- 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.

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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

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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

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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)

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- 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

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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

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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.

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*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.

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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

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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 angiodema (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.

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- 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 immmunodeficient 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.

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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

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- 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

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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

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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).

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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.

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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

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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).

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- 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.

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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 (CKD)
  - 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 guideline which includes advice about the use of antiviral agents in patients with CKD can be found at: www.renal.org/pages/media/download_gallery/RenalFluPlanrev070709.pdf

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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.

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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

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- 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.

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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 immuno-suppressed, 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.

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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.

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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.

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YELLOW CARD FOLLOW-UP

[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 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.

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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.

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