Hazard/threat category	Sub-category
HUMAN HEALTH	**Influenza-type disease (pandemic)**
Hazard and threat description, plus scale	**Risk reference number**
Influenza-type disease (pandemic)	**H23**
Date of revision	**Next review**
NOVEMBER 2007	**NOVEMBER 2008**
Author	Health Rep to TV(LRF) Wg

1. Overview of hazard or threat

The World Health Organisation has advised that the risk of a flu pandemic has increased. Pandemic flu occurs when a new highly infectious and dangerous strain of the influenza virus spreads rapidly round the world. The virus is highly infectious and easily passed between people by breathing air containing the virus produced when an infected person talks, sneezes or coughs. It can spread through hand/face contact after touching an infected person or surface contaminated with the virus. The virus will develop between 2-3 days after infection. Everyone is susceptible although a range of 25%-33% of the population are expected to develop clinical illness. However the majority of those could become infected without getting the symptoms. Everyone will be at risk of infection though some more so than others. Those most at risk could include the very young, people over 65, those with existing medical conditions such as lung disease, diabetes, cancer or kidney or heart problems and those who are immuno-suppressed (such as those with HIV/AIDS). Those returning from the infected areas are more at risk of infection as they may have been exposed to the virus overseas.

2. Key historical evidence

1918	first wave July second wave November third wave February	about 23% of the UK population developed influenza affected mainly healthy young adults World-wide mortality 20-40 million 99% of or the mortality was in people under 65.
1957	September/October	Asian influenza pandemic an estimated 17% of the UK population suffered influenza illness (9 million cases) Affected school children and young adults (aged 5-14) Global death toll 2 million. IN UK 2/3 were in people over 55
1969	March April	Hong King virus produced illness in an estimated 8% of the UK adult population. Low rates recorded in children aged 5-14, highest rates in children under 5, and lowest in adults over 65. 1million deaths recorded

		worldwide
1970	January	Second wave of the Hong Kong virus with the highest rates recorded in adults aged 45-64 and the greatest increase recorded in adults over 64.

3. Likelihood

Hazard	Outcome description	Likelihood
Pandemic Flu	Estimated burden of illness attributable to pandemic flu based on 25% clinical attack rate	Possible (4)
Pandemic Flu	Increase in A&E presentations, Hospital admissions, GP consultations and fatalities	Possible (4)

4. Impact

Summary

Hazard	Outcome description	Impact			
Pandemic Flu	Affecting Thames Valley	Health	Social	Econ	Env
		5	4	4	1

Details

Impacts
Primary
Pandemic likely to occur in 2 waves, about 3-9 months apart.
Each wave likely to last 12-15 weeks.
25% - 33% of population could be affected.
High number of cases and consultations (500 GP consultations per 100,000 population per week at peak),50 new patients per 100,000 per week, and 250 per 100,000 per week at the peak. This will put pressure on single-handed practices.
Similar numbers to those with complications seen by GPs might be expected to attend hospital A&E departments
Impacts (continued)
Primary
Clinical attack rate of 25% with mortality assumption of 1-2.5% of those affected.

Hospital admissions likely to increase by 50% with around 20,000 new patients a week requiring admittance.
Age range vulnerability – all ages, including children, likely to be affected
Increased workload of patients with influenza and its direct complications
Particular needs for high dependency care and infection control facilities and equipment
Depletion of the workforce and of numbers of informal carers due to direct/indirect effects of flu on them and their families.
Influenza can spread rapidly in schools with residential schools being the most susceptible.
Pressure on mortuary facilities possibly exacerbated by delays in death registrations and funerals.
Secondary
Burden on health caused by anxiety and bereavement
Logistical problems due to possible disruption of supplies, utilities, and transport as part of the general disruption
Delays in dealing with other medical conditions
Absence from work, sickness benefit claims
The longer term macro effects of the pandemic on the economy

5. Vulnerability and resilience

The World Health Organisation suggests that plans are in place against a pandemic causing illness in 25% of the population. The worst possible, although unlikely scenario would be 100% attack rate.

6. Overall assessment

Category	**Sub-category**		
Human Health	**Influenza-type disease (pandemic)**		
Outcome description	**Impact**	**Likelihood**	**Risk**
At the end of the first wave 25,000 cases per 100,000, 39 consultations per GP, 2,300 A&E consultations per A&E, 409 hospital admissions per hospital and 275 deaths per hospital	**5**	**4**	**VERY HIGH**

Controls in place

International surveillance monitoring - World Health Organisation
National surveillance monitoring – Health Protection Agency
Local surveillance monitoring – Berkshire Health Protection Unit and local Health Protection Team

Berkshire Influenza Pandemic Committee
Oxfordshire Influenza Pandemic Committee
Buckinghamshire Influenza Pandemic Committee
Thames Valley Influenza Pandemic Committee

The Department of Health Flu Pandemic Plan

Royal Berkshire Hospital NHS Trust Major Incident Plan
Royal Berkshire Hospital NHS Trust Influenza Pandemic Plan
Heatherwood and Wexham Park Hospitals NHS Trust Major Incident Plan
Heatherwood and Wexham Park Hospitals NHS Trust Influenza Pandemic Plan
Berkshire Primary Care Organisations Major Incident Plan, Operational Response Manuals, East of Berkshire Influenza Pandemic Plan and West of Berkshire Influenza Pandemic Plan
Berkshire Healthcare Trust Major Incident Plan and Influenza Pandemic Plan
Buckinghamshire Hospitals NHS Trust Major Incident Plan and Influenza Pandemic Plan
Milton Keynes Hospital NHS Trust Major Incident Plan and Influenza Pandemic Plan
Buckinghamshire Mental Health Trust Major Incident Plan and Influenza Pandemic Plan
Buckinghamshire Primary Care Organisations Major Incident Plan and Influenza Pandemic Plan
Oxford Radcliffe Hospitals NHS Trust Major Incident Plan and Influenza Pandemic Plan
Oxford Mental Health Trust Major Incident Plan and Influenza Pandemic Plan
Nuffield Orthopaedic Clinic Major Incident Plan
Oxfordshire Primary Care Organisations Major Incident Plan and Influenza Pandemic Plan
South Central Strategic Health Authority Major Incident Plan and Influenza Pandemic Plan
Berkshire Integrated Emergency Planning Structure
Berkshire Local Authority Influenza Pandemic Response Plan
Wokingham District Council Emergency Plan
Reading Borough Council Emergency Plan
West Berkshire Council Emergency Plan
Bracknell Forest Borough Council Emergency Plan
Royal Borough Council of Windsor and Maidenhead Emergency Plan
Slough Borough Council Emergency Plan
Oxfordshire County Council Emergency Plan (mobilisation of assets)
Oxfordshire County Council Business Continuity Plans
Milton Keynes Council Major Incident Guide

Controls in place (continued)

Environment Agency Incident Management Plans
Environment Agency 24/7 Incident Response
South Central Ambulance Service NHS Trusts Major Incident Plan

Buckinghamshire County Council Emergency Plan.
Aylesbury Vale District Council Emergency Plan.
Chiltern District Council Emergency Plan.
South Bucks District Council Emergency Plan.
Wycombe District Council Emergency Plan.

Additional risk treatment required

Imposing a 90% restriction on air travel would delay the peak of a pandemic wave by only 1 to 2 weeks. However, a 99.9% travel restriction might delay a pandemic wave by 2 months.

If there is a substantial seasonal effect on the transmissibility of pandemic flu it might, theoretically be possible to buy enough time to shift what would otherwise have been a winter outbreak to the spring, when the lower transmissibility would result in a smaller outbreak.

Additional evidence suggests that big gatherings of people encourage the spread, and avoiding crowds and large gatherings can help ease the pressure on health services.

Quarantine is considered ineffective, at most postponing influenza pandemics by a few weeks to 2 months.

Preventative measures taken by individuals to reduce the risk of becoming infected, include:

Hand-washing; respiratory hygiene-covering nose and mouth when coughing or sneezing; placing used tissues in the rubbish bin