

Preparations for pandemic influenza

Guidance for hospital medical specialties on adaptations needed for a pandemic influenza outbreak

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of Physicians

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Preface

This document is designed to indicate how specialties could adjust their patterns of work in order to cope during an influenza pandemic when staff and facilities available to care for patients may be reduced. The intended audience for this guidance is those involved in managing and strategic planning of clinical services, and clinical staff working in hospital specialties. It is not designed to provide detailed operational guidance for responding to an influenza pandemic, but to enable hospitals to coordinate care during a difficult period.

The College is grateful to Roy Pounder who had the original idea and to the chairmen of the Joint Specialty Committees and their colleagues who put so much time into preparing this guidance. We hope that it will help to improve care for patients.

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General guidance

1 Introduction

In the event of an influenza pandemic, many of the issues that hospital specialties will have to consider are generic, so general guidance is given in these introductory sections. The specialty guidance is divided into two main parts. Part 1 deals with those specialties that are likely to be most severely affected by an influenza pandemic, while Part 2 sets out key issues and recommendations for the remaining specialties, each of which will be affected to varying degrees by pandemic influenza.

Important Department of Health documents have been produced.¹ Strategic health authorities and primary care trusts, all of whom will be individually responsible in their areas for the command and control structures and management of the pandemic, have developed, or should be in the process of developing, their local policies.

Local response plans should focus primarily on ways of supplementing and making the most effective use of staffing and beds, with particular attention to facilitating rapid discharge arrangements. Alternative care sites may need to be set up, such as private hospital/clinic facilities.

Doctors should be aware that there are legal issues that may impinge on trusts' influenza pandemic plans. These range from regulatory matters through to concerns about staff undertaking unfamiliar roles, and trusts/specialties temporarily providing levels of treatment which differ from those recommended in the usual protocols. See Department of Health guidance.²

Influenza pandemics – background information

Influenza pandemics occur with variable frequency. During the last century, they occurred in 1918/19 ('Spanish flu'), 1957 ('Asian flu'), and most recently in 1968 ('Hong Kong flu'). Although it is considered inevitable that there will be another pandemic in the future, it is not known when this will occur.

While any new strain of the influenza virus could trigger a pandemic, current concerns include H1/N1 (swine flu) virus and the possibility that a mutation of the avian H5/N1 influenza virus could readily infect and be transmitted by humans. With 'ordinary' seasonal flu usually 5–15% of the population become symptomatic, but in a pandemic this is likely to be 25–50%. The planning assumption for the UK is that up to 4% of symptomatic patients would warrant hospital admission (if capacity were available). UK mortality in previous pandemics has been 0.2–2% of those with symptoms. Current national planning assumes a case fatality rate of 0.4–2.5% of those with symptoms. This translates to a UK mortality of between 55,500 and, in a worst case scenario, 750,000.

The predicted progression of a pandemic across the world and in the UK is summarised in the following World Health Organization (WHO) and UK phases and alert levels shown in Table 1.

WHO international phases		UK impact
Inter-pandemic period		
1	No new influenza virus subtypes detected in humans	UK not affected unless it has strong travel and trade connections with affected country
2	Animal influenza virus subtype poses substantial risk	
Pandemic alert period		
3	Human infection(s) with a new subtype, but no (or rare) person-to-person spread to a close contact	UK not affected unless infection starts in the UK or it has strong travel and trade connections with affected country
4	Small cluster(s) with limited person-to-person transmission but spread is highly localised, suggesting that the virus is not well adapted to humans	
5	Large cluster(s) but person-to-person spread still localised, suggesting that the virus is becoming increasingly better adapted to humans	
Pandemic period		
6	Increased and sustained transmission in general population	UK alert levels 1 Virus/cases only outside the UK 2 Virus isolated in the UK 3 Outbreak(s) in the UK 4 Widespread activity across the UK

Table 1. WHO international phases³ and UK alert levels² for an influenza pandemic.

Timing of emergency actions

Although normal services will need to be sustained for as long as possible, at some point a fundamental shift in the pattern of care provision will be required to prioritise the needs of large numbers of infected patients, together with those of non-infected patients with urgent clinical needs. At WHO phase 6, UK alert level 2 (Table 1),^{2,3} routine activities may need to be scaled back in anticipation of a rapid surge in influenza cases in the UK. At WHO phase 6, UK alert levels 3 and 4, it is possible that non-essential procedures will have to be discontinued in order to maintain life-saving activities. Thus, at the earlier stages of the pandemic, it will be appropriate to postpone some routine surgery and outpatient services. At the later phases of an influenza pandemic where there is widespread disease, it may be necessary to cancel/postpone all elective clinical functions and concentrate on expanding capacity for management of influenza and non-influenza emergency cases.

Staffing factors

Up to 50% of health workers may require time off work at some stage during the pandemic. Staff will take time off not only because of personal influenza infection (this can take one to two months), but also to provide care for dependants (whether ill relatives, or children because of

school closures), because of family bereavement, other psychosocial factors, fear of infection and/or practical difficulties in getting to work. At the peak of the pandemic, between 15% and 20% of staff may be absent at any one time.

All hospital doctors, whatever their main specialty, are likely to be involved in the care of patients with influenza. New working patterns and responsibilities will be needed to cope with the demands of the acute inpatient workload, and flexible (and extended) working rotas will be needed to cover staff shortages and emergency workload. Those unfamiliar with acute medical problems should receive some retraining to equip them to manage emergencies as part of a team.

An influenza pandemic will put staff under considerable pressure and there are likely to be conflicts between staff's professional and/or contractual obligations, their personal or family responsibilities, and concerns about risks. The Department of Health is working with NHS employers to produce detailed guidance for human resource management during a pandemic,⁴ covering the ethical and professional obligations of staff.

2 Public information

Each trust should post an announcement on its website and inform the local media that all normal outpatient services are closed, and that patients must assume that all their future appointments are cancelled until further notice. The standard information on the Blue Access Card (see Appendix) should be on this notice. Telephone numbers and an email address which can be used for enquiries by the public should be provided.

Established clinics and departments should have direct lines and email addresses, to allow direct access by clinicians from outside the hospital (ie remotely). These should be separate from general trust phone numbers.

A national flu line service will be available for individuals who wish to seek advice.

National patient organisations may be a useful source of advice and support for patients and should be involved in planning.

3 The ethical basis for decision-making

General guidance has been provided.⁵ An on-call regional advice service would also be beneficial, and would allow specialists on the front line to talk through difficult problems and possible solutions with a senior colleague and ensure consistency of response.

4 General assumptions

- ▶ An influenza pandemic (WHO phase 6) causing major disruption to healthcare services is likely to last about four months.
- ▶ A second wave of disease may occur 3–9 months after the first wave has subsided. At that point there may be a post-infection cohort of staff with immunity.

- ▶ A pandemic would have up to a 50% attack rate (50% of the population develop clinical flu during a single pandemic wave), with a 4% admission rate for symptomatic patients.
- ▶ Acute medical and surgical emergencies needing immediate admission will be seen in A&E or an admissions unit.
- ▶ Outpatient clinics will be running at 10% of capacity.
- ▶ Such a decrease of activity will inevitably increase the risk of morbidity and mortality. The priority will be to provide the most good for the most patients.
- ▶ The greatest pressure during a pandemic will be sustained by GPs and their staff, so any new system must be easy to access.
- ▶ Telephone, fax and email facilities remain largely intact (60% of usual capacity).
- ▶ Capacity will be reduced in medical records, and medical secretarial support (20% of usual capacity).
- ▶ Laboratory services for baseline haematology and biochemistry tests will remain largely intact (60% of usual capacity), with reduced outpatient venepuncture capacity (20% of usual capacity).
- ▶ Medical and nursing capacity will be greatly reduced, due to other clinical priorities (10% of usual capacity).
- ▶ All patients seen in outpatient clinics have a clinical situation that, in order of priority, is as shown in Table 2.

Table 2. Priorities for outpatient appointments in the event of an influenza pandemic.

Priority 1 (P1)	Patients with a life-threatening problem
Priority 2 (P2)	Patients with conditions of life-shortening potential
Priority 3 (P3)	Patients with conditions causing unbearable symptoms

5 Aims

- ▶ To have reduced capacity in hospital outpatient clinics and day-case wards, for both new and follow-up appointments (to 10% of normal capacity) for the minimum amount of time necessary.
- ▶ To minimise day-case attendance at hospital premises, probably by providing a telephone and email advice service.
- ▶ To minimise contact between patients to reduce person-to-person spread.
- ▶ To allow hospital resources to be focused on the surge capacity.
- ▶ To reduce unrealistic demands on the service.
- ▶ To ensure that patients with a good chance of recovery from other illnesses are not adversely affected by surge prioritisation strategies for critical care.

- ▶ To identify in advance where hospital assessment in the outpatient setting during a pandemic is necessary and to establish and communicate a mechanism by which appropriate patients can access the service.

6 Inpatients

Estimates suggest that existing hospital capacity may only meet 20% to 25% of the expected demand at the peak of the pandemic wave. Proportionate admission thresholds based on clinical management guidelines will therefore need to be agreed and progressively applied across specialties within trusts. Consistency and equity in the application of such thresholds will be an important factor in gaining public understanding and maintaining confidence (see especially the Rehabilitation medicine section in Part 2). Common understanding and interpretation of these guidelines by health professionals at the primary, secondary and social care interfaces are particularly important.

7 Outpatients

All non-urgent outpatient activity will need to be cancelled for a period that could be between two and five months, depending on the behaviour of the pandemic locally. There will be a need to provide emergency inpatient care for influenza and non-influenza cases. Staff who are able to attend for work, and facilities, will be triaged to life-saving work on the wards.

Each specialty has patients under long-term outpatient care who require ongoing careful supervision to avoid serious complications of their condition or its treatment. New referrals will be necessary for those needing urgent outpatient assessment and management (eg inflammatory bowel disease). All referrals should be prioritised by the consultant to whom they are referred, according to the criteria set out in Table 2.

General management of outpatient clinics

Clinic staff will need to retain referral letters after prioritisation and lists of follow-up patients until such time as new appointments are available.

(a) *Follow-up outpatients*

- ▶ A telephone outpatient service may need to be expanded/introduced, run by nurse specialists or medical staff.
- ▶ Established clinics and departments should have direct lines and email addresses which can be accessed by clinicians from outside the hospital. These should be separate from general trust phone numbers.
- ▶ All appointments should be cancelled for four months, on a week-by-week basis, with rare exceptions identified either by clinical need according to specialty guidance, or by the patient telephoning the hospital for verbal assistance and a possible clinic visit.
- ▶ All outpatients likely to require follow-up within a four-month window should be issued in advance with either a Blue Access or a Yellow Follow-up Card (see Appendix) depending on

their condition, that will provide some access to specialist advice (telephone hotline or email address, or both).

- ▶ Those patients who are at high risk (identified by specialty priorities) should be contacted by the team at the beginning of the surge so that some follow-up arrangements can be established. They should be issued with a Yellow Follow-up Card in advance, and each clinic should establish a register of such patients (with their latest contact details).
- ▶ Patients whose conditions are not likely to require a clinic visit but will need some access to specialist advice should be given a Blue Access Card.
- ▶ Patients who are not likely to need access should not be given a card.
- ▶ Some patients may only need to visit the hospital for new blood tests – for example, if receiving drugs with a toxicity problem. Each department needs to identify such patients and develop a system for (a) providing the patient with a request form, (b) reviewing the results, and (c) contacting the patient. The standard of care for these safety studies may have to be lowered, according to the emergency situation.
- ▶ The phlebotomy service will need planning so there is a minimal chance of cross-infection between patients.

(b) *New outpatient appointments*

- ▶ It is anticipated that the rate of new non-influenza related referrals will fall dramatically.
- ▶ All new referrals must be delayed for up to four months (either by the GP or the consultant), with a few exceptions in very high priority cases.
- ▶ The referral letter should fulfil priority criteria for each specialty.
- ▶ A consultant (preferably the consultant to whom the patient has been referred) should review every new referral, sanctioning only those with apparent life-threatening illness (Priority 1), or of life-shortening potential (Priority 2), or causing unbearable symptoms (Priority 3).
- ▶ All new patient referral letters must have the patient's phone number, and further prioritisation or advice may be made during an initial telephone consultation between the consultant and the patient.
- ▶ Additional precision in prioritisation may be achieved by review of baseline pathology results, prior to any clinic appointment.

References

- 1 The following page lists all the pandemic flu guidance that has been published by the Department of Health:
www.dh.gov.uk/en/Publichealth/Flu/PandemicFlu/DH_093202
- 2 Department of Health. *Pandemic flu: a national framework for responding to an influenza pandemic*.
www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_080754
- 3 World Health Organization (WHO). www.who.int/csr/disease/influenza/pandemic/en
- 4 Department of Health. *Pandemic flu: human resources guidance for the NHS*.
www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_086833
- 5 Department of Health. *Responding to pandemic influenza: the ethical framework for policy and planning*.
www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_080751

Useful additional documents

British Infection Society, British Thorax Society, Health Protection Agency. Pandemic flu: clinical management of patients with influenza-like illness. *Thorax* Jan 2007, 62(Suppl 1).

General Medical Council. *Pandemic influenza. Good medical practice: responsibilities of doctors in a national pandemic*. London: GMC, 2009.

Royal College of General Practitioners. *Preparing for pandemic influenza. Guidance for GP practices. What to do now and in a pandemic*. London: RCGP, 2008.

Specialty guidance

Part 1: Major impact medical specialties

Acute and general (internal) medicine

A Impact of a pandemic on emergency departments and medical admissions units

- ▶ Early in a pandemic (Phase 6, alert levels 1 or 2; see Table 1, p2), in the interests of infection control and efficiency of patient flows, trusts will need to separate individual emergency cases immediately into influenza and non-influenza cases as far as practicable.
- ▶ Further into a pandemic (Phase 6, alert levels 3 or 4) separation and isolation of individual patients in the assessment and admission pathways will not be possible. Instead trusts will need to manage the large numbers of patients presenting, by cohorting influenza and non-influenza management streams in order to minimise cross-infection.
- ▶ Bed demand will increase substantially during a pandemic. Trusts will need to plan for up to a fourfold increase in emergency admissions. Planning measures will include a substantial reduction in elective activity and transfer out into the community of all patients who do not need active medical treatment in hospital.
- ▶ Constraints of staffing and specialist equipment (eg ventilators) are very likely to adversely affect the number of available inpatient beds.
- ▶ In the peak of a pandemic (weeks 6–8) up to 50% of certain staff groups (eg nursing) may not be working because of a combination of personal illness, the requirement to care for ill family members, transport disruption and child care demands due to school closure.

B Acute physician activity and duties during a pandemic

Emergency departments and medical admissions units

- ▶ Acute physicians will have a major role in the assessment and initial management of patients presenting as an emergency with and without symptoms of influenza.
- ▶ Acute trusts are likely to designate medical admissions units (MAUs) as a cohort area for the assessment and admission of patients presenting as an emergency with influenza symptoms.
- ▶ MAUs designated as flu cohort areas are likely to be managed primarily by the acute medical team in conjunction with respiratory and G(I)M physicians and, where available, infectious disease (ID) physicians. It is anticipated that acute physicians will take the lead in triaging patients and coordinating the available workforce.

- ▶ Central to acute trusts' contingency planning is the designation of pandemic influenza cohort wards. Where the MAU is the designated flu assessment area, designated flu wards are likely to be those wards nearest the MAU in the interests of infection control within the hospital.

- ▶ A likely sequence of designated flu wards identified is:

MAU and/or ID wards (where available) > respiratory wards > other medical wards.

Patients located on these wards are likely to be cared for primarily by the medical teams linked to the wards, supplemented by medical and nursing staff released from other clinical areas (eg elective surgery medical and nursing staff). Inpatients at high risk of death from pandemic influenza (eg immunosuppressed patients) should be segregated and managed in designated 'non-flu' ward areas.

- ▶ It is anticipated that EDs will maintain a separate stream for assessment and admission of medical emergencies who do not have influenza symptoms. Acute physicians and geriatricians have an important contribution to the staffing of this 'non-flu' stream – with particular emphasis on identifying medical patients who do not require admission. Where admission is required this will be to 'non-flu' wards geographically separated from the influenza cohort wards.

Outpatient services

- ▶ Specialty medicine outpatient services are likely to cease or be substantially reduced during the 16-week wave of pandemic influenza. This will be because of prioritisation of alternative duties for staff (and the clinic area), staff absence and a reluctance of patients to attend hospital during a pandemic for any reason other than an emergency.
- ▶ Without careful planning, cancellation of specialty medicine clinics is likely to generate additional GP referrals (and self-referrals) to the ED. Medical specialty teams should address this by operating virtual clinics providing specialist advice by telephone and email to primary care staff and patients, backed up by arrangements to review the patient in a clinic or domiciliary setting.
- ▶ Acute physicians should have the opportunity to set up virtual clinics to:
 - receive and advise remotely on patient management issues arising from referrals by telephone or email by GPs
 - provide remote follow-up and support to medical patients assessed in the ED who were not admitted
 - receive patient self-referrals by phone or email with medical problems as an alternative to them otherwise attending the ED; this service could be provided by a senior nurse in an acute medicine team with consultant support. This service is likely to be most effective where virtual GP surgeries are also in place, receiving initial patient self-referrals and providing advice to patients when referral (or self-referral) to secondary care is required.

- ▶ The layout and facilities of a large outpatient department mean that the area may well have a specific designated function during a pandemic; for example:
 - assessment and admission area for either flu or non-flu patients where alternative areas for these distinct clinical pathways cannot be found in the trust
 - area for the administration of antiviral agents to staff (prophylactic or therapeutic) and/or for the administration of flu vaccine (once available).

C GIM physician activity and duties during a pandemic

Emergency departments, medical admissions units and medical wards

- ▶ There will be three distinct roles for GIM physicians:
 - working in conjunction with acute physicians (see above) in the assessment and management of the early admission of patients with suspected pandemic influenza
 - continuing care of influenza patients on flu cohort wards, intensive care units (ITUs) and high dependency units (HDUs)
 - caring for inpatients admitted as medical emergencies who do not have influenza symptoms.

Outpatient services

- ▶ Any GIM clinic activity occurring in the trust is likely to cease altogether. This activity will either be managed in primary care or referred to specialty medicine.
- ▶ GIM physicians should have the opportunity to develop virtual clinics as for acute physicians. The specific aims of these remote-access clinics would be to:
 - prevent a patient otherwise presenting to the ED
 - provide follow-up support to those patients discharged either direct from the ED or following an inpatient stay.

RM Temple

Acute & General (Internal) Medicine Committee

Infectious diseases and tropical medicine

It is likely that infectious diseases (ID) physicians and infectious diseases units will be in the forefront of the clinical care of patients during an influenza pandemic. Issues to consider will be:

- ▶ planning for the pandemic at trust and community level
- ▶ providing advice to the trust and to GPs when a pandemic starts
- ▶ agreeing admission criteria for admitting patients with influenza to hospital
- ▶ providing clinical care for patients admitted to hospital
- ▶ liaising with other clinicians; particularly intensive care (ITU) and respiratory physicians
- ▶ agreeing discharge criteria
- ▶ ensuring adequate care for those with other infections that are not influenza.

A Planning for a pandemic

- ▶ Most ID physicians will have been involved with both their own trusts and with their primary care trusts in pandemic influenza planning for some time.
- ▶ They need to provide clinical expertise and leadership in the decision-making process and advise planners on the practicalities of decisions that are reached.
- ▶ They should also help to educate their own hospital staff about the issues surrounding a possible influenza pandemic in order to minimise panic and to maximise the hospital's response when a pandemic occurs.

B Providing advice when a pandemic starts

- ▶ ID physicians will need to help to allay fears and to provide clear clinical advice about what constitutes a probable or definite case of influenza.
- ▶ They should work in conjunction with GPs and public health teams to ensure that patients with possible influenza are assessed and treated in the community as much as possible to avoid unnecessary hospital attendances.
- ▶ They should provide support to hospital emergency departments with clear clinical advice about patients with possible influenza who attend the emergency department.

C Agreeing admission criteria

- ▶ ID physicians will need to agree, with others, the criteria by which patients with influenza are admitted to hospital. Although national guidelines exist, these may be modified locally. In addition, these agreed criteria may need substantial modification once the pandemic is underway.

D Clinical care of inpatients with influenza

- ▶ Infectious diseases units will, where they exist, be expected to take the first patients with pandemic influenza who need hospital admission.
- ▶ ID physicians will be responsible for the clinical care of patients with influenza and its complications.
- ▶ It is likely that ID SpRs will be required to 'act up' in some settings if senior ID physicians are drawn in to other operational roles in the Trust.

E Liaising with other clinicians

For inpatients, there will need to be close links between ID physicians and those in intensive care units (ITU) and in Respiratory medicine to provide optimum ventilatory support for those needing it. It is likely that during a pandemic, not all patients needing such support will be able to get it, so front line clinicians will have to consider varying criteria for ITU admission etc as the pandemic progresses.

There will need to be close working with GPs and public health doctors about the pace of the pandemic and the likely clinical need as time goes on.

F Agreeing discharge criteria

Again, via liaison with others, there will need to be clear criteria for when patients can be discharged from hospital and what solution can be found for those too frail to go directly home. These criteria will also need to be reviewed over the time of the pandemic.

There will also need to be clarity about discharge for ITU.

G Caring for those with infections that are not influenza

Inpatients

Patients with acute infections will still require ID expertise but may have to be admitted to other areas of the hospital, or in some circumstances, be treated in the community. ID physicians will need to provide advice to other clinicians who may need to look after conditions with which they are not usually familiar. It may be that junior ID doctors will have to run a consultation service for these purposes that is physically separate from the ID unit.

Outpatients

Many ID physicians have a considerable outpatient load, particularly with people with HIV and other bloodborne virus infections. Arrangements will have to be made to ensure these patients have access to their regular medication and advice, for example by email or telephone, if there are problems. It is likely that regular outpatients will be disrupted for some weeks or months.

Patients with HIV may be able to be managed by pharmacists in some areas and by liaising with local genitourinary medicine (GUM) services in others.

Summary

Because of the nature of the pandemic, it is likely that most ID physicians and units will be fully engaged with the pandemic from the start. Teams of ID physicians can divide the various tasks outlined above between them, and may rotate these tasks to avoid burnout. The normal day-to-day function of the ID unit will be severely disrupted and trusts will have to ensure that their normal acute activities are covered, as far as possible, even if it involves care of such patients outside the ID unit, leaving the unit free to care for those with influenza.

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Palliative medicine

A Impact 1: large number of patients dying from influenza need acute end-of-life care in hospital and community

Implications

- ▶ Community end-of-life care will be led by primary care teams.
- ▶ Involvement of specialist palliative care teams will be mainly through provision of advice rather than face-to-face input.
- ▶ Palliative care teams will support end-of-life care for those admitted to hospitals.
- ▶ Access to syringe-drivers and supplies of oxygen for symptom support in communities will rapidly be exhausted.

Proposed response

- ▶ Community teams should be provided with palliative care resource packs, not yet developed nationally.
- ▶ The use of non-injectable parenteral routes for medication, including buccal/rectal, should be maximised.
- ▶ A programme of rapid training for carers should be instigated.
- ▶ Pharmacy services should be extended.

Planning

Now

- ▶ Develop criteria for an end-of-life integrated care pathway to be used in those dying from influenza.
- ▶ Develop resource pack with medication for symptom management.
- ▶ Develop brief training package for carers to administer the medications.

Pandemic imminent

- ▶ Ensure that care teams have local 24-hour access to drug supplies/resource packs.

B Impact 2: increased demand upon palliative care services by non-influenza cases

In the event of an influenza pandemic it is anticipated that palliative care teams, in addition to caring for patients with influenza, will face an increased workload from non-influenza cases.

Factors will include:

- ▶ existing patients with palliative care needs who cannot access secondary care in crisis

- ▶ palliative care services are referred additional patients who cannot access hospital care as they do not meet the criteria for admission
- ▶ palliative treatments (eg chemotherapy, transfusion drainage of effusions) may be limited or curtailed with additional need for community support.

Implications

- ▶ Hospital palliative care teams will be required to facilitate patients' early discharge from hospital if they were already in hospital at the start of the pandemic.
- ▶ Uncontrolled/complex problems have to be managed at home/hospice.
- ▶ There will be increased numbers with distress beyond the 'usual' palliative care population.
- ▶ There may be limited access to syringe-drivers for symptom support in community, and limited or unsustainable number of staff available to supervise use.
- ▶ There will be increasing demand on hospice beds.

Proposed response

- ▶ Enhance availability of 24-hour palliative care advice by telephone for professionals and patients/relatives.
- ▶ Increase domiciliary services to support those with complex needs at home.
- ▶ Reconfigure specialist palliative care services, for example:
 - maintain hospice beds
 - close hospice beds and staff support community care including nursing home beds
 - possibly redeploy hospital teams into the community.
- ▶ Maximise the use of non-injectable parenteral routes for medication (buccal/rectal) where possible, but the training of carers should include giving injections.
- ▶ Provide additional home palliative care packs link to extended pharmacy services.

Planning

Now

- ▶ Local palliative care lead should develop plan with flu pandemic coordinator at primary care trust.
- ▶ Agree nominated hospice beds to provide palliative care resource for locality.
- ▶ Agree local system to prioritise access to inpatient beds.
- ▶ Agree system to prioritise workload in the community.
- ▶ Develop palliative care resource pack and brief training for carers.

Pandemic imminent

- ▶ Ensure the list of staff with community experience, nurse prescribers etc is up to date.
- ▶ Ensure local 24-hour access to palliative care drugs/resource packs.

C Impact 3: depletion of existing specialist palliative care teams (up to 50% become ill)

Implications

- ▶ Try to conserve enough fit staff at any time to support essential activities.
- ▶ Maximise use of experienced/trained staff contacts who may be drafted into action.
- ▶ Ensure staff take appropriate steps to reduce risk of acquiring or transmitting infection.
- ▶ Reconfigure services temporarily to provide support where most needed.

Proposed response

- ▶ Staff should be trained in infection control measures.
- ▶ Increase available supplies of antiviral/immunisation drugs and face masks.
- ▶ Cancel non-essential activities: teaching, lymphoedema, day hospice respite care services.
- ▶ Consider switch from inpatient hospice care to community support model (see also Impact 2).

Planning

Now

- ▶ Identify palliative care leads for each locality to work with flu pandemic coordinators.
- ▶ Provide flu pandemic training programme for palliative care teams.
- ▶ Prepare staff lists to include retired/bank/volunteer contacts with specialist palliative care experience.
- ▶ Agree plans for use of services within each locality.

Pandemic imminent

- ▶ Distribute supplies, antivirals, face masks, disposable respirators.
- ▶ Review/update contact lists.
- ▶ Modify services.

Wendy Makin
Rosemary Lennard

Joint Specialty Committee for Palliative Medicine

Respiratory medicine

A Background

The British Thoracic Society Pandemic Flu Guidelines Working Party of the Standards of Care Committee, with the British Infection Society, the Health Protection Agency and in collaboration with the Department of Health, recently published guidelines for the clinical management of patients with influenza-like illness during an influenza pandemic.¹

The recommendations below must be considered out of the ordinary and apply only during a pandemic period. It is acknowledged that during a pandemic, the usual standards of care in relation to outpatient priorities may not be achievable.

As a specialty, respiratory medicine will be significantly affected by a pandemic, not only during the peak of a pandemic but also in its aftermath, as many patients recovering from the complications of influenza may require specialist respiratory input. A significant increase in clinical workload following a pandemic should therefore be allowed for, which may require the following priorities to be applied for a period of time beyond the pandemic.

B Specialty priorities for outpatient review

Patients with respiratory disorders will be particularly at risk from influenza and its complications. Therefore, almost all patients with chronic respiratory disorders will require remote access (email, fax or telephone) to specialist advice during a pandemic, and should be issued with a Blue Access Card (see Appendix).

Symptoms consistent with an exacerbation of an underlying respiratory disorder may resemble or be indistinguishable from the symptoms of pandemic influenza. Patients with symptoms of pandemic influenza will be best managed according to local pandemic flu pathways to ensure timely access to antivirals, and timely assessment for influenza-related complications. Also, these patients should be seen in settings where the appropriate infection control measures are in place.

Respiratory outpatient clinics will need to carefully consider infection control issues, bearing in mind the possible overlap in symptoms relating to influenza and the respiratory disorder in question. Triage according to infection control risks may be appropriate.

For any prioritisation system to work in an emergency when medical records and clinic staff will be depleted and under severe work pressure, preparatory work will need to be very extensive to pre-identify individual patients in the categories below and prepare follow-up/access cards etc. Patient involvement in this process will be important, challenging and time consuming.

C Follow-up of established outpatient attenders

Patients who may require follow-up during a pandemic (Yellow Card)

The following are considered groups of patients whose condition may very likely suffer if they are automatically excluded from planned outpatient follow-up for over four months, and for whom a Yellow Follow-up Card (see Appendix) should be considered:

- ▶ patients with proven malignancy
- ▶ patients with unstable or brittle asthma
- ▶ patients with cystic fibrosis
- ▶ patients with tuberculosis
- ▶ patients with lung transplantation
- ▶ patients with pulmonary hypertension.

Patients who may require priority access/advice during a pandemic (Blue Card)

Patients with the following conditions may be suitable for a delay of four months for planned follow-up and should be issued with a Blue Access Card. Individual patients will require assessment for a Yellow Follow-up Card, depending on their medical requirements.

- ▶ interstitial lung disease
- ▶ sarcoidosis
- ▶ allergic lung and bronchial disorders
- ▶ chronic obstructive pulmonary disease (COPD)
- ▶ bronchiectasis
- ▶ neuromuscular disease-related respiratory disorders.

Patients who are unlikely to require access or follow-up during a pandemic

Patients with the following conditions are likely to be suitable for a four-month delay in outpatient follow-up:

- ▶ sleep-disordered breathing
- ▶ occupational lung disease
- ▶ chronic cough and upper airway disorders.

D New patient appointments

In the context of a pandemic, respiratory symptoms and signs such as cough, purulent sputum, breathlessness and clinical signs of lower respiratory tract infection will be very common and may be due to pandemic influenza. Patients with symptoms of pandemic flu should be treated according to pandemic flu pathways (see above) and not referred as new patients to respiratory clinics. Infection control considerations must be taken into account in all instances.

Examples of acute respiratory symptoms, not thought to be due to pandemic flu, that will require the patient to be issued with a Yellow Card and referred for outpatient consultation during an emergency pandemic period (together with priority indicator P1, P2, P3; see Table 2, p4) include:

- ▶ stridor (P1)
- ▶ severe breathlessness (P1)
- ▶ large volume haemoptysis (P1)
- ▶ small volume haemoptysis (P2/3)
- ▶ suspected malignancy (P2)
- ▶ suspected tuberculosis (P1/2 – also public health priority)
- ▶ pleural effusion (P2/3)
- ▶ abnormal chest X-rays (P2/3 – depending on abnormality).

All other new referrals should be delayed (either by the GP or by the consultant) for four months, unless agreed otherwise on a case-by-case basis.

This emergency strategy will undoubtedly affect usual standards of best care.

Reference

1 Lim W S. Pandemic flu: clinical management of patients with an influenza-like illness during an influenza pandemic. Provisional guidelines from the British Infection Society, British Thoracic Society, and Health Protection Agency in collaboration with the Department of Health. *Thorax* 2007;62(suppl 1);1–46. (Accessible at www.brit-thoracic.org.uk/pandemicflu)

Wei Shen Lim
Ann Millar
British Thoracic Society

Part 2: Affected medical specialties

Cardiology

A Background

The presenting symptoms and complaints of patients attending cardiology outpatient clinics are:

- ▶ chest pain (~45%)
- ▶ palpitations (~25%)
- ▶ heart failure (~10%)
- ▶ syncope/dizziness (~5%)
- ▶ valve disease (~5%)
- ▶ cardiomyopathy and Marfan's/aortic disease (~4%)
- ▶ heart disease in pregnancy (~1%)
- ▶ other (~5%)*

B New patients

Priority 1: Apparent life-threatening illness

This category includes patients with:

- ▶ syncope associated with exercise, with evidence of native or prosthetic valve disease or with a family history of sudden death
- ▶ palpitations or chest pain with collapse (patients with chest pain should be referred to a rapid-access chest pain clinic (RACPC))[†]
- ▶ history of fever/malaise and having heart valve disease, congenital heart disease or a previous history of infectious endocarditis.

Patients with symptoms compatible with acute myocardial infarction and those patients with symptoms and signs of acute pulmonary oedema will be referred to the A&E department and issued with a Yellow Follow-up Card (see Appendix).

Priority 2: Potentially life-shortening illness

Patients with the following conditions should be issued with a Yellow Card:

- ▶ unexplained syncope other than above
- ▶ shortness of breath or oedema believed to be of cardiac origin refractory to oral diuretics with grade 3–4 symptoms and/or paroxysmal nocturnal dyspnea (PND), or believed to be of cardiac origin presenting in pregnancy
- ▶ history of significant congenital heart disease who have become pregnant.

*Figures based on a recent survey of outpatient attendance at Sheffield Teaching Hospitals Trust.

[†]These recommendations on RACPC referrals would predict a reduction in referral rates to <20% (based on figures supplied by Professor A Timmis).

Priority 3: Intolerable symptoms

Patients with the following conditions should be issued with a Yellow Card:

- ▶ shortness of breath refractory to oral diuretics with grade 3–4 symptoms and/or PND
- ▶ atrial fibrillation with continued symptoms of shortness of breath/pre-syncope despite attempts at rate control.

C Follow-up patients

These should be stratified along the access/follow-up card system (see Appendix).

1 Patients who will need continued review –

Yellow Follow-up Card and planned appointment

- ▶ Pacemaker clinic patients where pacemaker is <6 months from estimated end-of-life
- ▶ Defibrillator clinic patients where device is <6 months from estimated end-of-life or has delivered >1 shock
- ▶ Anticoagulant clinic patients – see below
- ▶ Pregnant patients with established heart disease under cardiac review

2 Patients who may need access to outpatient review within four months – Yellow Card only

- ▶ Heart failure clinic patients
- ▶ Patients followed because of a history of ventricular tachycardia (VT), or survivor of out-of-hospital ventricular fibrillation (VF)

3 Patients whose appointments can be cancelled for four months

- ▶ All palpitation patients without syncope
- ▶ All patients with chest pain and previous normal coronary artery disease
- ▶ All 'routine' valve follow-up patients
- ▶ All 'routine' post-revascularisation patients
- ▶ All patients followed by surveillance echo (aortic dimensions etc)
- ▶ All 'routine' follow-up of patients with atrial fibrillation or other SVT patients

4 Patients on anticoagulants

These patients should attend for blood test checks as usual – Yellow Card.

David Crossman

Joint Specialty Committee for Cardiology

Dermatology

A Follow-up of established outpatients

- ▶ Patients with proven malignancy (malignant melanoma, squamous cell carcinoma, cutaneous lymphoma, etc): delay four months, but establish access/follow-up card system (Blue Access Card), plus planned selective follow-up for those patients most at risk (Yellow Follow-up Card) (see Appendix).
- ▶ Patients with unstable skin and past history of skin malignancies: delay four months, but establish card system (Blue Card), plus planned selective follow-up for those patients most at risk (Yellow Card).
- ▶ Patients receiving immunosuppressive or anti-mitotic therapy – dose and disease stable: delay four months, but establish access/follow-up card system (Blue Card), plus planned selective follow-up for those patients most at risk (Yellow Card).
- ▶ Patients commencing immunosuppressive or anti-mitotic therapy – dose and disease not stable: see as planned (Yellow Card).
- ▶ Patients receiving other therapy requiring regular monitoring and prescription (eg thalidomide, acitretin, isotretinoin): see as planned (Yellow Card).
- ▶ Patients receiving intravenous hospital treatment (eg immunoglobulin or biological therapy): see as planned (Yellow Card).
- ▶ Other skin diseases: delay four months.

B New patient appointments

Examples of those new life-threatening or severe symptoms that should be referred for outpatient consultation (together with priority indicator P1, P2, P3 and the card to be issued under the access/follow-up card system):

- ▶ connective tissue disease with systemic upset (P1: Yellow Card)
- ▶ severe drug reactions (P1: Yellow Card)
- ▶ Stevens-Johnson syndrome (P1: Yellow Card)
- ▶ toxic epidermal necrolysis (P1: Yellow Card)
- ▶ erythrodermic eczema (P2: Yellow Card)
- ▶ pustular or erythrodermic psoriasis (P2: Yellow Card)
- ▶ suspected malignant melanoma (P2: Yellow Card)
- ▶ suspected squamous cell carcinoma (P2: Yellow Card)
- ▶ suspected rapidly growing skin malignancy (P2: Yellow Card)
- ▶ vasculitis (P2: Yellow Card)

- ▶ blistering disease; pemphigoid, pemphigus etc (P3: Blue or Yellow Card depending on severity and local capacity)
- ▶ eczema herpeticum (P3: Blue or Yellow Card depending on severity and local capacity)
- ▶ pyoderma gangrenosum (P3: Blue or Yellow Card depending on severity and local capacity).

All other new referrals must be delayed (either by the GP or by the consultant) for four months. This strategy will undoubtedly affect standards of care, but this is an emergency situation.

Jane Sterling

Joint Specialty Committee for Dermatology

Diabetes

A Implications

People with diabetes are more susceptible to infection and are at significantly higher risk of adverse outcome during an influenza pandemic, including increased mortality. Sub-optimal diabetes control impairs natural immunity to infection and delays recovery. Infection itself further aggravates dysglycaemia, leading to a classical adverse vicious cycle. Optimising glycaemic control during acute infection is a fundamental principle of diabetes management.

In addition diabetes is associated with the development of well-recognised long-term complications which will further increase risk of comorbidity and mortality during an influenza pandemic. There will be special considerations for patients with renal impairment (nephropathy), but in particular the greater prevalence of underlying coronary heart disease is likely to lead to increased acute cardiac events, known to be triggered by influenza infection.

Influenza vaccination has been shown to reduce hospital admissions among people with diabetes and to lessen associated complications (such as pneumonia) and mortality. It is uncertain whether vaccination, either in terms of supply or specificity, will be available for such an anticipated influenza pandemic.

These considerations will have major implications for diabetes services throughout all healthcare sectors – primary care, community and acute hospital (secondary/tertiary) care. Influenza infection is likely to result in a substantial need for acute diabetes service provision, with increased hospitalisation (presently diabetes occurs in 15% of patients in hospital, and this figure is likely to be higher during a pandemic).

Rapid emergency access clinics need to be established to cope with the likely need for significant increase in new insulin conversions. Close communication between primary care and specialist teams will be essential to ensure that diabetes service provision is at its most effective and efficient. At the same time, although routine aspects of diabetes care will be deferred, many patients with diabetes will continue to have special needs requiring immediate attention, and these clinical care pathways will need to be preserved and carefully controlled. Where possible educational initiatives should be put in place prior to an anticipated influenza pandemic to prepare patients with diabetes for self-management issues that will arise (effect of infection on diabetes control, need to increase blood glucose monitoring, appropriate insulin dose adjustment, when to seek advice from a healthcare professional).

B Contingency planning – secondary care services

Outpatient activity

- ▶ Cancel/defer all 'routine' follow-up consultations for a four-month period.
- ▶ Determine minimum staff required to provide essential specialist services.

- ▶ Identify high-risk cases that still need to be seen under the access/follow-up card system (see Appendix), including patients with:
 - disabling hypoglycaemia (Yellow Card)
 - new type 1 diabetes requiring urgent insulin treatment (Yellow Card)
 - diabetes and who are pregnant (Yellow Card)
 - serious diabetic complications, such as:
 - incipient gangrene/critical ischaemia of foot (Yellow Card)
 - visually threatening retinopathy (Yellow Card)
 - stage 4 renal failure (Yellow Card).

Acute metabolic disturbance

People with diabetes suffering from acute influenza infection are likely to experience deterioration in glycaemic control, resulting in a number of potentially emergency situations:

- ▶ diabetic ketoacidosis (likely need for admission: Yellow Card)
- ▶ hyperosmolar dysequilibrium (likely need for admission: Yellow Card)
- ▶ requirement to increase existing medication (increase in oral hypoglycaemic tablets, increased insulin dosage, increased need to convert from tablets to insulin all likely to require specialist healthcare professional input: Yellow Card).

Inpatient diabetes management

It is expected that there will be a significant increase in numbers of people with diabetes requiring hospital admission, which therefore will, in turn, result in a need for increased specialist diabetes support to ward areas. An increase in inpatient care in the event of a pandemic will necessitate:

- ▶ deploying a greater proportion of specialist teams (medical/nursing) to acute ward areas
- ▶ providing specialist advice on diabetes to facilitate early discharge from hospital.

C Communication with primary care

Good communication channels are essential in order to:

- ▶ ensure optimal management of diabetes in the community to minimise need for hospital admission
- ▶ facilitate early discharge from hospital
- ▶ provide immediate/rapid advice on management of diabetes.

D Primary care services

GPs and healthcare professionals working in the community will shoulder a major impact from an influenza epidemic and the consequences to people with diabetes. Currently 90% of diabetes management is undertaken in primary care. This will therefore entail specific contingency planning in the event of an influenza pandemic:

- ▶ All routine diabetes reviews should be suspended.
- ▶ Emergency access for 'acute' diabetes-related problems will be needed.
- ▶ Rapid, effective communication channels to the multidisciplinary specialist team should be established.
- ▶ Clinical care pathways for high-risk complications eg foot ulceration, incipient gangrene, should continue (Yellow Card).
- ▶ Retinal screening programmes could be maintained (as separate from clinical services), although are likely to be disrupted because of patient and staff illness (Yellow Card, if capacity allows).

Ken Shaw

Joint Specialty Committee for Endocrinology & Diabetes

Endocrinology

A Follow-up of established outpatients

Follow-up of established outpatients should be as follows:

- ▶ patients with thyroid disease: delay four months, but issue Blue Access Cards under the access/follow-up card system (see Appendix), plus planned selective follow-up (Yellow Card) for those with unstable disease.
- ▶ patients with pituitary disease: delay four months, but issue Blue Cards, plus planned selective follow-up (Yellow Card) for those with unstable disease.
- ▶ patients with adrenal disease: delay four months, but issue Blue Cards, plus planned selective follow-up (Yellow Card) for those with unstable disease.
- ▶ all patients with reproductive endocrinopathy: delay four months (Blue Card).
- ▶ all patients with metabolic and lipid disorders: delay four months (Blue Card).
- ▶ all patients with obesity: delay four months (Blue Card).

B New patient appointments

It is assumed that acute medical and surgical emergencies demanding immediate admission will be seen in A&E or an admissions unit.

Examples of those new life-threatening or severe symptoms that should be referred for admission or outpatient consultation (together with priority indicator P1, P2, P3 (see Table 2, p4) and the card to be issued) include:

- ▶ pituitary or parasellar tumours with visual field defects (P1: Yellow Card) or without visual field defect (P2: Yellow Card)
- ▶ new-onset hypopituitarism (P1: Yellow Card)
- ▶ new-onset Addison's disease (P1: Yellow Card)
- ▶ new-onset thyrotoxicosis (P1/P2: Yellow Card)
- ▶ new severe metabolic abnormalities such as profound hypernatraemia, hyponatraemia, hypocalcaemia, hypercalcaemia (P1/P2/P3: Blue or Yellow Card, depending on severity)
- ▶ adrenal masses of uncertain aetiology (P1/2: Yellow Card)
- ▶ endocrinopathy in a pregnant patient (P1/P2/P3: Blue or Yellow Card, depending on severity).

All other new referrals must be delayed (either by the GP or by the consultant) for four months. This emergency strategy will undoubtedly affect usual standards of care.

Tara Kearney
Society for Endocrinology

Gastroenterology and hepatology

A Follow-up of established outpatients

The access/follow-up card system (see Appendix) should be implemented for patients with the following conditions:

- ▶ proven malignancy: delay four months and issue Blue Card, plus planned selective follow-up for severe cases (Yellow Card)
- ▶ all oesophageal diseases: delay four months (no card)
- ▶ peptic ulceration, including *H. pylori* infection: delay four months (no card)
- ▶ pancreatic disease: delay four months (no card)
- ▶ coeliac disease: delay four months (no card)
- ▶ short bowel syndrome: delay four months and issue Blue Card, plus selective follow-up for severe patients (Yellow Card)
- ▶ Crohn's disease and ulcerative colitis: delay four months and issue Blue Card, plus selective follow-up for severe patients (Yellow Card)
- ▶ all functional disorders (irritable bowel etc): delay four months (no card)
- ▶ cirrhosis: delay four months and issue Blue Card, plus selective follow-up for severe patients (Yellow Card)
- ▶ chronic viral hepatitis: delay four months and issue Blue Card, plus selective follow-up for severe patients (Yellow Card)
- ▶ other liver diseases: delay four months (no card)
- ▶ liver transplantation: delay four months and issue Blue Card, plus selective follow-up for severe patients (Yellow Card).

B New patient appointments

Examples of those new life-threatening or severe symptoms for which patients should be referred for outpatient consultation, together with priority indicator (P1, P2, P3; see Table 2, p4) and the access/follow-up card to be issued are as follows:

- ▶ dysphagia for solids (P1: Yellow Card)
- ▶ new severe dyspepsia aged >60 years (P2/P3: Yellow Card)
- ▶ unexplained weight loss of >15% (P2: Yellow Card)
- ▶ iron deficiency anaemia (must have MCV <80 fl) (P2: Yellow Card)
- ▶ abdominal pain, plus raised CRP (P2/P3: Yellow Card)
- ▶ jaundice (P2: Yellow Card)

- ▶ severe abdominal pain (P3: Yellow Card)
- ▶ unexplained major abnormality of liver function tests (P2: Yellow Card)
- ▶ onset of ascites (P2/P3: Yellow Card)
- ▶ bloody diarrhoea (P2/P3: Yellow Card)
- ▶ low abdominal pain plus substantial rectal bleeding (P2/P3: Yellow Card).

All other new referrals must be delayed (either by the GP or by the consultant) for four months. This emergency strategy will undoubtedly affect usual standards of care.

Roy Pounder

Jon Rhodes

Joint Specialty Committee for Gastroenterology & Hepatology

Genitourinary medicine

High-risk sexual activity causing sexually transmitted infections (STIs) will probably decrease significantly during an outbreak of pandemic flu.

It is assumed that all those seen in outpatient clinics will have a clinical condition that, in order of priority, is either:

- ▶ a life-threatening problem (P1) (see Table 2, p4)
- ▶ of life-shortening potential (P2)
- ▶ causes unbearable symptoms (P3)
- ▶ a significant public health risk (eg acute symptomatic chlamydial infection, HIV seroconversion illness or symptoms suggesting gonorrhoea) (P3).

A Follow-up of outpatients

Genitourinary medicine

All face-to-face appointments should be delayed for four months with rare exceptions identified either by clinical need, according to specialty guidance, or by the patient telephoning the hospital for verbal assistance and a possible clinic visit.

HIV

Pregnant women, patients with a CD4 count of <200 and not on highly active antiretroviral therapy (HAART), those failing treatment and those recently started on HAART will require follow-up within a four-month window (Yellow Card, under the access/follow-up card system (see Appendix)).

Arrangements will be made to ensure all patients on HAART have adequate prescriptions. This can be done by post for the majority of patients who are registered with 'home delivery', and recruitment to this should be encouraged.

B New outpatient appointments

Referrals

- ▶ It is anticipated that the rate of new non-influenza-related referrals will fall dramatically.
- ▶ The referral letter should fulfil priority criteria for each specialty.
- ▶ A consultant (or most senior available clinician) should review every new referral, sanctioning only those with apparent life-threatening illness (P1), or of life-shortening potential (P2), or causing unbearable symptoms (P3). Those potentially posing a significant public health risk will need evaluation by a senior doctor.
- ▶ All new patient referral letters must have the patient's phone number, and further

prioritisation will usually be made during an initial telephone consultation between the consultant and the patient.

- ▶ For self-referring GUM and sexual health patients, a form of triage will be necessary either through a telephone line or through an electronic triage system. It may be that such a call-centre approach is able to dispense advice and symptomatic syndromic treatment using antibiotics available from community settings.

C Specialty priorities for outpatient review

In GUM, sexual health and HIV, assessment of specific groups of patients with symptoms or illnesses that are likely to be considered priorities must be equitable and universal. The following has been agreed by the Joint Specialty Committee for Genitourinary Medicine and the specialty associations.

New patient appointments

Examples of patient groups with new life-threatening or severe symptoms that should be referred for outpatient consultation (Yellow Card) are as follows:

- ▶ pregnant women with HIV infection
- ▶ pregnant women with previously untreated syphilis infection
- ▶ HIV-infected individuals not on HAART with CD4 <200
- ▶ HIV-infected individuals with CD4 <200 either on or off treatment who develop:
 - altered consciousness, severe intractable headache, fits (central nervous system)
 - bloody diarrhoea, weight loss >15%, jaundice (gastrointestinal)
 - possible tuberculosis/pneumocystic jorvecii pneumonia (respiratory)
 - Stevens-Johnson Syndrome (skin)
- ▶ patients with symptoms and risk behaviour which suggest infectious syphilis
- ▶ patients with severe primary herpes infection
- ▶ those who pose a significant public health risk

All other new referrals must be delayed (either by the GP or by the consultant) for four months. This emergency strategy will undoubtedly affect usual standards of care.

The majority of GU clinic attenders self-refer. A robust method will need to be put in place to carry out telephone assessment of patients' symptoms and advice on management. Regional networks and collaborations between centres should make the best use of a limited number of staff available to provide telephone and syndromic management of patients with suspected STIs. Epidemiological surveillance for STIs is likely to be severely compromised during an influenza epidemic.

Simon Barton

Jackie Sherrard

Joint Specialty Committee for Genitourinary Medicine

Geriatric medicine

A Introduction

People aged over 65 occupy two-thirds of NHS beds. The majority of physicians specialising in geriatric medicine are on take for general medicine as well as being responsible for wards for frail older people.

It is anticipated that older frail people in hospital, because of their frailty, may be more vulnerable to infection and also have a higher case fatality rate. Infection control and isolation in wards for older people will need to be of a higher order because of the dependency of the patients. Hand washing and respiratory hygiene will be essential. This may be challenging because of the shortage of single room accommodation.

Older frail people are more likely to develop secondary complications such as pneumonia and respiratory failure, in some cases requiring ventilation and/or intensive care. They will also take longer to recover from their illness, needing longer hospital stays. This in turn will put pressure on the numbers of beds available for older people as bed numbers have been reduced. Care homes and intermediate care do not have the staffing resources to care for such sick patients.

Geriatricians pride themselves on ensuring that older people are discharged safely to their own homes with sufficient support at home. In the presence of a pandemic flu, discharging older frail patients home will become increasingly difficult as the workforce providing social service support, primary care and care in care homes will be equally affected.

B Implications

- ▶ Hands-on staff such as nurses, geriatricians and their junior staff will need to be immunised, as well as care home staff and the domiciliary work force.
- ▶ At-risk frail older people will need to be immunised as in the yearly flu immunisation.
- ▶ Closed wards may need to be reopened to cope with the excess work.
- ▶ All doctors will need to work with sick patients and consideration will need to be given to cancelling non-urgent activities such as outpatient appointments.
- ▶ A key geriatrician and lead nurse should be appointed to work closely with hospital management to ensure effective management of the most vulnerable group of patients.

Jackie Morris

Joint Specialty Committee for Geriatrics

Haematology

A Laboratory services

Laboratory services are likely to be seriously curtailed* in the event of an influenza pandemic, as up to 50% of the technical and scientific staff may be ill for a number of weeks. This would have three major impacts on the ability of all clinical services to function effectively. These are, in descending order of importance:

1 Supply of blood

Blood banks will not be able to cross-match blood for elective surgery apart from some cancer cases which could not be delayed (semi-emergency) and some obstetric cases. With these exceptions the service could only support emergency surgery and acute severe blood loss. In the latter case it may be necessary to restrict the amount of blood cross-matched to a maximum of 6 units plus a dose of NovoSeven to aid haemostasis. This approach may only be required if hospital stock levels fall below 40% of normal levels. Similar restrictions would apply to the provision of platelet concentrates and plasma products.

Blood donations would also decrease, but perhaps by only 25% because donors are from a younger age group. The National Blood Service (NBS) has looked at shortage of blood supply in relation to vCJD and produced guidance issued by the Chief Medical Officer (CMO) through the 'Gateway'.[†] The principles are the same whatever the cause of the shortage of blood but in this case there would be the additional problem of shortage of NBS staff to process what blood was available. The weblink to this guidance is given below.[†] It contains recommendations on the decision-making process which all hospitals would find useful.

2 'Routine' analytical service

Labs will need to stop all so-called routine tests, such as ESRs and coagulation screens, which are often requested when there is no clinical indication. They will need to concentrate on the management of the emergency and acutely ill patient as in the transfusion labs. This will require greater scrutiny of requests to exclude the non-urgent, which will require liaison with key clinical user groups to agree criteria for acceptance or rejection of a request, as is well established in surgical maximum blood ordering menus.

All advanced techniques, such as haematinic assays, flow cytometry and ELISA/PCR-based tests, may need to be suspended in order to sustain the emergency service. Some agreement would be needed with GPs about their access to lab tests as their workload can exceed 50% of routine tests in many district general hospitals.

*Major reductions in lab workload have been managed in the past 30 years during strikes by biomedical scientists but there is no reliable evidence on how this was achieved overall nationally, or on the effects on quality and outcomes of care.

[†]National Blood Service guidance on shortage of blood supply (in relation to vCJD): http://bloodnet/hospitals/library/pdf/ESD_PCS_HL_001_01.pdf.

3 Anticoagulant monitoring

The interval between tests for patients who have 'stable' control of the international normalised ratio (INR) could be lengthened according to the duration of the pandemic. The elective initiation of prophylactic warfarin may need to be suspended. It is unlikely that self-monitoring could be increased in time to reduce the workload further.

B Clinical services

In the event of pandemic flu, clinical haematology would move to a largely outpatient or day-case basis and only those patients who need intensive inpatient support would be admitted to hospital.

Outpatients and day cases

There is a mixture of non-urgent and more acute attendance and the former could be reduced. The investigation of numerical abnormalities of blood counts, routine follow-up of early stages of myeloproliferative and lymphoproliferative disorders and the investigation of potential thrombophilia could all be postponed. Therapeutic apheresis of dubious value could be suspended. The interval between transfusions for patients with chronic marrow failure could be increased. Non-urgent chemotherapy could be postponed.

Inpatient care

It may be possible to delay some elective chemotherapy which would normally require inpatient support. Some cases for semi-elective stem cell transplants could be delayed as could joint replacement and other elective surgery for haemophiliacs.

Mike Galloway

Intercollegiate Committee on Haematology

Immunology and allergy

A Outpatient and day-case activity

Each unit should produce local plans, and should identify in advance when hospital assessment of outpatients during a pandemic is necessary. Each unit should establish – and communicate – a procedure by which appropriate patients can access the service they require in the event of a pandemic.

Immunology day-case activity

- ▶ Each unit should establish and communicate a local contingency plan to triage immunodeficient, hereditary angioedema (HAE) and severe allergy patients appropriately – where possible by issuing advice to patients at home, and by enabling home therapy. This should take account of availability of any new therapies which may be of use in this context – eg injectable icatibant.
- ▶ Each unit should have a contingency plan to maintain immunoglobulin supplies and frequency of administration where possible – possibly by facilitating home infusion or home supplies of C1 inhibitor (C1inh).
- ▶ Extra attention should be given to appropriate hand, surface and fomite disinfection to reduce likelihood of influenza spread in departments.
- ▶ Each primary immunodeficiency unit should have measures in place to safeguard those patients at high risk (eg patients with severe cellular or combined immunodeficiency, or those with severe pulmonary disease).

Allergy day-case activity

- ▶ All procedures (hospital injection immunotherapy and challenge testing) will cease until normal service is restored in the recovery phase.
- ▶ Each unit should have a written policy for managing new patients referred with severe allergies/anaphylaxis – possibly by telephone consultation and issuing of appropriate initial risk management advice remotely.
- ▶ Special consideration will need to be given to continuation of desensitisation for venom-allergic individuals in the up-dosing phase where there may be an increased risk from loss of tolerance. A risk assessment should be made locally, and where necessary contingency plans to continue with desensitisation made in selected cases.

Immunology laboratory activity

- ▶ Depending on staffing levels, routine laboratory activity may have to be reduced or cease during surge periods and a core list of essential tests for each discipline should be available. Suitably multi-skilled staff may be asked to assist in maintenance of essential testing (these staff should be identified as part of their local laboratory medicine surge planning processes).
- ▶ Specialised testing may have to cease for the period of the pandemic surge.

- ▶ All laboratories should have internal protocols for managing the service in the event of significant staff losses through illness, and difficulties with supply of reagents and transport of specimens.

Egg-allergic patients

- ▶ Flu vaccines should not be given to those who have had a confirmed anaphylactic reaction to a previous dose of the vaccine, or to any component of the vaccine or to egg. In practice such reactions are rare.
- ▶ If patients react to flu vaccine they should be resuscitated following national guidelines. On recovery, a careful history should be taken, documenting the timing of the reaction in relation to the vaccine. An elevated mast cell tryptase is highly suggestive of an anaphylactic reaction and can distinguish syncopal and other states. The same blood sample can be used to test for egg-specific immunoglobulin E (IgE).
- ▶ Specialist advice should be sought from a consultant with training in allergy under these circumstances.

B Support and advice for immunodeficient patients admitted for care

Hospital medical and nursing staff should organise a telephone advice rota to ensure that specialist advice (as appropriate to the scope of the local service) is available to the acute medical teams for care decisions on:

- ▶ immunodeficient patients
- ▶ patients with severe autoimmune disease
- ▶ patients on immunosuppression
- ▶ patients with hereditary angioedema
- ▶ patients with severe allergy.

Known, advanced and irreversible immunocompromise requiring respiratory support will potentially be an exclusion criteria for admission to critical care from A&E or from ward, potentially adversely affecting primary immunodeficiency disease (PID) patients with combined immunodeficiency. Appropriate protocols are required to ensure that PID patients are not disadvantaged unnecessarily.

Under the proposed access/follow-up card system (see Appendix), patients judged to be at high risk will need to be issued with either a Blue Card to indicate their need for remote access to hospital services during the surge phase, or a Yellow Card to enable those who require assessment on site to gain access to the unit (see section E, Management of outpatient clinics).

Centres should consider issuing supplies of oral antibiotics to be held at home to all their immunodeficient patients for initial self-treatment according to existing protocols – as is currently used for geographically isolated patients. Similarly, appropriate supplies of C1inh and rescue medications may need to be issued to selected patients if a pandemic is imminent.

C Paediatrics

Separate planning will be required to manage paediatric cases by local or regional paediatric immunodeficiency and allergy centres via their paediatric specialists in infectious diseases, immunology or allergy. Appropriate arrangements may be needed to avoid problems in accessing care in adolescent patients in transition between paediatric and adult care.

D Public information

- ▶ Centres should contact all of their PID, HAE and severe allergy cohort to explain the local plan for managing acute assessment, emergency treatment, infusions and immunoglobulin supplies during the pandemic surge.
- ▶ National patient organisations may be a useful source of advice and support for PID patients.

E Management of outpatient clinics

Follow-up outpatients

- ▶ Those at high risk should be contacted by the team at the beginning of the surge so that some follow-up arrangements can be established (in accordance with UKPIN guidance). These patients should be issued with a Yellow Card to identify them as high risk.
- ▶ Each department needs to identify patients on immunosuppressant drugs and develop a system for providing each patient with a request form, reviewing the results, and contacting the patient. These patients should be issued with a Yellow Card to identify them as high risk and enable them to access remote advice and services during a surge. The standard of care for these safety studies may have to be lowered, according to the emergency situation.
- ▶ The phlebotomy service will need planning to ensure that there is a minimal chance of cross-infection between patients. Immunology units may wish to ensure high-risk patients are bled in OP/clinic to reduce risk.

Specific information to add to the Yellow and Blue Access/Follow-up Cards

- ▶ Useful information may be found on the following websites:
 - your local health trust
 - Department of Health (DH): www.dh.gov.uk
 - Health Protection Agency: www.hpa.org.uk
 - UK Primary Immunodeficiency Network (UKPIN): www.ukpin.org.uk
 - Primary Immunodeficiency Association (PiA): www.pia.org.uk
 - Allergy UK: www.allergyuk.org
 - Anaphylaxis Campaign: www.anaphylaxis.org

- ▶ Your contact number for the immunology/allergy clinic is: [insert appropriate telephone number]. We will try to give you advice by telephone where appropriate.
- ▶ Queries about immunoglobulin supplies can be made using the following number: [insert appropriate number].

New outpatient appointments

All appointments may be delayed by up to four months, with the exception of high-priority cases outlined in section F below. Initial risk management of allergy patients (avoidance, issuing of EpiPens, dietary avoidance advice etc) may be possible by letter or telephone consultation.

F Specialty priorities for outpatient review

Immunology and allergy symptoms or illnesses that are likely to be considered priorities are:

- ▶ severe immunodeficiency
- ▶ severe and uncontrolled HAE
- ▶ severe and uncontrolled allergy/idiopathic anaphylaxis
- ▶ severe autoimmunity or vasculitis with signs of relapse/deterioration
- ▶ established immunodeficiency with new complication requiring specialty consultation.

Priority patients will be identified by the clinical teams and will be notified by the issuing of appropriate information, including letters and either a Yellow or Blue Card.

Priorities for follow-up of established outpatient attenders

- ▶ Vasculitis (confer with rheumatology specialty advice) with high risk of acute deterioration or significant organ involvement
- ▶ Severe PID
- ▶ Severe HAE
- ▶ Severe recurrent anaphylaxis despite avoidance
- ▶ Severe intercurrent infections unresponsive to first line oral antibiotics or showing signs of acute deterioration.

Priorities for new patient appointments

Examples of new life-threatening or severe symptoms that should be referred for outpatient consultation are:

- ▶ angioedema affecting breathing
- ▶ severe and recurrent anaphylaxis
- ▶ new severe immunodeficiency.

William Egner

Joint Committee on Immunology & Allergy

Neurology

Non-emergency outpatient referrals will be cancelled or postponed for the duration of a surge, using telephone discussion with GPs to triage and dispense advice as necessary.

A Priorities for follow-up of established outpatient attenders

Patients with the following conditions will be reviewed and considered for priority access (Yellow Follow-up or Blue Access Card (see Appendix)):

- ▶ muscle: active polymyositis
- ▶ neuromuscular junction: recent uncontrolled myasthenia gravis
- ▶ peripheral nerve disease: chronic inflammatory demyelinating neuropathy on immunosuppressant treatment or active vasculitic neuropathy
- ▶ brain disorders: idiopathic intracranial hypertension with visual failure.

B Priorities for new patient appointments

Emergency outpatient assessments and follow-up will take place according to need, as judged by the neurologist. Examples of conditions for which emergency outpatient appointments would be required include:

- ▶ rapidly progressive neurological deficits – rapid cognitive decline, visual loss, papilloedema, motor weakness, myasthenia gravis, suspected mass lesions
- ▶ new-onset fits – focal or generalised.

Patients with severe epilepsy should be managed on a case-by-case basis, and offered telephone advice or admission as required.

This list is not definitive, and some cases will need to be judged individually.

David Bateman

Joint Clinical Neurosciences Committee

Oncology

A Implications

In the event of an influenza pandemic, patients with cancer may be more susceptible to infection and have higher levels of morbidity and mortality from infection because of the following factors:

- ▶ neutropenia and neutropenic sepsis associated with complications of chemotherapy
- ▶ impaired immune function associated with disease (haematological malignancy) or post treatment (impaired immune function up to 12 months post chemotherapy)
- ▶ loss of immunity
- ▶ disease burden relating in organ dysfunction such as pulmonary dysfunction, liver dysfunction and bone marrow dysfunction
- ▶ concomitant use of corticosteroids as an anti-emetic or for cancer-related symptoms and in some treatment regimens.

Cancer affects 1 in 4 individuals in the UK, and the prevalence increases with age. Hence there is a high prevalence of cancer in older patients, whose comorbidity may also put them at risk of significant infection both because of disease and in relation to treatment.

Patients on active treatment for cancer with systemic anti-cancer treatment (SACT), such as chemotherapy, and patients who have had SACT within the past 12 months, are already more susceptible to influenza and other viral infections and are, routinely, candidates for annual vaccinations. It is not clear whether sufficient vaccination will be possible in a pandemic, either in terms of supply or specificity of vaccine. Patients with cancer receiving SACT should be priority candidates for such vaccine as is available, as should their families.

The main issue for oncology services will be balancing the risks of interrupting treatment, or delaying the start of new treatment, against the risks of relapsing from the cancer (in the case of adjuvant treatment after surgery or radiotherapy), or dying from cancer both in relation to adjuvant treatment and for patients with established cancer. This is particularly problematic as most SACT has to be administered in hospital or in other specialist provider units, with the attendant risks in an influenza pandemic of:

- ▶ close contact with staff and other patients
- ▶ venesection and intravenous injection/infusion
- ▶ neutropenia
- ▶ neutropenic fever (requiring admission to hospital for intravenous antibiotics because of supra-added infection)
- ▶ other symptoms requiring admission to hospital which may be treatment related (eg emesis, electrolyte imbalance, diarrhoea, mucositis) or cancer related (eg electrolyte imbalance, pain, fracture, neurological dysfunction etc).

B Contingency planning: secondary care services

Outpatient activity

In the event of a pandemic, all routine follow-up appointments (usually at three-monthly, six-monthly and 12-monthly intervals) are to be deferred during the four-month 'surge' period. Patients in the follow-up phase could be followed up by telephone by tumour-site-specific clinical nurse specialists to document follow-up, outcome from influenza and new symptoms. Follow-up by telephone using tumour-site-specific clinical nurse specialists has been validated in clinical trials for some forms of cancer.

All patients requiring adjuvant treatment after presumed curative resection or radiotherapy for cancer should be considered for SACT but also considered for deferment of SACT for four months, depending on their risk of relapsing and dying from cancer and the hazard rates for such risk. For many tumours, there is no clear evidence that deferring adjuvant treatment for a few months (usually up to three months), has a negative impact on survival and in the situation of pandemic influenza, deferment of SACT for four months may be appropriate, particularly for patients at low to moderate risk of relapse. This will depend on a careful assessment of the risks and hazard rates for disease relapse and the relative and absolute benefits of treatment.

SACT should be considered for all patients who require it, provided the benefits for the individual are considered to outweigh the risks. This would include patients with curable cancers (haematological malignancy, germ cell tumours), adjuvant patients at high risk, and patients with metastatic disease for whom there is expectation of prolongation of life for more than six months.

Every effort must be made to avoid the problems associated with SACT. This will involve an increase in cost of supportive drugs as follows:

- ▶ optimal use of modern anti-emetics
- ▶ primary prophylaxis against neutropenia with granulocyte colony stimulating factors
- ▶ follow-up of patients at home after SACT by doctor or clinical nurse specialist to ascertain symptoms and minimise hospital visits
- ▶ patients and close family to be immunised against influenza
- ▶ If there is an option for oral treatment as opposed to intravenous treatment, this should be instituted even if oral treatment is more costly. This may apply to both supportive drugs and to some cytotoxic drugs.
- ▶ The simplest regimen deemed to be effective should be employed to minimise visits to hospital. This may require review of chemotherapy schedules to avoid multiple visits. In some cases, this may involve reverting to older chemotherapy schedules rather than more intensive schedules.

Priorities for inpatient admission

Inpatient admission may be necessary for patients with the following conditions:

- ▶ complex curative chemotherapy, eg germ cell tumours and haematological malignancy
- ▶ HIV malignancy and those patients undergoing bone marrow or stem cell rescue with high-dose chemotherapy (see Haematology section, p33); such individuals will require segregation
- ▶ symptoms of cancer
- ▶ complications relating to SACT.

C Communication with patients

Face-to-face contact should be kept at a minimum during an influenza pandemic, and hence alternative forms of consultation should be sought. This may include the following:

- ▶ video conferencing
- ▶ tele-conferencing
- ▶ telephone calls.

The use of telephone calls and the internet to transfer information about the risks and benefits of chemotherapy, followed up by a telephone call, should be considered. This would allow patients to consider the information available to them as far as possible, with minimal hospital visits. The benefits of treatment will need to be expressed with reference to the risks, particularly in relation to treatment-related infection during a time of pandemic influenza.

D Communication with primary care

Emergency access will still be required for acute problems related to oncology (Blue Access Card (see Appendix)). Rapid, effective communication channels with the multidisciplinary specialist team should be established.

Clinical care pathways for high-risk complications (eg neutropenia, expected infection, electrolyte imbalance, gastrointestinal disturbance) should be developed at a local level to avoid admissions to hospital whenever possible. This will in part be by the use of regimens and supportive drugs to minimise complications of treatments. This may mean using lower toxicity regimens and dose schedules (even if there is slightly lower efficacy).

Use of prophylactic antibiotics should be considered.

Alison Jones

Joint Specialty Committee for Medical Oncology

Rehabilitation medicine

A Introduction

In the event of an influenza pandemic, all forms of healthcare are likely to be under severe pressure. It is well worth developing policies to optimise delivery of health services to people with long-term conditions requiring rehabilitation or preventive management. Access to rehabilitation medicine (RM) services must be equitable for all patients who could benefit from them. If no such policies are formulated in advance, there is a danger that some sections of the population will be seriously disadvantaged compared to others.

- ▶ Each rehabilitation service should have a dedicated team to provide advice to primary healthcare teams and to families on the rehabilitative management of patients who cannot be admitted. This could include home visiting if conditions allow. Some acute events such as relapse in multiple sclerosis can be successfully managed without admission if such advice is available. In most cases the use of steroids is optional, not mandatory.
- ▶ Information packages for home-based health maintenance should be prepared and piloted now at a national level.

B Prevention and anticipation: advice for patients

Recommendations

- ▶ RM patients should be kept informed of whatever statements are made public by the Department of Health on contingency plans for pandemics.
- ▶ The issues discussed in this policy are highly sensitive and open to misinterpretation. It is essential that the policy described here is developed in collaboration with patients – including people with long-term disabilities – and their representatives.
- ▶ Some RM patients, who have taken out an advanced directive or living will, should ensure that this is accessible and up to date. Everyone should be aware of the opportunity to make an advance directive about their desires in the event of a medical emergency.
- ▶ Vaccination, if it is available, should be provided for all those who are most vulnerable to infection and most likely to benefit from it, in line with nationally agreed criteria.

C Impact of reduced availability of rehabilitation medicine inpatient services

In the event of a pandemic, rehabilitation medicine beds will be under pressure to admit medical emergencies. Staff numbers will be reduced and healthy staff members may be needed for acute services.

Recommendations

- ▶ All non-emergency admissions should cease immediately (eg admissions for elective therapy of people with long-term conditions).

- ▶ Discharges of people undergoing rehabilitation should be expedited even if optimal recovery has not occurred. A package of advice should be supplied to families and community staff for continuing home-based activities.
- ▶ Information/education packages for this purpose should be discussed and developed by teams now.

D Impact of reduced availability of rehabilitation medicine outpatient services

It may not be possible to provide any outpatient rehabilitation medicine services at all during a pandemic.

Recommendation

- ▶ An agreed schedule of priorities should be established for each service.

If any services are available, outpatient visits should be restricted (and Yellow Follow-up Cards issued (see Appendix)) to patients with:

- recent and severe increase in pain, requiring specialist management
- recent and severe deteriorations in disability, particularly where clinical assessment reduces the risk of potentially lethal complications such as skin sores.

Additional consultant specialist expertise can be made available by telephone consultations between patients and GPs.

Home visiting by RM consultants and/or their team members might be feasible and their priority would be:

- support of the same groups of patients as listed above as priorities for outpatient visits, but who are not able to attend hospital due to severe disability or the closing of outpatient services during the pandemic
- frail or dying patients, such as those with terminal conditions requiring palliative management, and those with rapidly changing conditions.

E Management of and access to rehabilitation medicine services

Hospital contact numbers for RM teams should be switched to mobile numbers or numbers with an on-call rota according to staffing.

There may be no hospital records available, and in this case individuals will have to keep a record of work done to be added into their medical records and to provide evidence of involvement or, of course, lack of involvement.

Chris Ward

Joint Specialty Committee for Rehabilitation Medicine;
British Society of Rehabilitation Medicine

Renal medicine*

A Implications of an influenza pandemic

Specific risks to renal patients of influenza infection and its complications

In normal influenza infection, patients at increased risk of complications are considered to be:

- ▶ those aged 65 years or older
- ▶ long-stay residential care home residents
- ▶ immuno-compromised patients
- ▶ those with:
 - chronic respiratory diseases
 - chronic heart disease
 - chronic kidney disease
 - nephrotic syndrome and established renal failure
 - chronic liver disease
 - diabetes.

It should be noted that, for kidney patients, it is hard to find good published evidence that renal patients are indeed at such increased risk.

Patients with pre-existing chronic kidney disease are at risk of pre-renal exacerbation through pyrexia, poor fluid intake from anorexia and sore throat, diarrhoea (which has been reported in a high proportion of avian and swine flu sufferers), and non steroidal anti-inflammatory drugs used by patients for treatment of myalgias and headaches.

Thus renal patients, many of whom have the above listed comorbidities or risk factors, are likely to be more at risk of serious morbidity and mortality during a pandemic. This will result in additional and perhaps disproportionate pressure on renal units where the skills for caring for these patients are concentrated.

Staffing issues

All hospital doctors, whatever their base specialty, are likely to be involved in the care of patients with influenza. Nephrologists (because they have general skills) will need to be prepared to help out in other clinical areas where possible.

Modelling suggests that small organisational units (5 to 15 staff) or small teams within larger organisational units are likely to suffer higher percentages of staff absences – up to 30–35% over a two- to three-week period at the local peak. This may have a significant impact on the running of satellite dialysis units.

*A longer version of this paper is available on the Renal Association website: www.renal.org.

Inpatients

Renal unit beds will be in great demand. Dialysis patients are more at risk of getting influenza infection and, when infected, of suffering a more severe clinical course. Unless they need ventilatory support, the inpatient care of such patients will need to be in an area where dialysis equipment and the appropriately trained staff are located. The tension between demands on the hospital trust to care for its local district general hospital population and of the renal unit to provide care for a wider catchment area will be significantly more acute than usual.

Haemodialysis

Challenges to the ongoing provision of maintenance outpatient haemodialysis for patients in established renal failure include:

- ▶ staff shortages affecting the main unit and satellite units
- ▶ difficulty cohorting infected patients when attending for dialysis
- ▶ exposure of staff to infected patients who need regular treatment
- ▶ risks to hospital transport
- ▶ risk to supplies and their delivery
- ▶ carer illness implications for patients on home dialysis programmes
- ▶ possible shortage of technicians.

Peritoneal dialysis

Peritoneal dialysis (PD) patients have the relative advantage over unit-based haemodialysis patients of not needing to attend hospital regularly. This will reduce their exposure to infection. However, the specific risks they face are:

- ▶ uncertainty over delivery of PD supplies
- ▶ nursing and medical support
- ▶ increased risk of infection through reduced immunity.

It will also be difficult to maintain a service that can start new patients on PD, mainly through a lack of nurses to provide the intensive training required.

Transplantation programmes

It is unlikely that there will be the human and hospital resources during a severe pandemic for living or deceased donor kidney transplant programmes to operate. Given the multiple personnel involved in successfully organising and seeing through a renal transplant, the pressures on the hospital facilities (particularly beds and critical care), and the enhanced risk of infection acquired in the peri-procedural period, it is possible that transplant programmes will need to be temporarily suspended.

B Recommendations for renal unit planning

General measures

- ▶ Register all contact details (including mobile phone numbers, and email addresses where available), for all dialysis, transplant, other immunosuppressed and low-clearance patients, to ensure failsafe communication lines, and enhance the potential for virtual or remote disease management.
- ▶ Prevent cross-infection in renal unit areas through segregation and cohorting of influenza patients in clinical areas. Such cohorting will be required whenever possible on wards, haemodialysis units, and in outpatient areas. Units will need to consider how they can achieve this within the constraints of their unit's design and flexibility.
- ▶ Follow local and national guidance on the prevention of spread of infection through protective clothing, masks, barrier nursing etc.
- ▶ Be prepared to have other parts of the renal unit adapted for inpatient activity if feasible.
- ▶ Identify key supplies, and ensure supply lines are maintained. This is particularly the case for renal unit haemodialysis supplies. It is assumed that peritoneal and haemodialysis (hospital and home) suppliers will have contingency plans in place for a pandemic, but it is advisable for renal units to check that these are in place with their suppliers.

Inpatients

- ▶ Treatment and admission criteria should be transparent and applied in a consistent and equitable way, utilising available capacity for the most seriously ill. Such criteria are likely to be developed nationally or on a strategic health authority basis, but specialist medical staff will probably need to contribute to daily triage and management decisions in any period when the demand for emergency beds exceeds the supply.
- ▶ Mechanisms for rapid discharge and follow-up where necessary should be established.
- ▶ Staff should be prepared to acquire additional skills at short notice for helping with the care of critically ill patients, many with acute respiratory failure, as intensive care units will be overwhelmed. Such additional training might include the administration of non-invasive ventilation.
- ▶ There will be an expectation that all elective admissions should be cancelled. Renal units will need to decide which non-emergency admissions they consider are still essential to prevent significant subsequent morbidity.
- ▶ Routine renal admissions that will need to be cancelled/postponed until the pandemic subsides include:
 - renal biopsies, unless there is (a) rapidly deteriorating renal function with no other apparent cause, or (b) nephrotic syndrome. It may prove exceptionally difficult to admit patients even with these presentations, and such patients may need to be treated 'blind', based on the balance of clinical probabilities

- renal artery stenting, unless there is known tight stenosis in a single kidney/bilateral critical renal artery stenosis with deteriorating function, or severe hypertension unresponsive to full medical treatment
- vascular access surgery, unless there is a critical shortage of central veins for a catheter. Whether cancelling such surgery is necessary will depend on the local pressures on the trust's beds and staff, and individual cases based on the clinical urgency. It may be that day-case surgery for arteriovenous fistula creation could keep going if the facility and surgical staff are available (which is likely, as most other routine surgical work is going to be cancelled)
- renal transplant surgery (see above)
- coronary angiography for transplant work-up
- parathyroidectomy, unless there is severe hypercalcaemia unresponsive to medical treatment.

Haemodialysis

- ▶ Consider selecting suitable patients for twice-weekly treatment, in the event that staffing levels in dialysis units cannot support three times weekly haemodialysis for all. Individual units will need to assess the safety of such an approach, in part determined by knowledge of residual renal function.
- ▶ Consider setting up or expanding night shifts for haemodialysis in the main hospital unit. As a result of (a) reduced staffing levels in satellite units, and (b) influenza infection of home haemodialysis patients or their carers, there is likely to be a significant increase in patients needing to receive haemodialysis in the main hospital unit.
- ▶ Cohort infected/uninfected patients separately wherever possible on the dialysis unit.
- ▶ Refresher/induction courses for renal nurses not experienced in haemodialysis may be required to ensure there are enough such nurses to provide haemodialysis in main units/satellites.
- ▶ Cancel routine outpatient visits.
- ▶ Consider asking home dialysis patients and their carers to provide dialysis for non-infected hospital patients.

Peritoneal dialysis

- ▶ Ensure with suppliers that there are contingency plans in place to ensure delivery of PD fluids to patients' homes.
- ▶ Patients may benefit from stockpiling fluids where possible (to be discussed with suppliers).
- ▶ Cancel routine outpatient appointments, but arrange for essential blood tests to be done, locally wherever possible.

Outpatients

- ▶ It is possible that all previously arranged outpatient clinics will be cancelled by the time UK alert level 3 (see Table 1, p2) is reached, and 'Choose and Book' will be suspended. New emergency clinics will need to be established, to see only those patients who genuinely need to attend the hospital for specialist review as opposed to distance/virtual/primary care management.
- ▶ Stable general nephrology, transplant, dialysis and low-clearance patients should be managed by remote blood test monitoring (when required) without needing a hospital visit. A lower frequency of blood testing may need to be accepted if phlebotomy services are compromised.
- ▶ Each renal unit will need to decide which criteria to use for determining the patients who genuinely need to be seen, but these criteria should be strict and centre on preventing or treating rapid progression of their underlying renal disease, and avoiding life-threatening complications of treatment (particularly recently commenced immunosuppressive regimens).
- ▶ Suggested categories of patients warranting hospital outpatient review (Yellow Follow-up Card) are:
 - new referrals with nephrotic syndrome, rapidly worsening renal impairment, acute multi-system disease with renal involvement, severe hypertension (if nephrology provides this service in the trust)
 - specialist long-term renal patients (transplant, low-clearance, other immunosuppressed, dialysis) who are acutely unwell, following a telephone consultation
- ▶ An effective emergency administrative structure will need to be set up in renal units. This is required for (a) effective communication with patients during the pandemic, and (b) to provide effective virtual clinical management. Considerations include:
 - setting up patient email address and mobile and home phone lists for efficient communication of general and personal advice and instructions
 - setting up dedicated departmental emergency phone lines and email addresses for patients to access the renal department directly. Trusts with effective websites could be rapidly adapted to direct patients to the appropriate pages for their condition(s)
 - establishing rotas for medical, nursing and clerical staff to man the virtual clinics, review results and liaise with patients.

Lawrence Goldberg

Renal Association;

Joint Specialty Committee for Renal Medicine

Rheumatology

A Follow-up of established outpatients

Follow-up of established outpatients should be as follows:

- ▶ patients with connective tissue diseases and vasculitis with potentially life-threatening manifestations: delay four months, but issue Blue Access Card or, for severe cases, planned selective follow-up (Yellow Card) (see Appendix).
- ▶ all patients with inflammatory arthritis: delay four months and issue Blue Access Card. For those with severe flare-ups or severe extra-articular manifestations, issue Yellow Follow-up Card.
- ▶ patients with inflammatory arthritis who are on parenteral therapies (eg methotrexate or gold) and biological therapies: delay four months, but transfer patient to oral or subcutaneous therapies where appropriate and feasible (Blue Access Card). For flare-ups in patients on intravenous therapies, and in all patients where complications such as sepsis are a possibility, issue a Yellow Card.
- ▶ patients with a recent history of septic arthritis: delay four months (Blue Card), but issue Yellow Cards for joint flare-ups.
- ▶ patients who are stable on disease-modifying anti-rheumatic drugs with no recent change of therapy, and with no blood test abnormalities for over six months, should have regular blood tests temporarily suspended, and only taken if symptoms of concern arise (Blue Card).

B New patient appointments

Examples of new life-threatening or severe symptoms for which patients should be referred for admission or outpatient consultation are:

- ▶ septic arthritis (P1 (see Table 2, p4): Yellow Card)
- ▶ new-onset connective tissue disease or vasculitis (P1/P2/P3: Blue or Yellow Card)
- ▶ polyarthralgias/myalgias with abnormal blood tests (P1/P2/P3: Blue or Yellow Card)
- ▶ new polyarthritis (P2/P3: Blue or Yellow Card)
- ▶ painful and disabling monoarthritis or oligoarthritis where sepsis is unlikely (P3: Blue Card).

All other new referrals must be delayed (either by the GP or by the consultant) for four months. This emergency strategy will undoubtedly affect usual standards of care.

Chris Deighton

Joint Specialty Committee for Rheumatology

Appendix

Yellow Card: for patients likely to need a follow-up appointment during a pandemic

Blue Card: for patients likely to require access to remote advice but not an appointment during a pandemic

These cards are to be given to existing outpatients at a time to be determined by the trust.

The Yellow Follow-up Card is for patients who clinicians consider to be at high risk.

They should phone the clinic a week before their next appointment to check whether they should come in or not. Each clinic should establish a register of such high-risk patients (importantly with their latest contact details) so that some follow-up arrangements can be established.

‘High risk’ is defined as having a clinical situation which, in order of priority, is:

- ▶ life-threatening (Priority 1)
- ▶ of life-shortening potential (Priority 2)
- ▶ causing unbearable symptoms (Priority 3).

The Blue Access Card is for patients whose appointments, in the consultants’ view, can be deferred until after the outbreak.

It provides access to specialist advice from a telephone hotline or via email, or both.

Each trust should establish phone numbers and an email address that can be used by all callers via the trust website and advertised in the local media.

Established clinics and departments should have separate direct lines and email addresses, both of which can be accessed by clinicians from outside the hospital.

YELLOW CARD

[insert local trust] NHS TRUST

FOLLOW-UP

[SPECIALTY NAME] CLINICS

Arrangement for outpatient care in the event of pandemic influenza

- ▶ If the hospital trust declares a major emergency, it will be announced on local radio, TV and press, as well as on the hospital's website: [insert hospital website]
- ▶ To minimise the spread of the flu, all outpatient appointments will be cancelled for up to four months, except for extremely ill patients.
- ▶ Patients seen in outpatient clinics will only be those with a clinical situation that, in order of priority, is:
 - ▶ a life-threatening problem (Priority 1)
 - ▶ of life-shortening potential (Priority 2)
 - ▶ causing unbearable symptoms (Priority 3).
- ▶ This means that all regular appointments are cancelled a week at a time, until the emergency is over.

YOU HAVE BEEN IDENTIFIED AS A PATIENT WHO MAY NEED TO BE SEEN, SO PLEASE MAKE CONTACT (SEE BELOW) A WEEK BEFORE YOUR NEXT APPOINTMENT IS DUE TO CHECK WHETHER YOU NEED TO VISIT THE HOSPITAL.

- ▶ If you need urgent help from your specialist clinic, please contact the answerphone on [insert telephone number], or send an email to [insert email address]. The message must include your first and second names, hospital number, and your phone number (ideally a mobile). Remember to say that you have this Yellow Card.
- ▶ Someone from the hospital will contact you as soon as possible.
- ▶ Do not visit the hospital without an appointment unless you are gravely ill, when you should go the Accident & Emergency Department.
- ▶ Normal services will be resumed as soon as possible when the emergency is over.

BLUE CARD

ACCESS

[insert local trust] NHS TRUST

[SPECIALTY NAME] CLINICS

Arrangement for outpatient care in the event of pandemic influenza

- ▶ If the hospital trust declares a major emergency, it will be announced on local radio, TV and press, as well as on the hospital's website [insert hospital website].
- ▶ To minimise the spread of the flu, all outpatient appointments will be cancelled for up to four months, except for extremely ill patients.
- ▶ Patients seen in outpatient clinics will only be those with a clinical situation that, in order of priority, is
 - ▶ a life-threatening problem (Priority 1)
 - ▶ of life-shortening potential (Priority 2)
 - ▶ causing unbearable symptoms (Priority 3).
- ▶ This means that all regular appointments are cancelled a week at a time, until the emergency is over.

YOU HAVE BEEN IDENTIFIED AS A PATIENT WHO MAY NEED ACCESS TO REMOTE ADVICE BY TELEPHONE OR EMAIL.

- ▶ If you need urgent help from your specialist clinic, please contact the answerphone on [insert telephone number], or send an email to [insert email address]. The message must include your first and second names, hospital number, and your phone number (ideally a mobile). Remember to say that you have this Blue Card.
- ▶ Someone from the hospital will contact you as soon as possible.
- ▶ Do not visit the hospital without an appointment unless you are gravely ill, when you should go the Accident & Emergency Department.
- ▶ Normal services will be resumed as soon as possible when the emergency is over.