

the potentially infected semen of another male should be regarded as risky sexual behaviour.

New preventive strategies are needed that could be used by men or women before the onset of intercourse. The disadvantage of topical virucides, such as nonoxinol 9, is that they may cause local irritation and thus increase susceptibility to HIV infection. The development of topically active agents that could block HIV binding sites, such as CCR5, and which could be applied to the penis or vagina to create a "chemical condom," might be more effective and acceptable than any mechanical barrier or surgical intervention.

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## Modernising the NHS Patient care: access

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### This is the fifth of seven articles

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Delays for access to care plague our healthcare systems. These delays cause patient dissatisfaction, contribute to staff dissatisfaction, and may lead to worsening clinical outcomes. They are also expensive: patients often consume scarce resources while waiting, there is a cost in maintaining any waiting list; the longer the wait the higher the "fail to show" rate, which represents unused capacity; and, finally, there is the risk that patients waiting will arrive with a more costly clinical condition.

Access to care can be improved. Improving access involves looking at system flexibility or capacity. There are three fundamental methods of gaining capacity in a system of care.

### Gaining capacity

Firstly, many current systems are characterised by schedules that are filled far in advance of the delivery of care or service. Demand arises from the population served. This demand is generally stratified into "urgent" and "routine" queues. Urgent demand is managed by overfilling an already saturated schedule or by sending that demand to another venue for resolution. Routine demand is put to the end of the queue. Overfilling a full schedule or sending demand to another venue or to the end of the queue infuriates patients,

### Summary points

Delays plague all healthcare systems, causing discontent, consuming resources, and worsening clinical outcomes

Most waiting systems rely on distinguishing between urgent and routine cases and so maintain two queues

Real improvements in access come about when there is only one queue and it is short enough to ensure prompt treatment for urgent cases

Improving access involves determining the demand and applying resources to match it or reduce it

overburdens providers of care, and often just postpones the needed care or service.

Secondly, other systems gain capacity by predicting demand for urgent care or service and holding capacity in anticipation of this need. System capacity is set aside for these predicted demands. This method may solve the urgent need but does so at the expense of an

extended waiting time for routine cases. It also incurs the added expense of rigid triage at entry into the system to determine if demand is indeed urgent. The more capacity saved for urgent cases, the longer the waiting time for routine cases extends.

Moreover, the assumption is, of course, that the triage has been effective and accurate and that no truly urgent patient is missed. Yet very few triage systems can be 100% accurate. The last time I was in Britain the prime minister was on television speaking of a woman with cancer who had been placed in the routine queue while capacity was ring fenced for urgent cases. Even if the triage is accurate, however, those waiting are frustrated and continue to consume resources. The future is filled by an extended wait for routine cases or held in anticipation of urgent need while capacity and flexibility are lost.

The third method of managing demand and gaining capacity is based on the common observation that future routine wait times are often stable and in equilibrium—for example, in a particular service it takes a month to see a dermatologist, and it has “always” taken a month. These systems of access predict total demand for care or service (urgent and routine) and supply enough resources to meet that predicted demand. By eliminating the distinction between urgent and routine, the wait times are levelled and, by working down system backlogs, waiting times can be pulled to any desired level. By reducing the urgent and routine queues to one, this system involves a fundamental system redesign and relies on accurate predictions of total demand. It may also require some supply side flexibility if the demand varies (if the demand varies we need to develop systems to make the resources available to meet that demand more flexible, so that they too vary in line with the demand). The gain, however, is significant. Waiting times can be recalibrated to unprecedentedly low levels, future capacity is opened up, and patient satisfaction soars.

In contrast to early systems of access that protect today's capacity by pushing demand to the future, these systems pull demand towards today to protect future capacity.

### Having only one (short) queue

Access to care or service is improved along this continuum. This improvement in access to care can be accomplished in the following ways.

- Make a conscious and intentional decision about how to gain capacity. This does not mean simply providing extra resources but designing a system to have future capacity. If we reduce the waiting times (which may mean applying extra resources in the short term to work off a backlog) and do the work today, then we gain future capacity by eliminating the wait, and we don't have to ring fence that future capacity in some other way.
- Eliminate the saturation in future schedules by clearing the backlog
- Reduce the number of differential queues or types of visit. This reduces the work of triage, levels the waits, and makes demand more predictable.
- Develop contingency plans to predict and manage the fluctuations in demand. These contingencies generally involve supply side flexibility. This means anticipat-

ing demand and adding resources quickly and flexibly. Sometimes that means adding staff, but often it means only adding a bit more time—usually measured in minutes, not hours. In addition, by anticipating demand, we know ahead of time when to add that supply.

- Effectively and appropriately reduce demand for care. In primary care the most effective means to reduce demand for care involves ensuring continuity of care and doing more with each encounter. For example, in a practice that has 20 patient encounters a day for 20 days a month for 10 months a year if the clinicians “do more than one thing” with just one of those visits each day then the whole practice saves 200 visits in a year. In this way several practices have saved up to 7% of their capacity. The “one more thing” in primary care might be having a discussion about smoking cessation, taking blood pressure, looking ahead to see that a cervical smear is due in a few weeks' time and doing it now. In secondary or specialty care demand reduction is best accomplished by setting up “service agreements” that outline the accountabilities with the people, primary care physicians or others, who refer the patients and by identifying and managing the system constraints. All systems have a constraint or bottleneck, which acts as the rate limiting step. Capacity is increased by driving unnecessary work away from this constraint and assuring no idle time for that constraint. For example, in a surgical service we want our surgeons to perform surgery: that is what makes them special—and a constraint in the system. We should therefore try to identify what a surgeon is doing that keeps him or her from surgery and identify who else could do that work. In addition, the surgeon should never be idle.

- Match demand and supply with the minimum amount of delay. This improves patient satisfaction, reduces work, and improves clinical outcomes. For example, an academic clinical group in the United States reduced the waiting time for appointments and saw the number of patients who were extremely satisfied rise by 15%. In a Midwest fee for service group we have also seen clinical outcomes improve, as measured by compliance with preventive screening guidelines rising from 60% to 82%.



First form one unified queue—then shorten it

CRISPIN HUGHES/PHOTOFUSION

### Improving access: lessons from Alaska

A primary care group (paediatrics and adult medicine) in Alaska worked down their backlogs by adding extra staff for six weeks; developed an approach that virtually guaranteed that patients would see their own doctors with each visit by understanding the population that each doctor was responsible for; predicted demand from that individual and total practice population; and made sure that there were enough doctors (but not all of them!) working each day. By doing so, they achieved unprecedented results:

- The waiting time for a routine appointment (actually for any appointment) in that system of primary care is a single day. This has been reduced from an average waiting time for a routine appointment of 30 days.
- Patient satisfaction at the highest level—the proportion extremely satisfied—has increased by 20%.
- Staff satisfaction has increased from a baseline of 3.1 on a 5 point “I am satisfied with my job” scale to 4.4.
- The likelihood that patients will see their own doctor for any visit has increased from 21% to 72%. This has resulted in better patient and provider (doctor) satisfaction.
- Clinical outcomes measured by compliance with preventive screening scores have increased in all dimensions—for example, mammography screening rates appropriate for age have increased from 42% to 71% and are rising.

### Improving access in practice

Several practices and organisations in both the United States and Western Europe that have adopted these principles have achieved unprecedented results in improving access for their patients. A paediatric practice in the eastern United States has reduced waiting times for routine visits to a single day. Similarly, an entire system of care in Alaska has reduced waiting times in primary care for any patient—either urgent or routine—to a single day. The primary care group did this after reducing backlogs of up to three months, and it reduced demand for visits by assuring continuity between the patient and the primary care provider as well as providing the incentive to provide more care with each visit by offering an appointment each day for any clinical problem type. This did not entail employing any more doctors. It involved matching demand with supply, and making sure that patients saw

their own doctors the first time and that doctors had the incentive to do more with that encounter.

Some practices have noted an increase in compliance with preventive care guidelines by as much as 25%. This has been accomplished by clearly delineating the responsibility for the care of a specific population of patients and by providing the incentive to reduce the demand for care by doing more, including preventive screening, with each visit.

Specialty practices also have achieved unprecedented improvements in access. Using the same principles as those listed above and modifying them to each specialty setting, practices in orthopaedics, haematology, and urology have reduced waiting times from up to one year to within two weeks for routine specialty care. These specialty groups have reduced demand for visits by partnering with their referring primary care groups to clearly delineate the areas of responsibility for care. In exchange for the primary care physicians investigating more fully the patients they refer to the specialty service, the specialists have agreed to a reduction in waiting times for all. In addition, recognising that the specialist is the constraint in the system, they have found ways of ensuring that the specialist performs only the work that makes the specialist unique in the system of care. All other work has been delegated to other staff who can perform it appropriately. In this way, waiting times for specialists have been reduced for all patients to within two weeks, with a consequent improvement in clinical care.

### Radical changes

It is a commonplace of the quality improvement movement that “every system is perfectly designed to get the results it gets” and that if we don’t like the results we have to change the system—basically and radically. The concepts discussed here are not foreign to other industries at all: they underlie “just in time” delivery systems and “no inventory” manufacturing. Such thinking is long overdue in health care. We can tinker forever, but tinkering won’t reduce waiting times and improve access.

### *A doctor’s dilemma*

#### Do you admit to working within the system?

After 11 years as a reconstructive surgeon in Asia, I returned to practise in Britain. While visiting friends for the weekend my 9 year old daughter fell, and when I joined my family later that evening and bent down to give her a kiss I noticed the mild angulation of a Smith’s fracture of her left wrist. We were off to visit my parents the following day so I simply told my wife of the diagnosis, the lack of any need for urgent intervention, and that we would try the NHS out the following day. The next day I took my daughter to the district hospital where I had last worked before leaving Britain, and although a porter recognised me no one else did. I booked my patient into the system and was impressed. She was triaged within two minutes and saw the doctor within another 20. He reassured me that the abrasion on the dorsum of my daughter’s hand would get better in a few days and not to worry. I wondered if he thought that a radiograph might be necessary, but he said not. I suggested that with all that swelling it might be a good idea, and so “against his better

judgment and to allay the fears of an anxious Dad” (his words) we were off to the radiology department.

A mere seven minutes later we were back in the corridor with films in a packet. At this point I preferred to have a quick look myself, and indeed my daughter had a mildly angulated Smith’s greenstick fracture. A few minutes later the doctor was back, saying, “Surprisingly enough there was a small crack in the wrist bone, called a Colles’ fracture, but not to worry. Sister will put a plaster on it.” I thanked him, waited for the plaster of paris to be applied, and just as soon as the sister had left the room, gently bent it dorsally. I was really impressed with the speed and efficiency of the new NHS, but remain ambivalent as to whether you should come clean with your own position when entering the system as a patient.

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