For the professional medical publisher moving on to the web, having to use HTML is currently a problem, as it is not yet as flexible as desktop publishing software; it forces the publisher to give up control of the precise appearance of the product (each web browser will display it differently); and it is time consuming to produce paper and HTML versions of the same publication.

There are several solutions to these problems. One approach, followed by the *BMJ*, is to mark up the publication in a more powerful markup language, SGML (standard generalised markup language), that can be interpreted both as HTML and by desktop publishing software. Another is to make documents accessible through the web, not as web pages but in one of several portable document formats (Adobe Acrobat, Common Ground, Envoy, Replica, etc). Material produced by desktop publishing software can be exported to these formats. This approach also affords more control over how the publication will appear to the reader. *Communicable Diseases Report*, *Mortality and Morbidity Weekly Review*, and the *Journal of Biological Chemistry* are all published in Acrobat format.

Medical and scientific publication on the Internet raises some problems. There is anxiety that material can be freely distributed without being peer reviewed. This might be a problem for the naive reader, but it is usually quite clear whether electronically published information has been peer reviewed or not—and implementation of electronic peer review is likely to overcome many of the deficiencies of current peer review practice.²⁸

Another problem is the evanescent nature of pages on the web; links expire as web pages are moved or removed, or as servers close down. This makes it difficult to cite data on the web. An author citing an article in the paper version of the *BMJ* can be fairly certain that readers a hundred years from now will still be able to find that article; those providing a reference to the equivalent item on the web cannot be sure that readers will be able to find it the following week. Indeed, the *BMJ* changed all of its URLs while these articles were being written.

Finally, there are potential ethical problems regarding the reproduction of clinical data, such as images of patients, on the web. In particular, it is unclear whether additional permission should be sought from

patients when existing photographic images are transferred onto the web. As a result of such considerations, the orthopaedics department at Queen's University, Belfast, has now restricted access to the image database⁷ to local users.

- 1 Hypertext Places: useful web sites regarding hypertext, hypermedia, and world wide web: <http://www.humanities.mcmaster.ca/hypertext.places.htm>
- 2 Bush V. *As we may think*: <http://www.csi.uottawa.ca/~dduchier/misc/vbush/as-we-may-think.html>
- 3 Telnet to Radcliffe Science Library, Oxford University: [telnet://rsl.ox.ac.uk](http://rsl.ox.ac.uk)
- 4 Getting started with the web: <http://www.w3.org/hypertext/WWW/FAQ/Bootstrap.html>
- 5 Yahoo: <http://www.yahoo.com/>
- 6 Information maintained by orthopaedic surgery, Queen's University, Belfast: <http://brigit.os.qub.ac.uk/local.html>
- 7 Orthopaedic image database: <http://boris.qub.ac.uk/ortho/ortho.html>
- 8 Lycos home page: <http://lycos.cs.cmu.edu/>
- 9 CUSI: <http://pubweb.nexor.co.uk/public/cusi/cusi.html>
- 10 SavvySearch: <http://www.cs.colostate.edu/~dreiling/smartform.html>
- 11 Yahoo:Health:Medicine: <http://www.yahoo.com/Health/Medicine>
- 12 Comprehensive list of educational medical sites on the web: <http://medic.bgu.ac.il/mededu/links/links.html>
- 13 The Virtual Heart: <http://sln.fi.edu/biosci/heart.html>
- 14 Trip down a coronary artery: <http://www.mco.edu/iarc/movies/coronary.mov>
- 15 Declaration of Independence: <http://www.law.indiana.edu/uslawdocs/declaration.html>
- 16 Review of *The Madness of King George*: <http://catalog.com/columbia/homepage/movies/george.html>
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- 19 Yale C/AIM WWW Style Manual: <http://info.med.yale.edu/caim/StyleManual-Top.HTML>
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- 24 Running a web service: <http://www.leeds.ac.uk/ucs/WWW/handbook/handbook.html>
- 25 Top 10 ways to make your web service a flop: <http://coombs.anu.edu.au/SpecialProj/QLTY/FlopMaker.html>
- 26 Brighton Health Care NHS Trust home page: <http://www.pavilion.co.uk/HealthServices/BrightonHealthCare/>
- 27 Association of Clinical Biochemists home page: <http://www.acb.wcl.bham.ac.uk/ACB/>
- 28 Hamad S. Implementing peer review on the net: scientific quality control in Scholarly electronic journals. In: Peek R, Newby G, eds. *Electronic publishing confronts academia: the agenda for the year 2000*. Cambridge, MA: MIT Press, 1995.
- 29 *Accessing the Internet by email: Doctor Bob's guide to offline Internet access*, 4th edition, July 1995: <http://mailbase.ac.uk/pub/lists/lis-iis/files/e-access-inet.txt>
- 30 Bio and medical gophers and information sites: <http://itsa.ucsf.edu:A70/11/Bio%20and%20Medical%20Gophers%20and%20Info.%20Sites>
- 31 AIDS/HIV gophers: <http://itsa.ucsf.edu:70/11/Bio%20and%20Medical%20Gophers%20and%20Info.%20Sites/HIV>
- 32 WHO gopher: [gopher://gopher.who.ch](http://gopher.who.ch)

Effect of recent health and social service policy reforms on Britain's mental health system

Trevor R Hadley, Howard Goldman

The introduction of new policies in health and social services in Britain has changed the way community care is provided to seriously mentally ill people. Britain is creating the same problems that have existed in the United States, whereby clinicians struggle to provide services in an environment with multiple payers and perverse incentives. A simple system in Britain has been replaced with complicated organisational and financial structures that require almost impossible feats by local health and social service staff to coordinate care for patients for whom continuity of care is critical for their survival in the community and their wellbeing. Seriously mentally ill people are in the middle of these complicated problems. The creation of a local mental health authority that could be held responsible for

community care, as exists in some American states, may be one solution.

Viewed from an American policy perspective, the structure of mental health services in England was relatively simple before the recent NHS and social services reforms. Central government controlled the NHS and was responsible for the funding, operation, and management of the mental health services (mainly hospital based). Local government social services departments provided a limited amount of community care for mentally ill patients, mainly housing and social work support. Historically, this was always a hospital-community divide. In the 1980s important reforms were made to both the NHS and social services. These reforms were largely aimed at changing the manage-

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ment arrangements for delivering general health care in the NHS and at reforming the community care of elderly people provided by social services. Little thought was apparently given to how the reforms would affect the care of mentally ill people.

We believe that these changes, each of which on their own might have been valuable, have combined to damage provision of care, at least for severely mentally ill patients. The NHS now functions with three different sets of purchasers and, in theory, many providers for the same group of patients. The role of social services departments as providers has been diminished, and they now operate more or less exclusively as "brokers" of social care. The situation is therefore reminiscent of the mental health system in the United States, where funding and responsibilities have been fragmented and the relation between specialist services and primary health care has become poorly defined and in many cases non-existent.

Fragmentation of responsibility and funding

The responsibility for developing and managing mental health services in Britain is now confused. No single party is clearly accountable, and the "lead agency" concept has effectively been lost. If a system with multiple funding streams is to be effective then each purchaser needs to be responsible for clearly defined clients or portions of the market. This is not the case in Britain, where complex distinctions between health care and social care have to be made locally. The difficulty of these issues about boundaries is exemplified by the introduction of two separate (and to outsiders, different) approaches to managing individual clients—care management in social services and the care programme approach in the NHS. Apart from the obvious difference in terms of purchasing, these two approaches have essentially the same set of objectives and are now working in parallel with considerable duplication of time and effort.¹ They have also accentuated the differences between health and social services teams and have probably made joint working more, rather than less, difficult.² General practitioner fundholders are also now often responsible for purchasing services—for example, community psychiatric nursing—for the same patient as the health authority purchases inpatient care for, but they have a different set of priorities, concentrating on care for less severely disabled people.

The financial incentives for these different purchasers are also conflicting and perverse. There are major struggles over resources and a lack of any coherent policy direction. In almost every area the incentives for social services departments, health purchasers, and general practitioner fundholders are in direct opposition.³ It is clearly to the advantage of social services departments and general practitioners, for example, to maintain large numbers of long stay beds. On the other hand, it is clearly to the financial advantage of health authorities to reduce them.

These conflicting incentives are common, except perhaps in the purchasing of community psychiatric nurses, where the incentives for all purchasers are the same (to increase numbers). Unfortunately, even this apparent congruence hides conflict because general practitioners want community psychiatric nurses to give care to clients with mild psychiatric problems—who are most numerous in their practices—while social service and health purchasers want community psychiatric nurses to give care to people with serious mental illness.

As in the United States, the mental health system in Britain is now characterised by a multiplicity of payers, which leads to poor continuity of care and major inefficiencies in resource allocation. In general, these

conflicts mean that collaboration across sectors must take place despite financial incentives rather than being supported by them. It is not a hopeful model for joint planning or for developing coherent policy.

Shift to primary care

The shift towards a health service led by primary care has also created a situation in which there is a split benefit for mental health services between the primary and secondary care systems. This creates an incentive for primary care doctors to pass the responsibility of caring for seriously and chronically disabled patients on to other systems (hospital trusts and social services departments), which may or may not have adequate resources for care. A two tier system therefore exists. General practitioner fundholders have benefited because they have financial and clinical responsibility for outpatient care but no responsibility for acute inpatient care or long term community care. This encourages undertreatment in the community and may, paradoxically, lower the threshold for admission. The notion of a system driven by general practitioners with a focus on the individual patient therefore has enormous appeal, but for seriously mentally ill people such a system is in fact extremely disadvantageous.

The American experience

These issues of fragmentation of responsibilities and shifting funding towards primary care have been the major sources of difficulties in mental health policy in the United States in the past 20 years.⁴ The fragmentation of funding among many public and private payers, each with their own standards and priorities, has been seriously deleterious to continuity of care, efficiency, and effectiveness. Even in the publicly supported system, there may be multiple payers and strong disincentives to provide good quality of care. The historical separation of acute inpatient care (largely provided in general hospitals) and intermediate and long term inpatient care (largely provided in state hospitals) has already been the focus of many struggles and attempts to reform the public mental health system. To this scenario we can now add the separation of hospital and community services. The attempt in Britain to allocate responsibility of caring for the most disabled people in the community to those agencies with the least available resources and lowest specialist expertise—namely, social services and general practitioners—replicates the pattern in the United States of expecting non-profit making community boards to manage a complex and underfunded system.

In the United States the current mix of private insurance and public services is also a two tier system with limited mental health insurance benefit, with an incentive for private insurers to undertreat and transfer difficult clients to long term care in the public system. In the recent efforts to create a national and state system of health care an important problem has been how to control the preferential treatment of individuals with diagnoses of anxiety and depression over those with severe disabilities. This problem is replicated in general practitioner fundholding and will, of course, be exacerbated if government spending or local spending, or both, are reduced. As budgets are reduced, then the competition for resources will become more fierce, and those least able to press their case are likely to be most disadvantaged. This is exactly what happened in the United States.⁵

The model also assumes that a separation between inpatient care and community mental health services is both feasible and rational. The United States' experience would suggest that such a separation will

simply increase costs and reduce continuity and quality of care. Whatever the merits of a system of care for severe mental illness that is led by the primary care sector, it certainly cannot function without many more staff, properly trained and supported.

Thus in Britain a difficult and complex system seems to have been created from a relatively simple one. There are now multiple purchasers and multiple funding streams, without clear boundaries. The separation of health care and social care has led to conflicts over funding and has accentuated the tensions between the demands for care for those with mild mental disorders and those who are more severely mentally ill. There is a continuing split between a relatively well resourced, hospital based psychiatric service and poorly resourced, local government based community social services. Social services departments have limited expertise in the care of individuals with psychiatric disabilities, and considerable feats of collaboration are necessary for the development of a coherent, strategic approach.

In general terms the purchaser-provider split, as currently construed, seems to contain fundamental weaknesses as it has set up two powerful groups in opposition in the hope that the best deal will thereby be struck on behalf of the patient. The predictable outcome is that large amounts of time, energy, and money will be wasted as the two sets of managers try to control one another.

What are the possible solutions?

It is always easier to identify the problems than it is to suggest solutions. In the United States, however, one solution to the problem of the fragmentation has been the creation of local mental health authorities with unique responsibilities for the care of individuals with severe mental illnesses. Local mental health authorities centralise administrative, fiscal, and clinical responsibility in a single organisational point of accountability. As the Robert Wood Johnson Foundation Program on Chronic Mental Illness has shown, local mental health authorities can be implemented successfully and can take many organisational forms depending on local conditions.^{6,7} Britain might consider adapting the concept of the local mental health authority to provide coordinated services between health and social service agencies within local districts for seriously mentally ill people. Such a model would require the creation of a new type of arrangement between the health and social services that represented a step beyond joint commissioning. This might look much like experiments in Philadelphia, Utah, and Oregon where the unification of multiple

funding streams (multiple purchasers) for mentally ill people has reduced fragmentation, improved administrative and clinical continuity, and increased the proportion of innovative approaches to care.

General practitioner fundholding and a health system led by primary care result in a model of care similar to the Health Maintenance Organization models now used in the United States. It is already clear in the United States that such models are not well designed to give priority to seriously mentally ill people. The only viable solution to this problem seems to be an "all or nothing" model, in which primary care either is not responsible for any of the services for mentally ill people (everything would be done by specialist mental health services) or is responsible for all of the services including patient care (that is, "total fundholding"). In both cases the incentives to coordinate and manage the acute and long term services for seriously mentally ill people are much more congruent with efficiency and effectiveness.

In conclusion, a healthy NHS hospital system, local social services, a secure welfare state, and integrated hospital and primary health care have rightly been seen as giving mental health services in Britain an ideal basis for the development of a sound, community oriented system. In the past these mental health services have been the model for others to follow. Now the system seems to be struggling with the same problems as the United States has faced in recent years. Hopefully, the natural advantages of Britain's system have not been lost. Without a clear locus of responsibility and a funding model that encourages rather than discourages coordinated working between hospital and community based services, our experience is that real progress is unlikely to be made.

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ANY QUESTIONS

What are the relative incidences of anaphylactic reactions to the first, second, and subsequent doses of intravenous drugs? Is there any logic in medical staff being required to give first drugs and nursing staff being happy to give the second and subsequent doses?

An anaphylactic reaction during a course of drug treatment is rare but if a person has antibodies to a drug anaphylaxis is more likely to occur on first exposure to it. In the classic description of anaphylaxis a latent period of two weeks is required for the generation of specific antibodies to a compound. Development of anaphylaxis is therefore unlikely during a course.

In 530 patients who developed anaphylaxis after intravenous drugs in the perioperative period we have seen two who apparently reacted after an uneventful first

exposure to the same anaesthetic and one who reacted after one and a half hours of infusion.

There are other non-allergic effects, often related to the dose, associated with the administration of intravenous drugs that may be more apparent at first injection, but I know of no data to support this.

Anaphylaxis occurs in three in 10 000 patients in hospital.¹ The logic of having a doctor present at the first injection is supported by the likelihood of a reaction but should be considered in the light of the low risk and the time that it would take a doctor to respond to an emergency call.—MALCOLM FISHERS, *head, intensive therapy unit, Royal North Shore Hospital, St Leonards, New South Wales, Australia*

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