ing will be a more difficult problem to overcome. It may even be difficult to maintain the normal level of intensive care because of a shortage of appropriately trained staff. It is predicted that 25-50% of the population will become infected with influenza during the epidemic, and experience from the epidemic of severe acute respiratory syndrome (SARS) has shown that critical care staff are at particularly high risk of infection.³ The numbers of experienced critical care staff will inevitably be depleted, and agency staff will be unable to make up the deficiency of trained staff.

Who should get care?

In normal circumstances most patients in the UK who require organ system support are admitted to the local intensive care unit. When this is not possible they are usually transferred to another unit within the local critical care network. During a pandemic these mechanisms will almost certainly be inadequate to cope with the extra demand, and some patients will have to be denied intensive care.

We will need to establish triage mechanisms to select those patients most likely to benefit from intensive care. It may also be necessary to introduce measures to limit the duration of care for patients who do not improve rapidly. The triage mechanisms will need to be robust and transparent to ensure that the limited resources are used equitably and to greatest effect.

Recent guidance for the provision of critical care in the event of bioterrorism or overwhelming epidemics

recommends that "Triage decisions regarding the provision of critical care should be guided by the principle of seeking to help the greatest number of people survive the crisis."⁴ However, it includes little specific advice on criteria for triage.

The triage is very different from the normal situation in the UK, where decisions about intensive care are based on what will benefit the individual patient. Decisions will be difficult and will require an unprecedented degree of cooperation between everyone caring for these patients to ensure that patients and relatives understand and that critical care staff have the support to cope with such a change from normal practice. Effective use of the available resources will be possible only if plans for triage are discussed and agreed in advance by intensive care specialists, other doctors, nursing staff, and administrators.

Contributors and sources: RM is lead clinician for critical care in a large district general hospital. This article arose from discussions of the local pandemic flu clinical support group which he leads.

Competing interests: None declared.

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Dealing with uncertainty: perspective from primary care

Anthony Harnden

Influenza A (H5N1) is worrying governments and public health experts. Something sinister about the label "bird flu" has also captured the attention of the public and the world media. News footage and stories occur almost daily. Although it seems inevitable that we will have another flu pandemic, many uncertainties remain, most of which will affect primary care. But general practitioners are experts in coping with uncertainty and are well placed to adapt and respond to an evolving public health emergency.

Dealing with uncertainty

The biggest uncertainty is the timing of the pandemic, which depends on the H5N1 virus changing so that it can spread between humans. Information will then start to emerge about the virulence and infectivity of the new virus. Clearly, a clinical attack rate of 25% will have a different effect on primary care than an attack rate of 50%. Once human to human transmission has been established, wherever in the world, general practitioners are likely to be the first to identify outbreaks in the United Kingdom. At this stage general practitioners will be on heightened alert for small clusters of patients with similar symptoms and common circumstances. After its

initial recognition, the virus is predicted to spread quickly, peaking six to eight weeks later.¹

Of concern to general practitioners will be the age range of the infected population in a new pandemic. The clinical assessment of young children is difficult given that symptoms can change so rapidly in this group. The timing of this assessment and use of antiviral and antibiotic drugs is likely to be crucial.¹ If older people are affected, the knock on effect on chronic disease such as diabetes, chronic obstructive pulmonary disease, and coronary heart disease will create important additional problems.

Planned response

We need to take action now to prepare our response. The clinical organisation of the practice requires thought. Patients with suspected influenza should not mix with other patients. Premises permitting, designated waiting and consultation areas could be used. Telephone triage will become more important as requests for home visits rise and out of hours services experience acute pressure. It may be necessary to suspend all non-urgent clinical activity during the peak of the pandemic. Pharmacists could take over repeat

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Patients expect GPs to know the risks

prescribing. To ease financial pressure, primary care trusts could temporarily suspend the quality and outcome framework point targets and reimburse influenza clinics with a special enhanced service.

It will be critical to keep an operational healthcare workforce. General practitioners need to consider how best to protect their staff, themselves, and their families. Vaccines are unlikely to be available until four to six months after the first world case, and the supply of antiviral drugs is inadequate for long term prophylaxis. Simple hygiene measures such as alcoholic hand rubs and barriers such as face masks will be more realistic than wearing gowns and respirators. Every effort will be required to protect support staff who may not wish to put themselves at risk.

The severity of clinical illness managed in each sector—community, hospital wards, and intensive care units—is likely to be greater than seen with seasonal flu.¹ Thresholds for referring sick patients to hospital will have to rise. General practitioners will need clinical algorithms to follow and legal security if they correctly adhere to them. As well as the very sick patients, general practitioners will be required to manage less unwell patients who are anxious and fearful. The large numbers

will make this time consuming, and standard information leaflets will be essential.

The reported international human fatality rate of influenza H5N1 acquired from birds is over 50%.² Although this figure may represent a large identification bias, even a death rate 10 times lower would be larger than in previous pandemics. The scale of death and bereavement would have a massive effect on primary healthcare teams.

Preparation is key. It is not sufficient for practices to rely on government or primary care trust plans. Current guidance is voluminous. General practitioners are suffering information overload and in danger of not being able to see the wood for the trees. Practices should develop straightforward plans that are applicable to local circumstances. One of the great strengths of UK general practice is the core responsibility to care for a defined and registered population list. General practitioners will need to lead their primary healthcare teams and staff must be properly trained and prepared.

But just now general practitioners will find themselves having to respond to some fascinating questions arising from uncertainty. Are we at risk from our family cat, who has just eaten a garden bird? I've been splattered on by a London pigeon or a Cornish seagull—what should I do? And many more. As Bertrand Russell once said, "Not to be absolutely certain is, I think, one of the essential things in rationality."

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Contributors and sources: AH is the clinical lead for the Oxford Childhood Infection Study (OXCIS) which has conducted and reported primary care research in children with influenza. This article arose from group discussions on potential research areas to inform primary care management in a pandemic

Competing interests: None declared.

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Privates

The front sheet clipped to the medical chart reads: "10 year old boy hit in privates." Curious, I enter the exam room, where I meet the patient and his mother for the first time. He is sprawled on the examination table, big blue eyes peering out from underneath his baseball cap. His mother explains that he was "hit in his privates" by a ball thrown by his friend.

"Can you put your finger where the ball hit you?" I ask, and he points to the middle of his inner thigh.

"Did the ball hit you here?" I ask as I point to his genitals.

"No," he replies. I examine him and find a small, blue-violet spot mid-thigh. His genitals seem pristine.

"I was so worried," says his mother.

"What were you worried about?"

"That he was hit there and what that means for his future fertility," she explains.

I tell her that sperm are not made until boys reach puberty, and her son is not yet there. I note that the ball actually hit him on the leg. "He's in perfect working order and will be in the future."

"I'm relieved," she sighs.

The discussion leads to the topics of puberty, hormones, and the changes that occur as bodies grow. My patient is fascinated. "What are hormones? What do they do?" he asks. We talk about the fact that he will not enter puberty soon, yet it is helpful for him to know how his body grows.

"Your Mom also knows about how bodies grow. You can ask her questions." I give him and his mother a list of books about how children grow and begin puberty.

As we wrap up the visit, I ask him, "Do you have any more questions?"

"No," he replies, "I figured it out."

"What did you figure out?" I ask.

"Girls attract hormones," he concludes.

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