acute in-patient beds, the whole of Worcestershire also faces a massive, possibly unprecedented cutback in acute beds under the WHA plan. Figures in the supporting documents show that the combination of the Kidderminster rationalisation, the Worcester PFI scheme and the WHA "efficiency" measures would close up to 35% of the county's front-line acute beds in just four years. There are no grounds to assume that hospital services would be able to cope with such a massive and rapid cutback.

Though the scope of its proposals are clear to the residents of Kidderminster and Wyre Forest, who have joined massive protests against them, WHA's 37-page document is also striking for the scale and range of its omissions.

* It makes no commitment to maintain any minimum provision of acute beds, mental health beds or community services. Even Worcestershire's community hospital beds are given no long-term guarantee in the evasively-written document.

* It presents no specific or costed plans, and makes no attempt to justify its financial assumptions, most of which appear to have been plucked from the air.

* It offers no explanation of HA assumptions underlying the drastic proposed reduction in numbers of beds.

* It takes no account of the knock-on effects of the proposed Worcestershire changes on neighbouring health districts: nor does it discuss the possible implications for Worcestershire of rationalisation plans now being implemented in Dudley and Birmingham.

* It takes no account of the specifics or the health needs of the local population whose hospital services face closures. It sets out no explanation of how GPs and primary care services are expected to cope with the additional workload which will fall to them.

* It ignores the logistical problems of travel for those patients who have to go elsewhere for hospital admission, and for their visiting relatives and friends.

With so many glaring holes, the WHA plan makes no serious attempt to convince local people that it is any more than a cash-driven exercise, designed to cut HA spending almost exclusively at the expense of people in the north of the county, while preserving the costly, privately-financed scheme for the rebuilding of Worcester Royal Infirmary.

To add insult to injury, the proposed changes, which are entirely to the detriment of the catchment population of Kidderminster Hospital, are dishonestly presented by the Health Authority:

***** The misleadingly-titled document "Investing in Excellence" actually proposes substantial *disinvestment* from the excellent services currently available at Kidderminster.

***** The plan is described not as the closure of in-patient services, but as the "development" of a "pioneering ambulatory care centre" – which is a jargon phrase to describe a hospital with no A&E unit, virtually no beds, and restricted to out-patient and day case treatment.

***** The closure of the Accident & Emergency unit, which would involve thousands of more seriously sick and injured patients being diverted to Worcester, is masked under the smokescreen of misleading references to a "local emergency service", which would handle only the most minor injuries.

* WHA have claimed that their proposals are supported by consultants and GPs throughout the county. But the packed public consultation meeting in Kidderminster saw the plans denounced by local GPs and by mental health consultants, while another speaker from the floor declared that orthopaedic consultants had unanimously rejected the WHA proposals and insisted that the health authority had been told that consultants would not implement them.

In exchange for the loss of a fully-functioning general hospital, local people are being offered a glorified out-patient clinic dressed up in empty rhetoric, and the prospect of long, awkward journeys for treatment for thousands of more seriously ill patients and any friends or relatives who might wish to visit them in hospital.

Reservations are already being expressed by the local ambulance service over its ability to cope with the increased demand for its services with the resources which WHA proposes to make available.

To make matters even worse, it appears that the current plans for services in Worcester would leave the new Royal Infirmary far short of the numbers of beds, and also possibly of the operating theatre capacity required to deal with the additional caseload from the north of the county. The WHA plan is not simply robbing Peter to pay Paul: it is robbing ***both,*** in the hope of balancing the books and paying the exorbitant costs of leasing the privately-financed hospital in Worcester.

Despite repeated references in the WHA document to the principle of "equal access" to services, it is clear that the result of their proposals would be quite the opposite. The people of Wyre Forest and north Worcestershire are the biggest losers from this scheme, and there is no reason why they should wish to accept the WHA proposals which offer them only a reduction in services – and the prospect of further cuts and closures to come.

Our concern is that the plans will also leave damaging gaps in health services that will lead to long waiting lists and delays in obtaining emergency treatment for patients throughout the county.

1. The need for hospital beds

WHA goes to great lengths to give the impression that local availability of hospital beds is no longer an issue for modern health care, and that the vast majority of NHS treatments will continue largely unchanged if its plan is accepted.

This is a deliberate deception. The majority of NHS treatments are GP consultations and out-patient appointments – which are not immediately affected by the changes to in-patient care. ***But these are also the most minor cases***.

If we look at ***in-patient*** services, affecting emergencies and those needing more serious and sustained treatment, the planned changes would directly affect around one in five of the 72,000 hospital admissions in the county. This includes almost 100% of cases currently treated at Kidderminster, but also includes trauma cases and vascular surgery patients from the Alexandra Hospital (switched to Worcester), and elective orthopaedics and urology patients from Worcester (switched to Redditch).

Indirectly, the changes would also have a longer-term impact not only on Kidderminster and Redditch, but also on the queue for emergency and elective care in Worcester – potentially affecting at least ***two thirds of acute hospital admissions*** in the county.

Limits of day surgery

The WHA document sets out to give the impression that many of the services currently being treated as in-patients could simply be replaced by day case "ambulatory" care. This is a potentially dangerous exaggeration.

Most medical and many surgical episodes – especially those involving elderly people – continue to require the patient to remain for several days in a hospital bed. According to the most recent Department of Health figures, Kidderminster Hospital provided 12,500 episodes of in-patient treatment in 1996-97, compared with just 7,458 day cases.

37% of Kidderminster Hospital's total caseload is day cases: this is already substantially above the county-wide average of 23%, suggesting that it may be difficult significantly to increase the numbers treated locally as day cases. ***The implication is that the large majority of the 12,000-plus patients admitted each year to beds in Kidderminster is likely to be faced with the long, uncomfortable journey to Worcester, Redditch or Dudley for hospital treatment.***

Emergency admissions

WHA has offered no detailed figures showing the breakdown of the current in-patient caseload between emergencies and elective cases – indeed the consultation document offers no detailed figures at all to show how their scheme is supposed to work for residents of north Worcestershire. Nor is there any hard information to be found in the raft of supporting documents which WHA have made available only to those able to visit the Community Health Council.

The implications of closing Kidderminster's Accident & Emergency department are also clumsily evaded by the Health Authority documents. Latest DoH figures show Kidderminster Healthcare handled 35,000 first attendances at A&E in 1996-97. By comparison, Worcester RI treated 41,000 and Alexandra Healthcare 42,000.

According to the Health Authority, upwards of 60% – and possibly as many as 80% – of A&E first attenders can be classified as "minor" cases, and might be expected to attend the residual minor injuries unit if the A&E were to close. Hospital doctors in Kidderminster contest this, and argue that records show as few as 24% of current caseload could adequately be treated by nurse practitioners in a minor injury unit.

We note that there are no costings for the provision of the proposed nurse-led minor injuries unit, which will treat only "injuries such as cuts, sprains and simple fractures". Experience elsewhere (notably Hertfordshire) is that these units can be relatively more expensive per case to run than Accident & Emergency units, and can also increase unit costs at neighbouring A&E units.

Even if we accept WHA's apparently high estimate of the proportion of minor cases, this leaves a minimum of 14,000 more serious cases who would have to travel upwards of 18 miles to an A&E unit for tests or treatment, many of them requiring ambulances.

But WHA also ignores the fact that on average between 20% and 30% of patients attending an A&E unit in England require ***emergency admission*** to hospital – immediate access to a bed. This suggests that not only must Worcester and Dudley hospitals brace themselves for large numbers of additional, more serious A&E attenders, but they will also require sufficient ***beds*** to admit between 7,000 and 11,000 extra patients a year.

Medical admissions

Some of these patients will be elderly – and can be expected to stay in hospital longer than the average elective admission. The latest DoH figures show that Kidderminster Hospital handled 4,100 episodes of in-patient care for general medical patients, many no doubt admitted through A&E: according to an Audit Commission analysis (1992), an average of around 87% of general medicine admissions are emergencies. Most are elderly.

This would suggest that up to 3,600 seriously ill medical patients who might otherwise be admitted as emergencies each year in Kidderminster will need to be found beds in Worcester or Dudley's Russells Hall Hospital: but the Health Authority document does nothing to reassure local people that sufficient beds, ambulance transport and appropriate medical and nursing services will be available to meet this urgent demand.

Vanishing acute beds: the implications of WHA's Option 4 (including Day Beds)

Hospital	Existing beds	Proposed beds	Bed reduction
Worcester	500	388	112
Alexandra	270	239	31
Kidderminster	296	67	229
Total	**1066**	**694**	**372**

Source: WHA Strategic Review, 27.11.97, and Option 4

Department of Health figures show Kidderminster's 60 elderly care beds averaged 94% occupancy during 1996-97, and its other general and acute beds averaged 86%: but the Health Authority does not explain how it intends to fill the gap that would be created by the closure of most of the hospital's in-patient care, leaving a maximum of just 35 low-intensity "step down" beds and 32 day care beds in place of the present complement of 254 front-line general and acute beds.

Elderly care beds in Redditch averaged 93% occupied, WRI 87%, and 76% of the Community Health Trust's elderly beds were occupied throughout 1996-97, showing no slack in the system to make up for the loss of service in Kidderminster.

Given the expected drastic reduction in acute bed numbers at Worcester Royal Infirmary which will result from the PFI development in Worcester (112 according to HA projections in November 1997), it appears that the county stands to lose a total of upwards of 350 general and acute beds in the implementation of the new WHA strategy.

This massive reduction in capacity appears to fly in the face of the Health Authority's claim (repeated in their recent response to the Nuffield Report) that "the strategy does not involve any reduction in the volume of services provided by the hospitals in the county, only a change in the location of some services."

2. No costings provided

The financial assumptions underlying the Health Authority's consultation document remain shrouded in mystery. While WHA indignantly and vociferously denies that its drastic "down-sizing" of hospital services in Worcestershire is motivated by the massive £9m a year cash shortfall, or by the cumulative deficit – estimated at £18m in November (and £15m in the consulation document, pp30-31) – ***it is clear that the total package is intended, and expected, to save money.***

Specific questions to the Health Authority, requesting a financial analysis of the proposed changes, and a breakdown of the projected cash savings, have failed to elicit any supplementary information which might enable any confidence to be placed in their consultation document. Instead, ***hiding behind the formula that their plan is merely a "strategy" and not a detailed plan, WHA managers have chosen to brush off questions, and attempted to conceal the gaps and contradictions in their proposals.***

It is conspicuous that while the WHA scheme aims to cut back revenue spending to a more modest target, its programme of cuts fall far short of the reduction needed to tackle the health authority's cumulative shortfall. And nowhere does the consultation document or the supporting documents identify sources for the capital and revenue required for the service developments that are proposed.

Is it the case, as has been rumoured, that WHA has been offered an undertaking from the NHS Regional Office that their back debts can be written off if the Worcester PFI deal and the rationalisation are pushed through? If not, what steps are being taken to deal with these enormous debts? Are the current cuts simply the first wave?

Chapter Eleven of the WHA consulation document spells out some ways in which savings are expected to arise from the new plan. These include a number of unproven and unquantified elements:

* Cutting management costs.

There seems to be scope for some reduction in spending on the Health Authority itself, and possibly some savings from the ending of the "internal market" system, although the overall costs of establishing and running Primary Care Groups have yet to be quantified.

We note that the Health Authority, which has run up a cumulative deficit of £15m and which, according to its Chief Executive, lacks the resources even to develop a financial analysis of its own strategy document, cost £4.3m to run in 1996/97, with four senior executives paid in excess of £55,000. This appears to be extremely poor value for money, especially for residents in Wyre Forest and north Worcestershire, whose local services face major cutbacks, and whose clearly expressed views have so far been completely ignored by WHA.

WHA also calls for a merger of acute Trusts, and for community and mental health services to be run by a single county-wide Trust. Although savings on redundant Trust bureaucracy are to be welcomed, one unheralded implication of the WHA proposals would be the complete liquidation of the Kidderminster Trust, along with its in-patient services.

Another significant result of the proposed merger of acute Trusts into a single county-wide body would be to leave hospital services throughout the county dominated by the Worcester Royal Infirmary (and thus by the long-term bills that will flow from leasing its privately-financed buildings). Residents in north Worcestershire are therefore likely to pay twice over – through the loss of their local services and through longer-term financial pressure on services – for the new hospital in the south of the county.

An extremely optimistic – and very specific, though unexplained – target of £830,000 is set for "reducing bureaucracy and management costs". ***If no financial analysis has been done, where does this figure come from? If an analysis has been done, why has it not been published?***

We are not the only ones to question how robust are the prospects of big savings from merging Trusts. We note that the SECTA Financial Review – commissioned by WHA – warned in October 1997 that ***"Trust mergers on their own will probably not generate significant savings"*** (4.1.8).

* "Better use of buildings and property"

WHA projects savings of £1.57 million from the closure (and sale?) of land and buildings which are deemed "surplus to requirements", which include a partial rationalisation of the Kidderminster General Hospital site, closures of clinics in Tenbury and Bromsgrove, and the "review" of all clinics in Redditch.

Despite the appearance of a precise figure, we are not told how much of the saving would flow from reduced overheads and how much from property sales and reduced capital charges. WHA's "Financial Issues" document of February 13 claimed that £0.5 to £0.6m a year could be saved from capital charges, suggesting substantial land sales. The same document reveals that further savings on capital charges – of up to £1m – are hoped for through "partnership" deals to redevelop Pershore and Tenbury Community Hospitals "with GPs, Local Authorities, NHS Trusts, League of Friends, etc." However the savings on capital charges would only be achieved if the NHS relinquished ownership of some or all of the assets: perhaps the "partners" – and local patients – should be told.

Nor are we told the full extent of the projected retrenchment at Kidderminster General, which certainly goes far beyond the initial proposals included in the consultation document: it seems that as much as 60% of the current site could be left vacant by the axing of almost all in-patient services.

* "Non-clinical support services"

WHA claim that a massive £2 million could be lopped from spending on support services, without offering any specific proposals on where the cutbacks would take place. Since this work is heavily labour-intensive and tends to be at the lowest end of NHS pay scales, savings of this size could only arise from a substantial cutback in the jobs and working conditions of existing staff.

WHA's "Financial Issues" document on February 13 argued that services "such as waste disposal, maintenance, catering and cleaning" would be targeted for savings. ***This appears to conflict with the findings of the SECTA Financial Review which last autumn found that the hotel and operational costs of the Trusts (which totalled around £19m in 1996-7) "are not particularly out of line with national trends".***

It appears that either the £2m savings target (around 10% of current spending) is unrealistic and over-ambitious, or WHA intends to cut spending on these support services to well below national average levels, implying heavy loss of jobs and poorer quality services.

* Clinical support services

Again offering no details or explanation, WHA is projecting a £700,000 saving on "clinical support" – which we discover only from the "*Financial Issues*" document means pathology and pharmacy services – as a result of its strategy. ***Clearly this figure must be based on be some working assumptions on where jobs will be cut.*** "Financial Issues" claims that the savings are to come from "increased efficiency and integration of services": ***why have the proposals not been published?***

Perhaps it is a reluctance to divulge the scope of these combined cuts which has led to WHA's failure to offer any projection of job losses in Kidderminster. Rough estimates so far (unconvincingly denied by the Health Authority in public meetings) suggest that just over a third of the existing total workforce at Kidderminster General – perhaps 600 posts – could face the chop over the next 3-5 years. WHA's "*Financial Issues*" document reveals a projected cost of redundancies and early retirement payments totalling ***£9m*** over the next four years, confirming that large numbers of jobs are to go.

* Reviewing health care purchasing

While cutting back on services in the county (and while assuming that over 1,000 more medical in-patients a year will be diverted from Kidderminster to Dudley's Russells Hall Hospital), WHA declares its intention to spend ***less*** money on services outside the county or in the private sector – and, without any explanation, assumes a "saving" from this of £700,000.

This, too, seems to be wildly optimistic, and is out of line with the SECTA Financial Review last October, which warned that "In practice, the eventual saving would probably be a ***maximum of £0.5m*** once geographical flows and other issues are taken into account." (2.6.5)

* Making more efficient use of hospital beds

WHA projects a hefty £1.7m saving from more intensive use of the reduced number of hospital beds, but once more fails to explain how this is to be achieved. Recent experience of hospital rationalisation (notably the closure of A&E and acute beds at Edgware General Hospital in London) have conspicuously failed to deliver the expected economies and efficiency savings.

The loss of local hospital beds in Kidderminster, compounded by the problems of transport for visting relatives and friends, and increased difficulties coordinating the discharge especially of frail elderly patients over longer distances are likely to result in an increase in the average length of stay, especially in medical beds, which could well counteract any potential savings.

Even those most wedded to the idea of maximising the efficient use of beds have expressed some scepticism about the scale of savings projected by the WHA plan, which appears to be based on applying the targets for the Worcester Royal Infirmary's PFI Business Case to Trusts throughout the county.

The PFI scheme, which proposes to impose a 24% cut in acute in-patient beds at WRI, seeks to reduce the number of beds per 1,000 episodes by a massive 40%, from 15.3 to just 9.6. The SECTA Financial Review points out that if this target were applied throughout the county it could further reduce the number of acute beds by up to 120.

There is one huge problem, however: there is no evidence to show that this target is attainable in the foreseeable future. The SECTA Review refers to the King's Fund and Tomlinson reviews in London, which prescribed a massive reduction in acute bed numbers, but does not refer to the consequences of these ill-thought out proposals – the soaring waiting lists, and the repeated "trolleys" crises which have resulted as patients queue often for days on end for emergency hospital beds in the capital. The recent strategic review of London's NHS commissioned by the government found that as a result of these cuts Londoners now have less access to hospital beds than elsewhere in the country, and urged a halt to further bed closures.

The SECTA Review also points to the need to prepare for any reduction in bed numbers by developing community support services and "alternative development care settings (e.g. rehabilitation facilities)". Such plans – and the resources to implement them – are conspicuously missing from the WHA strategy.

SECTA concludes – and reiterates (3.10.2, 3.11.8) that the WRI bed targets may not be achievable, and will certainly be hard to attain: ***"achieving bed capacity targets included in the Worcester Royal Infirmary PFI proposal across the county would be a major challenge"*** (2.8.1). Yet it appears that the WHA targets for cash savings assume this challenge has already effectively been fought and won.

In short, the WHA projections, which purport to show efficiency savings adding up to £7.5m, appear to be at best "guesstimates", or at worst wishful thinking, rather than robust and objective appraisals.

* Financial impact of rationalisation plan

The Health Authority claims that the changes it is proposing for acute services will release an additional sum "for reinvestment", over and above the "efficiency savings". Once more – without any supporting explanation or argument – we are told that this could amount to "a minimum of £1.2m" but might be as much as £4m.

The mystery is deepened when WHA goes on to assert, yet again without any evidence, what the comparative costs of alternative Options would be: these range from "no net savings" to "a net extra cost to the County of £4.8m". Since WHA's Chief Executive has insisted that WHA has insufficient resources to provide a Financial Analysis of its current strategic plan, the source and authenticity of these projected figures must be a puzzle.

By contrast, Kidderminster Health Care Trust has published figures which claim that the potential £7.5 million to be "saved" by switching services away from Kidderminster Hospital would be largely wiped out by the extra £7m which would have to be spent buying the same services from other Trusts, and an extra £200,000 spent on community reprovision, leaving a net saving from the whole chaotic exercise of just £300,000.

Just as its figures lack any weight, argument or conviction, so too does the WHA assertion that "the Health Authority does not and would not support any proposal simply to save money".

There is nothing in Investing in Excellence that would disprove the view that a health authority desperate to make hefty cash cuts has at best turned a blind eye to the decimation of local services that would result from its plans in the Kidderminster area.

* Developments not costed

Just as alarming as the dubious claims that easy savings can be made are WHA's glib suggestions of service developments with no discussion of costings or identified resources available for them. Among the empty, unfunded promises to be found scattered through *Investing in Excellence* are the following:

- "Development" of community hospitals at Pershore and Tenbury and the "redevelopment" of community hospitals at Evesham and Malvern – which, we note, contain no commitment to maintain in-patient beds. (pp12-13)
- "Development" of Princess of Wales Hospital, Bromsgrove. (p13)
- Establishment of "specialist community teams designed to prevent unnecessary admissions to hospital" (p13)
- "Intensive home support schemes" (p13)
- "Specialist response teams (for example, for stroke victims)" (p13)
- "24-hour district nursing teams" (p13)

- "Redevelop the Elgar Unit and surrounding buildings" (p15) Even tthough this is linked with the planned PFI redevelopment of WRI (which would be on the Newtown Hospital site), no details are offered on how it would be funded.
- "New adult in-patient mental health facilities on the Princess of Wales/Brookhaven site in Bromsgrove." (p15)

More generalised promises on the front page of the summary *of Investing in Excellence* include:

- "Strengthening and expanding services provided by GPs and pruimary care teams from local surgeries, health centres and clinics."
- "Creating a network of community mental health resources centres …"
- "Developing specialist urology and orthopaedic services at the Alexandra Hospital in Redditch for the whole of the County."

Many of these suggested schemes are perfectly reasonable and even desirable in themselves. However in the context of the actual financial pressures on WHA they appear designed more to placate potential opponents of the WHA strategy in the north of the county than in any real expectation that the cash will be forthcoming to carry them out.

3. Bogus theories on acute beds

The Health Authority appears to have spent considerable sums of money on commissioning reports from consultancy firms on how few hospital beds it can decently hope to provide to serve the people of Worcestershire. Their dubious conclusions, based heavily on the unproven projections of the private firms involved in the Worcester Royal Infirmary PFI Business Case, suggested sweeping cutbacks could be achieved. But the Health Authority, offering no supporting explanation, has gone even further.

In November, the WHA unveiled a *Strategic Review*, in which it embraced the proposals of "Strategic Healthcare Planning" for a net reduction of 225 beds (21%) across the county.

This would have been a massive gamble. But the favoured option promoted in the WHA consultation document *Investing in Excellence* goes much further, reducing Kidderminster from 214 acute beds to just 67 (including 32 day beds). The additional 147 beds to be lost would bring the total cutback across the county to a massive 35%. The proposed closure of the Kidderminster beds would also intensify the pressure on the reduced bed numbers in Worcester.

Where do these assumptions and assertions come from? In addition to the cash pressures on health authorities and Trusts to reduce services, there are currently two main driving forces towards the reduction of front-line hospital beds, at a time when the general trend since the late 1980s has been towards increasing numbers of admissions and emergency admissions each year.

A) The King's Fund theory

The 1992 King's Fund report *London's Healthcare 2010*, subsequently echoed and amplified by the government's Tomlinson Report, argued for a substantial reduction in spending on acute hospital services, and for a shift of resources into primary care and community services. Tomlinson went so far as to urge closures of beds and whole hospitals based on ambitious targets for "throughput" which completely ignored the specific social problems and pressures on London hospitals.

The unproven theory behind this was that improvements in primary care would mean fewer patients would require hospital treatment.

The policy was adopted by Health Secretary Virginia Bottomley in the form of the "primary care-led NHS", despite her later confession in Parliament that there is no empirical evidence, anywhere in the world, that primary care services can "substitute" in this way for hospital beds. Since then over £250 million has been pumped in to fund a proliferation of uncoordinated schemes to develop primary care in the capital – to little visible effect: the latest government-commissioned inquiry found that there are now ***fewer*** GPs in London than in 1990, and over 50% of GP premises in London are still below minimum standards!

However the same policy has meant that over the same period London's hospitals have lost more than 15% of their acute beds, and most now struggle to cope with emergency demand, even during the normally quieter summer months: London's waiting lists have also soared to new record heights – topping the 200,000 mark.

As the new government orthodoxy, the Kings Fund-Tomlinson-Bottomley goal of a "primary care-led NHS" was cited by health authorities all over the country as a reason for reducing acute service budgets and hospital bed numbers. This has been one reason why waiting lists have been on the rise nationally. A similar approach is implicit in the new government's focus on Primary Care Groups as the driving force of their "new NHS".

Unfortunately the switch to a "primary care-led NHS" has coincided with persistent evidence that it does not work – notably a big and sustained increase in numbers of emergency admissions to hospitals, which now have fewer beds available to cope.

Far from a "primary care-led" service, the outcome of the policy has been that GPs – many of whom were vocal opponents of the Tomlinson proposals – found themselves struggling to fill gaps in the service created by health authority decisions to cut hospital beds, by more rapid discharge of elderly patients, and grappling with the misery of patients stuck on growing waiting lists for elective treatment.

We note that the WHA strategy would also dump substantial additional work onto GPs in Wyre Forest, north Worcestershire and the south of the county, without any guarantee of additional funding or resources to ensure they can cope.

2) The PFI

The other drive to reduce bed numbers flows from the attempt to fund hospital developments through the Private Finance Initiative. ***Under PFI, Health Authorities and Trusts no longer control the planning of bed numbers and hospital services.*** Instead the Trust draws up an "output specification", and issues an invitation for private sector firms to negotiate.

Decisions on the numbers of hospital beds appropriate for any hospital scheme are left to the consortia of private firms, which naturally seek to maximise their profits and minimise their investment in beds. This is the basis on which they draw up an Outline Business Case. Many commentators have pointed out the massive reductions in bed numbers which have accompanied almost every PFI bid, including those already agreed by ministers.

Since no hospital has yet been built under PFI to put these new assumptions and reduced facilities to the test, it has so far been possible for private sector planners to drive forward a Dutch auction, slashing back on NHS bed numbers – as we can see in Worcestershire.

Here the SECTA *Financial Review* points out that "Many acute service reviews and proposed acute hospital business cases ***have assumed*** that future targets of between 8-10 beds per 1,000 in-patient FCEs are feasible…"

The Worcester Royal Infirmary Business case "***assumes***" a 40% increase in throughput for each bed. This has been translated by another firm of private consultants, Strategic Healthcare Planning, into assumptions for the other Trusts in the County, increasing the numbers of beds to be axed. These figures, incorporated in the WHA Strategic Review on November 27, have since been further arbitrarily increased by the Health Authority, to produce an unprecedented target of cutting acute bed numbers by 35% over four years.

With cutbacks on this scale it is not necessary to wait for the plan to be put to the test: that would be an irresponsible gamble with the lives and health of local people. It is quite clear that to close 35% of Worcestershire's acute hospital beds would have a devastating impact on services, and must be opposed. The half-baked theories on which these plans have been drawn up must be rejected.

No guarantees for other beds

Local GPs would do well to note the WHA proposal to "transfer more services from hospitals to primary care and community settings" (page 11), and the fact that this is not linked with any specific commitment of extra resources for primary care services.

However there is an even wider area of concern when, under the misleading heading of "Expanding Primary and Community Services", WHA begins to question the future of existing community hospital beds, which provide a vital support for GPs, especially in the care of frail elderly patients. The new WHA policy declares that: "We are not –

and should not be – wedded to the concept of 'beds' as if beds in themselves were synonymous with excellent health care." (P12).

Any reduction in community hospital beds and switch to caring for patients in their own homes needs to be viewed critically in the context of the split in responsibility between the NHS and social services. The WHA plan does not spell out exactly what services would be included in its "intensive home support schemes", how long these schemes would support any individual patient requiring long-term care, or how they would be paid for. While NHS services are provided free of charge and funded from taxation, social services levy means-tested charges. Social services in Worcestershire face a £5m deficit, which has led to an increase in charges for home care from £7 to £7.40 per hour.

The WHA plan is equally vague on the numbers of in-patient beds and the "range of community accommodation" to be provided under the reorganisation of mental health services. It is clear that there is unease among mental health consultants over the proposals.

4. Knock-on effects ignored

The WHA scheme assumes that upwards of 1,000 general medical patients a year can travel from Kidderminster to Russells Hall Hospital in Dudley, but does not discuss the availablity or affordability of suitable services from the Dudley Hospitals Trust. WHA does not disclose how much would be spent sending these patients into another district for treatment, and does not discuss the extra complications that will be caused in the discharge of frail elderly patients requiring social services support.

There are reasons for concern that the recipient Trust may not be able to cope. Russells Hall is itself undergoing a controversial £62m PFI-funded expansion, which also involves the closure of Wordsley Hospital and reducing the Corbett and Guest Hospitals to "ambulatory care", with the loss of all their beds. The net result will be fewer beds, despite DoH figures showing general and acute beds in Dudley averaging 88% occupancy throughout 1996-7.

Health services are also in a state of flux in Birmingham, where the Health Authority's attempt to funnel resources into a controversial £200m PFI rebuild of the University Hospital has, according to critics, led to other projects and health needs being sidelined. It is safe to predict that it will also lead to a substantial reduction in available beds, and that this might also call into question the ability of the University Hospital to supply the level of specialist care which WHA currently purchases.

The general squeeze on bed numbers in Birmingham could cause considerable problems for WHA patients seeking treatment: Worcestershire spends almost £20m a year on services from Birmingham Hospitals, and it would seem sensible that any genuine "strategy" would discuss the likely implications for WHA of the ongoing review of services in the city.

The reduction in services at the Alexandra Hospital in particular is likely to lead to considerable numbers of Redditch patients seeking treatment in Birmingham rather

than Worcester. The implications of this, in terms of the availability of services and in terms of the financial impact on the finances of the Alexandra Trust have been ignored by the WHA strategy.

The WHA plans could in turn have a substantial knock-on effect on residents of neighbouring health authorities, notably Shropshire, who have until now been able to use services at Kidderminster. Kidderminster Trust figures show that over 1,000 patients from Shropshire received in-patient treatment and almost 1,900 attended A&E in 1996-97, while over 2,000 Dudley residents and 702 from south Staffordshire attended A&E in Kidderminster. The closure of these services, coupled with a likely outflow of patients from north Worcestershire to surrounding hospitals will create additional pressure on services and inconvenience for patients.

5. Population ignored

The WHA consultation document makes no attempt to show that its plans for health services flow from or respond to the specific needs of the Worcestershire population. This is even more worrying in the context discussed above, in which abstract "targets" for bed numbers are being drawn up by private companies pursuing PFI deals and seeking to please shareholders, rather than by health professionals concerned to meet health needs. The obligation is on the Health Authority to spell out clearly the level of demand for the various specialist health services, and to ensure that Trusts have the beds, staff and resources to meet these needs.

The nearest to any detailed demographic analysis of the population is not in the consultation document but tucked away in the document on "Travel and patient access", but even this offers no breakdown by age band, and restricts its attention to the varying percentages of car ownership across the county.

The inadequacies of the "Travel" document will be explored further below, but WHA's approach lacks sensitivity to the problems facing particular age groups and particular localities.

The proposal to centre elective orthopaedics and elective urology in Redditch ignores the travel problems this will create for patients using these services, most of whom are elderly, among those least likely to own a car, and most likely to have elderly relatives or friends wishing to visit them while in hospital. Average length of stay for urology is 4-5 days, and for elderly orthopaedic patients 6-13 days.

735 children a year who currently attend Kidderminster General (14 per week, the vast majority of them emergencies) will have to go instead to Worcester, with a substantial knock-on disruption and expense for parents and relatives.

WHA's lack of any detailed analysis of health needs, together with its uncritical acceptance of the impossible bed targets drawn up by private consultancy firms and the PFI consortium give local people no confidence that adequate services would be provided under the proposed new strategy.

6. Turning a blind eye to travel problems

One of the specific characteristics of north Worcestershire is the poor road network, coupled with slow, costly and infrequent public transport links. Instead of addressing this problem head on, the WHA consultation document effectively ignores the difficulties of access to health services that would be created by the proposed new strategy.

Nor is there any sign in the supporting documents that WHA planners have taken on board the obvious concerns of people in north Worcestershire that the closure of A&E units in Redditch and Kidderminster could potentially put their lives at risk and would almost certainly create serious inconvenience for hospital in-patients and visitors.

The more detailed WHA document on "Travel and Patient Access" concedes that a minimum of 22% of the county's population and 24% of Wyre Forest residents had no access to private transport on the most recent figures.

These figures seriously overstate the availability of private transport, since the ownership of a family car does not ensure that it is available at any given point to transport a patient or a visitor to hospital. They also ignore the demographic trends in relation to car ownership, in which the most deprived households and older people – groups most vulnerable to ill health – are the least likely to have access to private transport, or to be able to afford taxi fares of up to £40 to travel between towns.

Doubts over ambulance services

The document on "Travel and Access", padded with abstract and largely irrelevant introductory paragraphs, sets out to undermine the long-standing consensus that a patient's chances of surviving a serious accident or incident is significantly improved if they receive hospital treatment within an hour (the "Golden Hour"). The WHA argument flies in the face of a substantial and continuing body of international medical literature endorsing the notion of the Golden Hour (a few recent reference exemples are noted as an appendix). ***Why is this issue raised in the WHA consultation document?*** Local people could be excused for believing that WHA is preparing the ground for a deterioration in ambulance response times and a series of incidents in which accident victims take more than an hour to reach hospital.

Such fears will be amplified by the recent warning from the Hereford & Worcester Ambulance Trust that it may not have enough staff or ambulances to deal with the likely increase in emergency calls if A&E units in Kidderminster and Alexandra Hospitals close. WHA have so far offered £500,000 a year to fund three extra ambulances and 20 crew members: but the Trust is now waring that it may face as many as 12,000 extra 999 calls a year (240 calls a week), and even the extra resources would not be enough to cope.

Ambulance Trust director of operations Steve McGuinness told the *Berrow's Journal* that "The extra vehicles and staff will allow us to sustain our current workload – the extra 12,000 patients are not in the equation, as we don't move them at the moment. Most of these people are taken to hospitals in Kidderminster and Redditch by car or

even walk, but I think they will dial 999 if they have to go to Worcester. ***We have already told the health authority we could not cope with this extra amount of people***."

An extra complication for ambulance chiefs is that ferrying patients from Kidderminster and Redditch in to Worcester will involve much longer journeys, increasing the length of time for which each ambulance is tied up. The problem would be further compounded by bed shortages in Worcester, which could delay the turn-round times of ambulances with emergency patients. (London hospitals with insufficient beds and short of trolleys for emergencies have been known to treat patients in ambulances in the car park).

Knowing that ambulance services could face this kind of pressure is hardly likely to fill patients with enthusiasm for the new proposals to "categorise" 999 calls "with the view to triaging patients according to their need". On this new system, emergencies which may be painful but not life threatening – such as fractured neck of femur – could be left waiting while an ambulance is diverted to deal with a "category A" case. It would be more encouraging to hear that WHA intends to ensure emergency ambulance services will expand to meet demand.

Partial figures

The more detailed figures presented in the WHA "Travel and Access" document cause considerable confusion, since they are inconsistent with other published figures on hospital caseload. Despite the fact that Kidderminster is to lose its entire in-patient acute service, which totalled over 12,000 episodes in 1996-7, the document claims that only 9,000 extra patients would have to travel for the specialty services examined.

Such projections have to be taken with a pinch of salt: but it is consistent with the WHA approach that the travel problems caused by its plans should be first ignored and then minimised, before the document moves on to present a series of highly optimistic estimates of travel times.

Private transport

The WHA "Travel and Access" document asks two questions "for the majority of the population who have access to private transport": **"how long does it take to get to hospital, and is there parking facilities once there."**

However it only answers ***one*** of the questions, with a series of alleged travel times which claim to provide "a realistic and generous allowance for travel between towns", but do not say how the timings were derived, at what time of day, or in what type of vehicle.

The issue of car parking is not addressed, despite the fact that the PFI deal for Worcester RI is certain to include charges for car parking as a useful source of extra revenue to the consortium.

Public transport

The details of bus timetables in the county are discussed with all the innocent optimism of a well-paid senior manager who has never travelled on any of the routes described. The special problems of return journeys from evening or weekend hospital visits are not addressed at all, and there is no mention of evening services.

Many return journeys would plainly take up much of a day. It takes a special type of insensitivity to describe the skeleton bus service between Evesham and Worcester as "at various times but ***at least every two hours***".

A similar approach describes the journey from Kidderminster to Bromsgrove as "at least every two hours", with half-hourly services from Bromsgrove to Redditch offering a combined journey time of 52 minutes each way "plus connection times"!

Access to care

WHA at no point questions the desirability of making so many patients and visitors travel such awkward journeys. The possibility of arranging medical manpower and staffing rotas to ensure that consultants travel to patients rather than vice versa is not discussed.

A longer-term worry in this context hangs over the future of out-patient and day surgery services in Kidderminster. The increased centralisation of specialist care and consultants in Worcester, together with the concentration of emergency work in WRI are likely to create a growing resistance to servicing clinics and day cases 20 miles away. ***The same type of argument that is now being used to justify closing in-patient surgical and general medicine beds at Kidderminster could soon be used to push through the closure of out-patients*** – while a Health Authority that has so obviously turned a deaf ear to local protests in the current consultation is not likely to be any more responsive over future service cuts.

7. Misquoting the Royal Colleges

Almost 30 years ago the Bonham Carter Report suggested fewer, bigger district general hospitals, each covering a catchment of up to 300,000 people, with 1,000-2,000 beds. The idea was dismissed at the time as leading to hospitals which would be expensive, impersonal megaliths, and which would in all probability fail to deliver the promised economies of scale.

Now similar arguments for larger catchment populations have resurfaced in the 1990s, but the bed numbers being proposed to cover the same target population are much more modest.

The pressure has been increased by the 1993 Calman Report, which restructured the training of doctors, leading to a shorter and more structured path to qualification as a consultant, has proved to be a major factor in destabilising many district general hospitals.

By shortening the training period (alongside a welcome, if belated, reduction in junior doctors' hours) the new system has restricted the availability of junior staff to treat patients. But it also increased the need for a high caseload in hospitals where junior doctors are trained, to ensure that they get a sufficiently broad experience in the shorter time they spend in each specialty.

The Royal Colleges, which have the power to grant or withdraw accreditation for the training of junior doctors, have begun to argue that bigger catchment populations are necessary to ensure sufficient caseload for most specialties, with even larger catchments for more highly specialised work such as vascular surgery.

The Royal College of Surgeons is currently calling for emergency surgical services to be organised and financed for a population of 450-500,000, which "might be expected to generate approximately 90,000 to 100,000 new patient attendances per year." This view has been eagerly seized upon by WHA.

However the RCS report does also concede that a ***smaller*** unit (serving 200-250,000 population) is "considered optimal for the provision of a general medical service, ***and is regarded as more easily managed and patient friendly than a larger unit***."

Clearly in the eyes of the RCS, the views and interests of patients, NHS managers – and even their physician colleagues – come a poor second to the views of the surgeons themselves.

The RCS report is also conspicuously silent on the numbers of beds that would be required to handle this expanded caseload in fewer, bigger hospitals.

A BMA report in 1997 went further, looking at the implications of rationalising hospital services, including the logical end-point – the building of a single regional hospital to cover a population of 2 million. The BMA took a sample area and added up the total hospital resources and activity which would need to be provided – and came to the conclusion that a single regional hospital could expect to handle over 400,000 in-patients and day cases a year, requiring 758 consultants and 6,900 beds! Apart from the logistical nightmare of patients getting to and from this grotesque factory-sized hospital, there was another stumbling block:
"The estimated cost of a new build single site hospital with 6,900 beds would be approximately £860 million."

The BMA report also examined alternative schemes, in which the same 2 million population would be served by five general hospitals each with a catchment of 400-450,000. But it pointed out that to accommodate the necessary bed numbers such a scheme would require extensive redevelopment costing over £400 million.

These discussions are being misquoted and exploited by health authorities and Trusts seeking primarily to save money by cutting rather than rationalising services. It is common for health chiefs to latch on to the idea of fewer hospitals covering a larger catchment without taking on board the need for sufficient beds to enable them to function effectively – and the cost implications of this both for capital and revenue.

There is no point in denying that there are real difficulties for local services in many areas arising from the pressure of the Royal Colleges. Any hospital which loses its accreditation is in serious problems: it would find it difficult to recruit doctors to ensure 24-hour medical cover, and equally difficult to retain or recruit consultants for whom no junior staff would be available. This process has already triggered the closure of departments in several London hospitals.

This type of problem, together with cash pressures, has been forcing forward the pace of rationalisation proposals, regardless of the impact on patients whose local hospital services close down.

However we might reasonably expect the Health Authority, as the body supposedly representing the interests of local residents rather than the medical establishment, to seek flexible ways of distributing medical staffing to ensure viable hospital services and high standards of professional practice and training throughout the county.

Although there are good reasons to be cautious about the WHA proposal for a single acute services Trust in Worcestershire, ***one solution to the problems of medical staffing and junior doctor training might involve the establishment of a new county-wide acute Trust with a commitment to maintaining three distinct units – at Kidderminster, Redditch and Worcester. This would give trainees access to the entire county caseload of day and in-patients, and enable a rotation of consultant staff between to ensure supervision and the availability of emergency cover.***

8. Collapsing morale

WHA appears oblivious to the likely consequences of its proposals on the morale of nursing and medical staff at Kidderminster General Hospital. In the current conditions of a growing shortage of qualified nursing staff, and with over 20% of the existing UK nursing workforce due for retirement in the next four years, these issues must be regarded as crucial for the future of acute services.

Although the current debate is over a strategy which WHA wants to implement over four years, experience of hospitals and units blighted by such decisions elsewhere is that qualified and professional staff rapidly vote with their feet, and desert for more stable jobs elsewhere, creating a rapid and escalating staffing crisis which can trigger the premature closure of a unit.

Given the inevitable time-lag imposed by the need to negotiate final details and build the new hospital in Worcester, any such development in Kidderminster could leave serious gaps in services for several years ahead. And given the uncertainties lingering over the future of the PFI scheme itself, there is a real possibility that it could collapse, leaving health service strategy in total crisis throughout the county.

9. Counting the cost of PFI

The cost of the scheme of redevelop the Worcester Royal Infirmary has been widely quoted as £91m, although the Trust is now reluctant to specify the exact capital cost, "since it is still subject to commercial negotiations".

Experience elsewhere suggests that this capital cost is likely to rise substantially before the final contract is signed: increases in cost estimates have ranged from 9% in South Buckinghamshire to a more than three-fold increase in the cost of a new hospital for the Swindon & Marlborough Trust.

However this headline price will still be much lower than the true financial cost to the Trust (and the NHS). Financing the scheme through PFI means that the Trust will be obliged to pay monthly lease charges for use of the building, and to purchase a comprehensive range of non-clinical support services from the Catalyst consortium for the next 30-60 years.

The terms and details of the Worcester PFI project have of course remained a closely-guarded secret, so we can only guess at the possible long-term costs. However we know that interest rates payable on the capital advanced in other PFI schemes have been set as high as 13% – far higher than the rate the government would have to pay for its borrowing – while consortia also routinely demand hefty profits on the support services they supply**.** This high cost is also frequently combined with "penalty clauses" in PFI deals which threaten to impose punitive extra charges on any Trust which delays or defaults on a monthly payment.

The combination of these elements means that PFI-funded hospitals are extremely expensive for Trusts. ***One scheme for a £40m hospital wing in NW London involved a payments for lease and services adding up to almost £17m a year – giving a cost over 30 years of over £500 million***. In the event this has proved too expensive for the Trust. Fresh negotiations have led to the axing of a whole floor from the new building, with further economies still being sought.

If negotiated on a similar basis, therefore, even if some NHS land assets are handed over to the consortium as part of the deal, ***the Worcester PFI hospital could easily wind up costing the Trust, WHA and the taxpayer in excess of £1 billion over the next 30 years***. Unless and until the full figures are published to show otherwise, we must assume this to be the case.

As we have shown above, the PFI hospital in Worcester will also carry other costs: it will lead not only to fewer beds being available for the Worcester RI Trust, but also to fewer beds for patients throughout the county.

One particularly alarming cutback will be in Intensive Therapy Unit (ITU) beds. At present there are 6 ITU beds at Kidderminster, 7 at Alexandra and 13 in Worcester: the PFI hospital – which will provide emergency services for the whole county – plans to have only 15 beds allocated to ITU, High Dependency Unit and Coronary Care Unit – a reduction that could amount to 40%, depending on the level of cover remaining at Alexandra.

Another implication of PFI is that it amounts to a long-term legally-binding agreement to pay a fixed amount which is effectively "top-sliced" from the Trust's revenue budget – regardless of how large that budget turns out to be.

This raises two dangers:

- The WRI Trust would effectively be trapped in the new building, being obliged to pay out for at least the next three decades for the use of buildings and services which may no longer seen as appropriate.
- It also means that because lease payments and support services would be effectively "ring-fenced" – locked in to binding, index-linked agreements – any future cash pressures on the Trust or calls for "efficiency savings" could only be tackled by cuts in *clinical* services – reductions in the quantity or quality of patient care.

10. Inappropriate responses

This document has argued why the erosion of acute services in Kidderminster would have a detrimental effect not only on the population of Wyre Forest and Kidderminster General's wider catchment population, but on health services throughout the county.

We are naturally keen to stress the excellence and proven efficiency of the hospital most at risk, factors which have clearly been ignored by the health authority. It is no part of our case to denigrate services in other Trusts or other parts of the county, or to oppose the case for a new hospital in Worcester, which we accept is sorely needed for the population of south Worcestershire.

It comes with some surprise and disappointnment, therefore to find that Worcester Community Health Council should – according to the Worcester *Evening News* – have decided to give its "overwhelming support" to the plan to close Kidderminster Hospital's in-patient services, and voted unanimously to endorse the *Investing in Excellence* document.

While we can understand Worcester CHC being keen to see progress on their own local hospital redevelopment, health services in Kidderminster are not within their remit, and it is not proper for a neighbouring CHC to vote for the closure of services affecting a population for which it has neither responsibility nor accountability. This decision appears to represent a sad capitulation to "divide and rule" tactics from the health authority.

As we have shown, their decision in our opinion also takes a narrow and short-sighted view of the long-term implications for the people of Worcester and the south of the county if the WHA high-risk strategy is carried through.

Conclusion

The cuts mapped out in *Investing in Excellence* would be the start, not the end of service reductions in the county. WHA document concludes with the ominous words: **"The savings we have currently identified are barely enough to cover our deficit.**

… We need to plan for this and as indicated above, we will continue to identify further savings."

We believe that for the reasons set out above the proposals are unacceptable and unworkable not only for the population of Wyre Forest and north Worcestershire, but for the county as a whole.

The WHA proposals repeatedly claim to be based not on financial cuts but on service improvement: in practice most of the "savings" which the health authority anticipates from its rationalisation are likely to prove illusory, while the unprecedented reductions which they propose in front-line beds are certain to create a growing crisis in acute services.

The WHA scheme does not, as it claims "invest in excellence", but threatens to axe services which have been acknowledged to be among the best in the country. It should be rejected.

Drafted by John Lister
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April 1998

Appendix

The Golden Hour

(Some recent articles underlining the importance of prompt hospital treatment in maximising chances of survival for emergency and trauma cases.)

Lancet. 348(9030):771-5, 1996 Sep 21. Boersma E. Maas AC. Deckers JW. Simoons ML. (Erasmus University, Rotterdam, Netherlands.) *Early thrombolytic treatment in acute myocardial infarction: reappraisal of the golden hour* [see comments].

Emergency Medicine Clinics of North America. 14(1):13-33, 1996 Feb. Rady MY. (Department of Critical Care Medicine and Anesthesiology, Cleveland Clinic Foundation, Ohio, USA.) *Triage of critically ill patients: an overview of interventions*.

Injury. 25(4):251-4, 1994 May.McNicholl BP. (Accident & Emergency Department, Royal Victoria Hospital, Belfast) *The golden hour and prehospital trauma care*

Harefuah. 127(12):520-1, 575, 1994 Dec 15. Friedman Z. Shapira SC. Cassuto D. Henig A. Wiener M. (Trauma Branch, Medical Corps, Israel Defence Forces) [*Medical kits in Army physicians' vehicles*]. [Hebrew]

AORN Journal. 60(4):576-7, 580-4, 1994 Oct. Brennan R. Cohen SS. Chambers JA. Andrews C. (Provenant St Anthony Hospital Central, Denver) *The OR suite as a unique trauma resuscitation bay*.

Journal of Emergency Nursing. 17(5):332, 1991 Oct. George JE. Quattrone MS. *The golden hour: trauma center standards in nontrauma-center emergency departments*.

Heart & Lung. 20(5 Pt 2):584-8, 1991 Sep. Ornato JP. (Medical College of Virginia, Richmond) *Problems faced by the urban emergency department in providing rapid triage and intervention for the patient with suspected acute myocardial infarction*.

Heart & Lung. 20(5 Pt 2):581-3, 1991 Sep. Wynn J. (CareFlite Dallas, Helicopter Ambulance Service of North Texas) *The role of hospital delivery systems in the treatment of patients with acute myocardial infarction: rural hospital setting*.

Journal of the Canadian Association of Radiologists. 34(3):163-6, 1983 Sep. McMurtry RY. Nelson WR. *A trauma centre – what is involved*.