



# **2009 INFLUENZA PANDEMIC THE DUDLEY RESPONSE**

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## INTRODUCTION

April 2009 saw the emergence in Mexico of a novel form of influenza. The virus was characterised by Center for Disease Control, USA (CDC) as Influenza Type A (H1N1). The WHO declared a pandemic on 11 June 2009. Over the 18 months since then the virus ('swine flu') has become established worldwide. In response to WHO pandemic alerts, the UK, and Dudley's public services, put in place their established pandemic plans. This report describes the course of the pandemic in Dudley; preparedness; the service response; and lessons learned for improving future response to similar threats.

## TIME LINE AND COURSE OF THE PANDEMIC

A time line of key events in Dudley is shown in Appendix 1.

### Containment Phase

The early (May, June 2009) response to the emergence of the virus in the UK was a national policy of 'containment' this involved:-

- Taking swabs for laboratory testing from individuals suspected of having contracted H1N1.
- Antiviral treatment of cases meeting the nationally promulgated case definition, without waiting for laboratory confirmation.
- Contact tracing and antiviral prophylaxis of close contacts.
- Selected school closures based on Health Protection Agency (HPA) advice.

The virus was new and its attack rates, severity and population risk profile unknown. Whilst national planning for pandemic flu had recognised the uncertainties associated with the new virus and the need for flexibility, the requirement for local services to take swabs for suspected cases, provide antivirals, and trace contacts was not part of national pandemic planning guidance (Hine 2010 p.85). A completely new set of operational arrangements had to be put in place (initially round the clock) to obtain swabs from patients in their own homes and get these to the regional laboratory for testing. The use of antiviral medication in treatment of pandemic flu cases had always been recognised in national pandemic planning guidance and planned for locally. The use of antivirals for prophylaxis of suspected cases and contacts had not. This required local development of protocols to reflect the different dosage regimes required, as these were not available nationally until some way into the pandemic. The use of antiviral prophylaxis as a public health control measure was controversial (Rouse 2009). The decision to

scale back widespread use of antiviral prophylaxis was made by Ministers in the second week of June (Hine 2010 p.89).

During the period, new information about the virus and its course in the UK was becoming available daily (and sometimes more than daily) requiring constant local surveillance and absorption of new information and initiation of action on nationally promulgated advice plus the scanning of websites for updated clinical information. Locally, clinical advice and local algorithms were developed and disseminated to all GP practices via a daily bulletin.

Whilst school outbreaks were recognised and dealt with, it did not become necessary to institute any school closures as a control measure.

A key feature of the 'containment' phase was the requirement at local level to put in place, rapidly, new and untested delivery mechanisms with constant adjustments to flex with the changing situation and introduction of regional/nationally determined systems, such as the regional Flu Response Centre. Locally, by the end of June 2009 the number of suspected cases in Dudley had reached a level which stretched to the limit the ability to maintain a containment policy which involved a household visit for every suspected case.

The containment phase may have slowed initial spread and it certainly enabled valuable scientific data about the new virus strain to be assembled. Locally it enabled detailed early tracking of the pandemic in Dudley, which was not possible once swabbing had ceased. In her review of the UK national response, Dame Deirdre Hine comments (Hine 2010 p.93):

*'The containment phase of the response lasted for longer and consumed more resources than had been anticipated by those responsible for its implementation.*

*The substantial impact of this on Public Health resources should not be underestimated '*

### **Treatment Phase**

By the end of June 2009 it was clear that community transmission was widespread in the West Midlands (though not in other parts of the country). On 2<sup>nd</sup> July 2009 it was announced nationally that the UK would move to a 'treatment phase'. Cases were to be identified by clinical diagnosis alone. Swabbing and contact tracing ceased. Clinical protocols were changed and, in England, a 'treat all' approach was adopted.

The institution of this phase meant diagnosis by consultation with local GPs; the issuing of vouchers by GPs for antiviral medication, which was then collected by 'flu friends' (asymptomatic friends or relatives) from a local antiviral collection point (ACP). Vouchers needed to be received and

distributed to GP practices as controlled stationery. Antiviral medication stocks were not distributed through the normal pharmaceutical supply chain and had to be stored locally, transported to the ACP and locally accounted for. As the treatment phase was implemented large quantities of antiviral medication had to be moved to local level from national stocks. Notice of deliveries was very short and in some instances at weekends, necessitating departure from normal PCT supplies operating arrangements. The Dudley ACP now had to increase its opening hours ensuring weekend and bank holiday opening. It was staffed by a volunteer rota of PCT staff from both the Community Services Directorate and Corporate HQ staff, with clinical oversight from a rota of Public Health pharmacy staff and practice based pharmacists. Pressure on General Practice in Dudley was at its height during July 2009. Nationally, pressure on NHS Direct was substantial, manifesting in degradation of response times.

It had been part of the national pandemic guidance that some form of call centre operation for assessment and authorisation of antivirals would form part of the response, but the precise form of this had remained unclear to local level responders and guidance changed over time in the pre-planning period. A national flu line was promised, but did not seem to be available. In Dudley, as soon as the initial pandemic was recognised, work was undertaken to scope and plan a local call centre, based on Dudley MBC's Dudley Council Plus operation. It was established that this could be put into operation with a volunteer rota from PCT staff, should the need arise. In the event an interim National Flu Line was implemented in England on 23<sup>rd</sup> July 2009, necessitating changes in ACP protocols and operating procedures at local Dudley level.

In Dudley the system set up to enable a full record of antivirals distributed for individual patients (and notification of this to GP practices for incorporation into the patient record) was continued. On occasions what was authorised for patients by the national flu line had to be amended when checked by pharmacists in light of individual patient risk factors and in telephone discussion with the patient's GP. There was no facility to amend the national flu line database to record this. Additionally arrangements to inform GPs of what their patients had been prescribed were lost.

The national flu line closed on 11<sup>th</sup> February 2010. Dudley moved its ACP from the Stourbridge Health and Social Care Centre to a local community pharmacy (Tesco Burnt Tree) on 27 January 2010, which was subsequently closed on 31<sup>st</sup> March 2010.

Pressure on local hospital inpatients capacity had peaked during the treatment phase, with a maximum number of patients hospitalised in any one day being 17 in July 2009. Specific arrangements for dealing with symptomatic patients arriving at A&E had been instituted and the local management of the pandemic response had maintained sufficient public

confidence for there to be no large surges of A&E attendances (as had been reported in Birmingham following an early school outbreak).

## **Vaccination**

In October 2009, only 6 months after the disease first appeared in the UK, a vaccine became available locally for immunisation of key risk groups.

Give the timetable from manufacture, initial supplies were limited and national decisions were taken on priority groups for immunisation. 'Phase' one groups were:-

- Individuals aged between 6 months and up to 65 years in the current seasonal flu vaccine clinical at-risk groups.
- All pregnant women
- Household contacts of immuno compromised individuals
- People aged 65 and over in the current seasonal flu vaccine clinical at-risk groups.

It was also determined that front line health and social care workers should receive the vaccine. National announcements were made on 13<sup>th</sup> October 2009, with programmes for both clinical at-risk groups and frontline health/social care workers to start on 21<sup>st</sup> October 2009.

Early supplies of vaccine were made available to acute hospital trusts for immunisation of their staff. Clinical at-risk groups were immunised by GPs, with supply arrangements mirroring those in usual use for the routine childhood immunisation programme, with the exception that vaccines could only be ordered via the Public Health Immunisation Co-ordinator.

The immunisation programme required renegotiating a part of the GP contract. An initial deal was concluded nationally, and a Directed Enhanced Service (DES) agreement issued nationally on 29<sup>th</sup> October 2009. In December 2009 a Phase 2 Group was added to the immunisation programme: healthy children aged 6 months – 5 years. The necessary second deal to deliver this activity was not achieved nationally and PCTs were left to conclude their own local agreements with GPs.

Vaccine for front line health and social care workers was distributed to a central point in Dudley. Local cold chain arrangements had to be put in place for distribution of vaccine to point of administration. The programme for frontline hospital staff was co-ordinated and undertaken by Dudley Group of Hospitals, using its occupational health service. The programme for frontline social care workers was co-ordinated and undertaken by Dudley MBC, using a specially procured occupational health service (for which costs were later

reimbursed from national DH funds). The programme for Dudley and Walsall Mental Health Partnership Trust was undertaken using their occupational health service. The programme for PCT frontline healthcare workers was undertaken in-house by redeployment/additional sessions from the School Health Advisors service. Immunisation of General Medical Practice staff was undertaken by the practices as employers. Overall co-ordination was via a vaccine planning group chaired by the PCT Immunisation Co-ordinator. Vaccine planning commenced in 10<sup>th</sup> August 2009. .

Immunisation training for staff administering vaccine commenced on 24<sup>th</sup> September 2009. The first vaccine supply was delivered to Dudley on 29<sup>th</sup> October 2009, with subsequent deliveries to GP surgeries from this date. Immunisation of at-risk groups and frontline staff continued beyond the close of the pandemic until seasonal flu vaccine becomes available in 2010/2011. Immunisation of Phase 2 children ceased on 31<sup>st</sup> March 2010. Final consolidated uptake figures were required to be submitted to the Department of Health by 13<sup>th</sup> September 2010.

WHO formally declared cessation of the pandemic on 10<sup>th</sup> August 2010.

## **EPIDEMIOLOGY AND KEY STATISTICS**

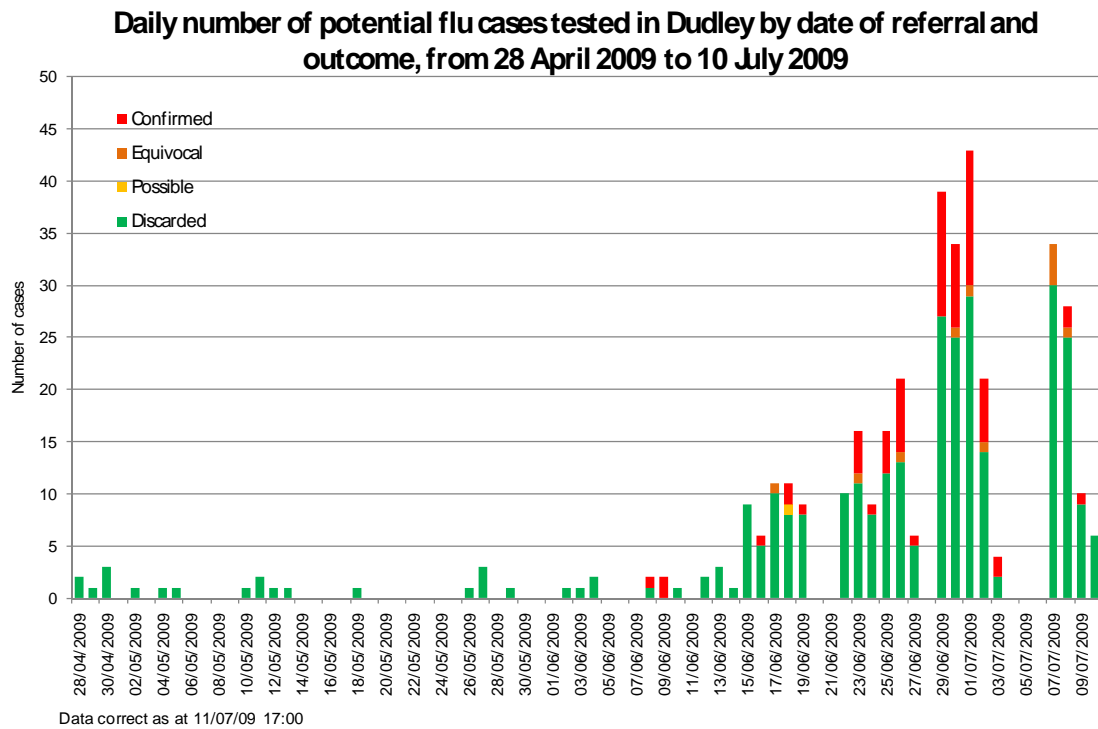
**Fig. 1** shows national case estimates from the Hine review of the UK national pandemic response (Hine 2010).

The methodology adopted for national case estimates precludes case estimates locally, particularly for the treatment phase when swabbing patients had ceased.





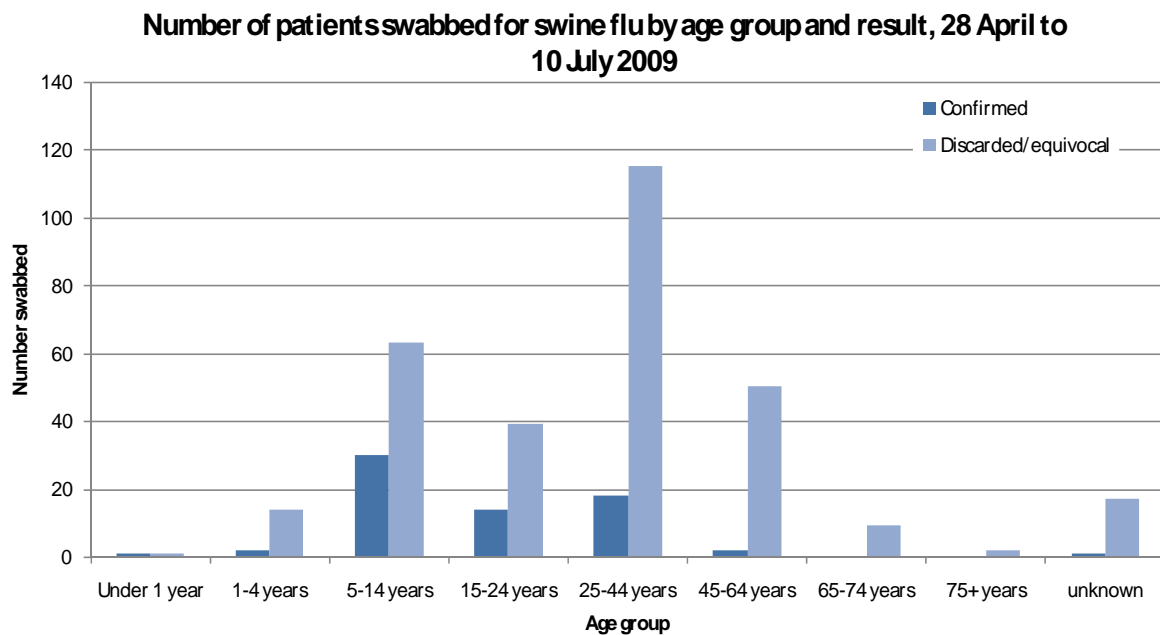
**Fig. 2.** shows that during the containment phase 378 potential swine flu cases were swabbed in Dudley between 28<sup>th</sup> April and 10<sup>th</sup> July 2009. Of these, 18% (68 cases) were laboratory confirmed. This gives a crude rate of 22.2 per 100,000 population comparable with the 16 per 100,000 estimate (HPA 2010). for England over the same period



**Fig.2**

Source: Dudley PCT Communicable Disease Team

The age profile of laboratory confirmed cases was similar to that observed for England as a whole (**Fig. 3**)

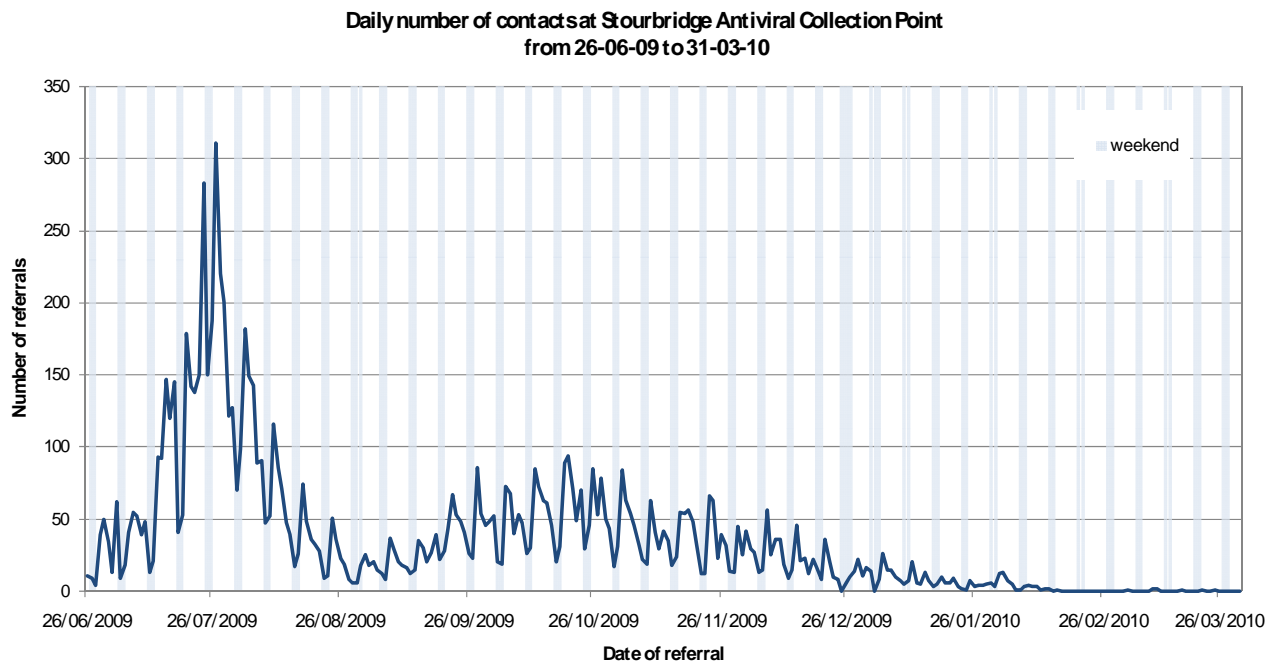


**Fig 3.**

Source: Dudley PCT Communicable Disease Team

The rate of confirmed swine flu cases in 5-14 year olds was 85.3 per 100,000 population, higher than the rate of 58.5 (HPA 2010) observed for England. Of the 68 confirmed cases, 44% (30 cases) were aged 5-14 years and this group showed the highest positivity rate (**Fig.3**)

The antiviral collection point was established at Stourbridge Health and Social Care Centre on 26<sup>th</sup> June 2009. On 27<sup>th</sup> Jan 2010 this was transferred to Tesco Pharmacy, Dudley and closed on 31<sup>st</sup> March 2010. The chart (**Fig.4.**) clearly shows two waves of activity, with the second wave starting around 1<sup>st</sup> September 2009 though in Dudley the second peak may have been lower than the first. Total number of contacts at ACP between 26<sup>th</sup> June 2009 and 31<sup>st</sup> March 2010 was 9,833 (7,304 via the National Flu Line, 2,036 via GP voucher with 382 contacts for other reasons). During the first wave daily activity peaked at 311 contacts on 27 July 2009. The second wave peaked on 20<sup>th</sup> October 2009 with 94 contacts.

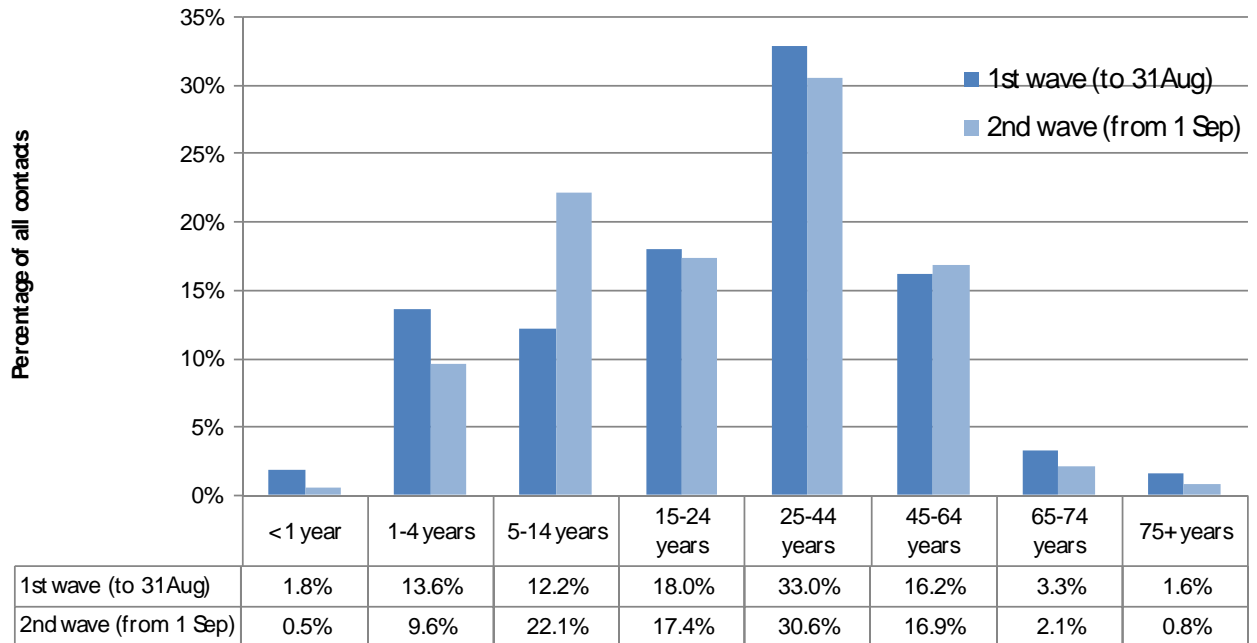


**Fig. 4**

Source: Dudley PCT

Analysis by age group shows that in both waves the peak age group receiving antiviral medication was aged 25-44 years (over 30% of all contacts). In the second wave there were a higher proportion of 5-14 year olds receiving medication compared with the first wave. **(Fig.5)**

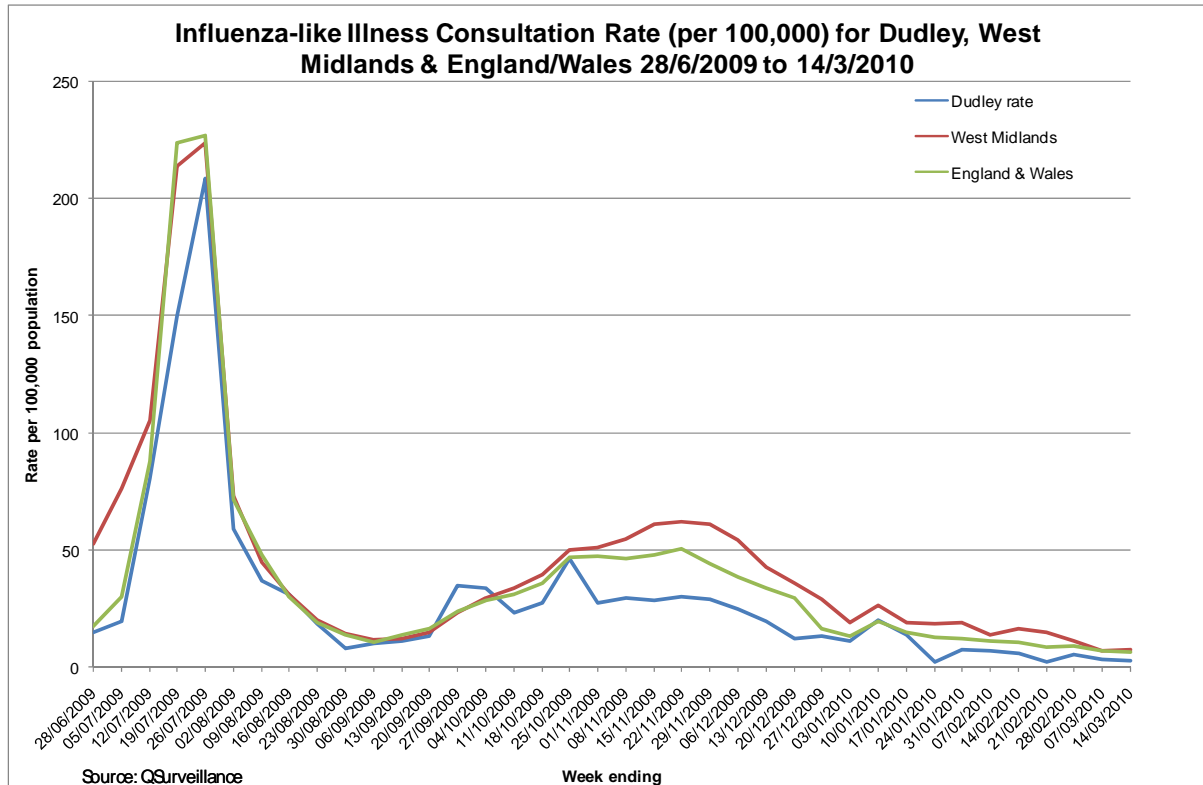
**Antiviral Collection Point contacts by age group, 7 Jul 2009 to 26 Jan 2010**



**Fig. 5**

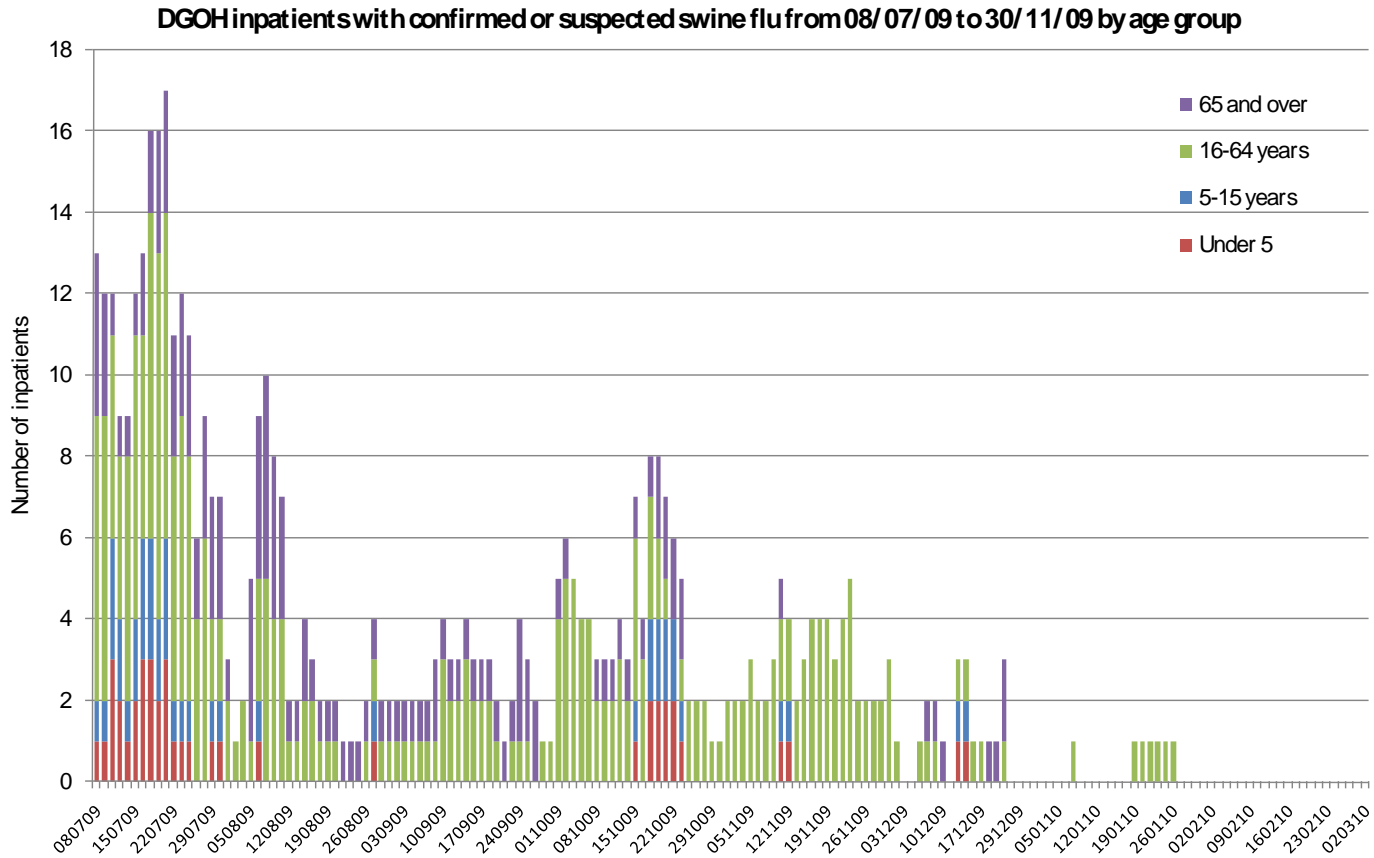
Source: Dudley PCT

Rates of consultation with GPs for influenza-like illness rose dramatically (**Fig.6**) from the first week and peaked in week-ending 26<sup>th</sup> July 2009 with 208 consultations per 100,000 population. A second smaller peak occurred starting 25<sup>th</sup> October 2009 with 46 consultations per 100,000 population.



**Fig. 6**

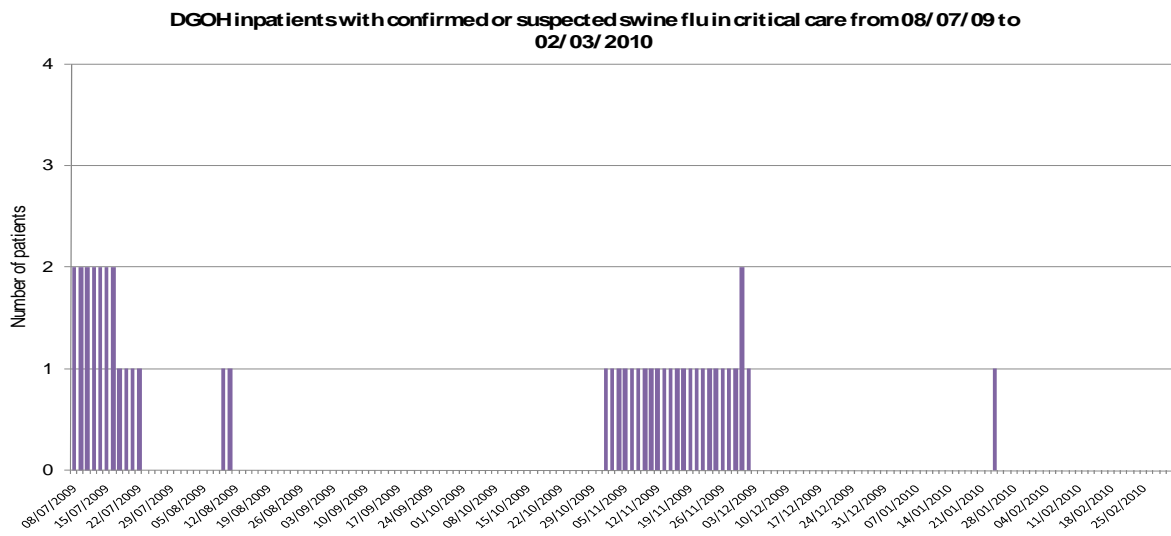
Data on the number of confirmed or suspected swine flu inpatients was submitted by Dudley Group of Hospitals from 8<sup>th</sup> July 2009 to 2<sup>nd</sup> March 2010 (**Fig. 7**). From this data, the peak no. of cases in the hospital at any one time was 17, from 17-20<sup>th</sup> July 2009. There was one reported death on 15 July, but the patient was later found not to have swine flu. The majority of hospital inpatients were aged 16-64 years.



**Fig. 7**

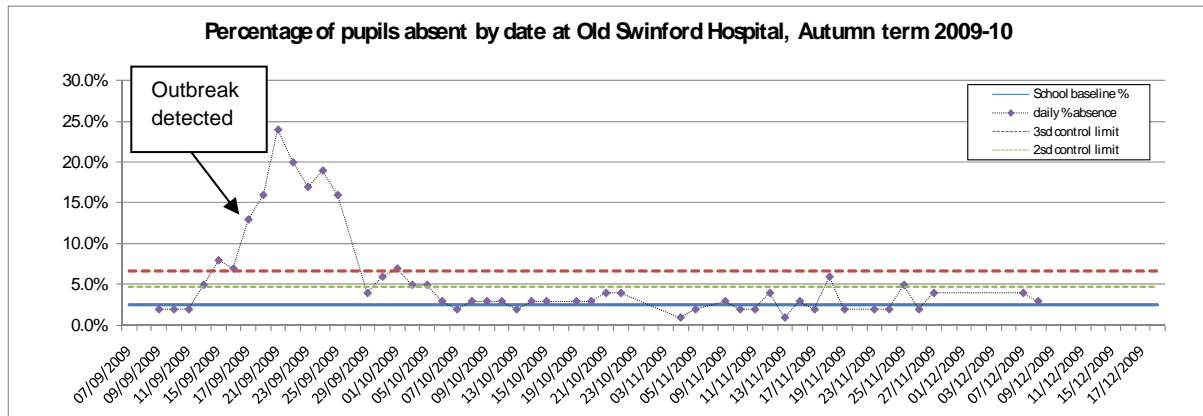
Source: Dudley Group of Hospitals Foundation Trust

On no days were there more than 2 patients with confirmed or suspected swine flu in ICU (Fig. 8)



**Fig. 8**

Outbreaks of pandemic flu occurred at The Straits primary school, Dawley Brook primary school, The Briers special school and Old Swinford Hospital school. Real time school attendance data was monitored from 26<sup>th</sup> June 2009 onwards. This was used to identify potential outbreaks in individual schools. Although less effective at detecting outbreaks in the summer term (sickness absences were masked to a certain extent by family holidays), the system worked well in early detection of the Old Swinford outbreak in September 2009. (**Fig. 9**)

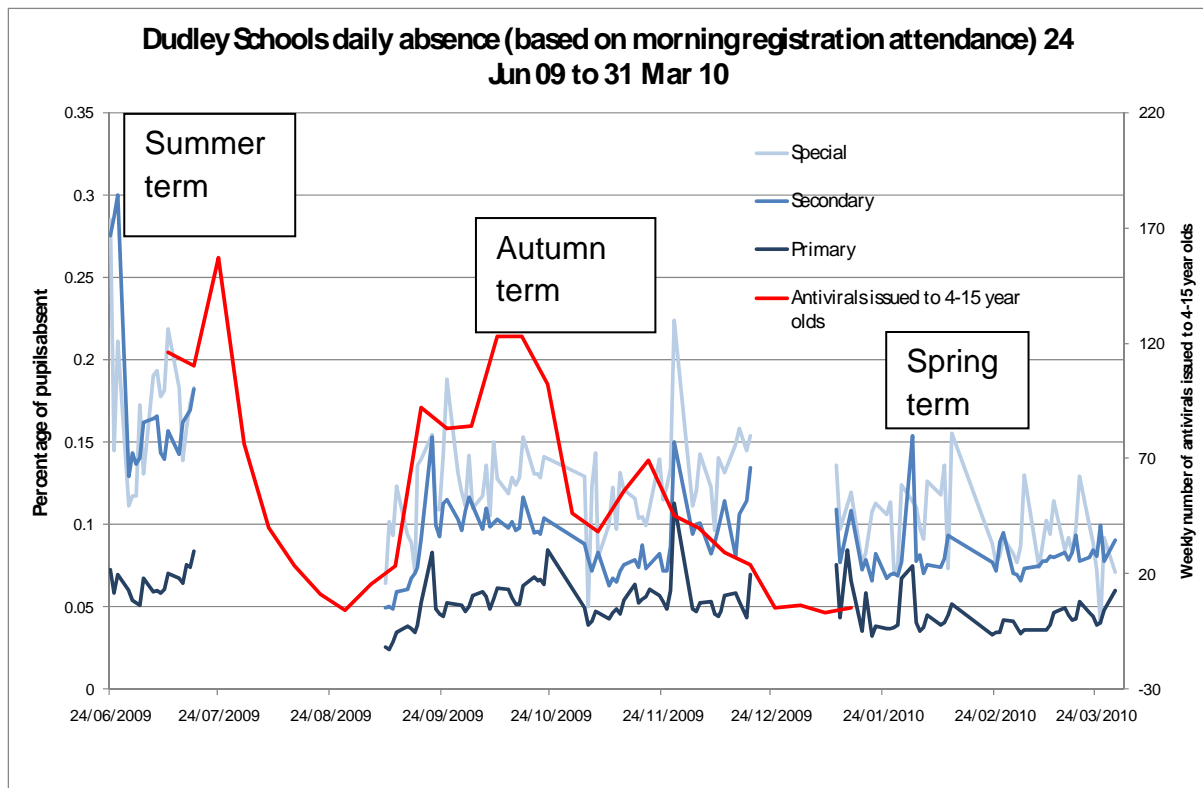


**Fig. 9**

Source: Dudley MBC



**Fig. 10** below shows average daily absence rates in schools compared to the number of antivirals issued to 4-15 year olds. There does appear to be some correlation between absences and antivirals issued, particularly in the first half of the autumn term, but other absence peaks can also be seen.



**Fig. 10**

Source: Dudley MBC

Schools absence surveillance was a completely novel system introduced in Dudley during the pandemic. Because reliance had to be placed on data extracts readily available, the data inevitably had 'noise'. The potential exists for refinement of the data extracts, in future use of this mode of surveillance.

Immunisation uptake rates are shown in tables 1 and 2. There were 13 practices who did not submit data to the Imm Form website for patient immunisation.

**Table 1** below shows immunisations uptake rates for the relevant patient groups.

Swine Flu Vaccine Uptake 1st September 2009- 31st August 2010 as at 21<sup>st</sup> September 2010

	Number in Cohort	Number Immunised	Percentage Uptake
<b>Phase 1</b>			
6mths to under 65 years at risk	28583	8603	30.10%
Pregnant Women	5323	578	10.90%
Immunocompromised	1953	704	36.00%
Over 65 at risk	22959	6569	28.60%
<b>Total Phase 1</b>	<b>56865</b>	<b>15408</b>	<b>27.00%</b>
<b>Phase 2</b>			
6mths - 5 years (healthy)	12849	1870	14.90%
<b>Total Phase 2</b>	<b>12849</b>	<b>1870</b>	<b>14.90%</b>
<b>Total All Groups (Phase 1 + Phase 2)</b>	<b>69714</b>	<b>17278</b>	<b>24.80%</b>

**Table 2** shows final immunisation uptake rates for healthcare workers.

Swine Flu Vaccine Uptake for Healthcare Workers 2009/10			
Staff group	Total Staff Eligible	No. that have received either PANDEMRIX or CELVAPAN	No. that have received Seasonal Flu Vaccine
All Doctors (excluding GPs)	10	6	0
Qualified Nurses	461	188	120
Other professionally qualified clinical staff	233	122	97
Support to Clinical Staff	110	99	95
PCT Total	814	415	312
PCT Uptake	-	51.0%	38.5%
GPs Only	205	44	0
GP Practice Nurses	145	24	4
Support to GP staff	516	77	0
GP Total	866	145	4
GP Uptake	-	16.7%	0.5%

Grand Total	1680	560	316
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## REVIEW AND LESSONS LEARNED

A PCT pandemic flu debrief was held on 1<sup>st</sup> April 2010 and the review in this section is based largely on the issues discussed there. The review takes the PCT perspective – other agencies will have conducted their own review with lessons learned.

### Pre-planning and Preparedness

Dudley commenced its multiagency planning for a flu pandemic in 2005. The multiagency Pandemic Advisory Group was first convened on 28<sup>th</sup> November 2005 and continued to meet (approximately 3 times a year) until May 2009, when it was stood down in favour of the Dudley Tactical Co-ordination Group established as part of the Dudley response. Membership included representatives from the PCT, the Dudley MBC, the HPA, Dudley Group of Hospitals FT and West Midlands Police. The group was chaired by the Director of Public Health (Dudley Flu Pandemic Co-ordinator) supported by the Deputy DPH and the Nurse Consultant Communicable Disease.

A PCT Influenza Pandemic Framework was developed in October 2005, updated in April 2006 and again in May 2009. Detailed work on a Pandemic Flu Plan for the Directorate of Community Services was also undertaken, backed by a specific exercise.

An assurance assessment of the PCT's plans was undertaken in December 2008 which influenced the Flu Preparedness process. A specific group to complete HR Policies was convened December 2008.

The mass treatment and prophylaxis plan was tested via 'Exercise Doorstep' in February 2008.

PCT Business Continuity Planning was well advanced.

### Command and Control

Following early reports of a novel strain of influenza and in line with its Major Incident Plan, the PCT convened a Major Incident Response Executive (MIRE) on 1<sup>st</sup> May 2009. The MIRE declared 'Major Incident Standby' and determined the operational arrangements for managing the response. This delegated management of the response to the PCT Pandemic Influenza Preparedness Group (PIP), chaired by the Dudley Pandemic Flu Co-ordinator (The Director of Public Health) which had already held a first meeting on 29<sup>th</sup> April 2009. Initially the group met weekly. The PIP membership included Dudley Group of Hospitals Foundation Trust and Dudley MBC for liaison purposes. All PCT decision making was through the PIP (or reported to PIP if decisions needed in between meetings).

The Dudley Pandemic Flu Co-ordinator (the Director of Public Health) was responsible for ensuring day by day 24/7 decision making, communication and action. As previously pre-planned, resilience was maintained by having a No.2 and No.3 Co-ordinator (the Deputy Director of Public Health and the Nurse Consultant Communicable Disease, respectively). These three worked a 24/7 rota from 27<sup>th</sup> April 2009 to 31<sup>st</sup> January 2010. A further Executive Director for flu (in recognition of the load being carried by Public Health nationally and locally) was designated in line with national guidance from early July 2009 onwards. This role was initially fulfilled by the Director of Strategy and Innovation and then passed to the Head of Partnership Commissioning from 1<sup>st</sup> August 2009.

Dudley Tactical Co-ordinating Group (TCG) was convened by DMBC on 1<sup>st</sup> May 2009 and PAG was stood down. The TCG was co-chaired by health (PCT) and Police. The civil contingencies Strategic Co-ordination Group (SCG) had been activated at Resilience Forum level (West Midlands County). A Health Resilience Forum Group was also activated and Dudley PCT representation sent (Deputy Director of Public Health and Emergency Planning Officer). The SHA activated Emergency Response Management Arrangements (ERMA) both at ERMA2 (Birmingham and Black Country) and ERMA3 (Regional) level. The PCT participated as far as resources allowed either by teleconference or presence.

#### **Command and Control: what worked well?**

- Established MIRE procedures.
- Clear delegation for decision making to PIP.
- Effective daily 'battle rhythm' with PCT Flu Co-ordinators and Executive Director for flu.
- Commitment and flexibility of PIP members.
- Clarity of direction from PIP.
- Early convening of Dudley TCG and multi-agency intelligence sharing.
- Resilience in flu co-ordinator role.

#### **Command and Control: what worked less well or could be improved?**

- ERMA2 meetings concentrated on Birmingham co-ordination and so was of limited value to Dudley PCT.
- Volume of work load for Executive Director of Flu not initially appreciated (however change of personnel enabled virtually full time role to be fulfilled).
- Not all of major players in the response have properly designated deputies and could have become single points of failure.

### **Command and Control: Learning**

- An incident/outbreak of this length needs to have formal resilience in all major roles.
- Regional and sub-regional response arrangements are multiple and require considerable PCT time for attendance/reporting and this needs to be recognised in operational arrangements.
- PCT and multiagency TCG arrangements worked extremely well and provide a template for the future.

### **Containment Phase: The Flu Team**

The need to have arrangements in place for swabbing suspected cases; contact tracing and supplying prophylaxis to contacts, had not been anticipated in national pandemic guidance, or locally. Suspected cases were notified by GPs to West Midlands West Health Protection Unit (HPU) or Dudley Public Health and discussion undertaken as to need for swabbing. The immediate approach was to have GPs visit suspected cases at home (with appropriate PPE), take swabs and deliver medication for the case; and ascertain contacts. Couriers were contracted to provide a collection service which GPs could alert as they visited homes and specimen collection was to take place from the GP at the patient's home.

It rapidly became apparent that these arrangements would not work. One GP refused to visit. For those early few that did, the courier response times were far too slow and the courier company did not fulfil its contract, resulting in substantial loss of GP clinical time. It was therefore decided that the PCT Public Health Department Communicable Disease Team (including Infection Prevention Control nurses, Nurse Immunisation Facilitator, TB nurse contact tracers) would be redeployed from existing duties, either fully or partially to undertake this function. The courier service was abandoned and the Flu Team visited the patient at home; took specimens; and delivered them to DGoH microbiology laboratory, who had arrangements for onward transmission through established courier routes. Results were notified back to the Public Health Department via DGoH microbiology department and the Flu Team notified patients.

All case details were entered on to a database produced specifically for this purpose by the Public Health Immunisation Team Project Manager. Arrangements were modified when the Regional Flu Response Centres were set up at the behest of the National Civil Contingencies Committee. Notification of possible cases was then to the Flu Response Centre (in Birmingham) who then determined the need for swabs etc. and notified Dudley Public Health of cases. The Flu Team continued to swab, deliver antivirals, ascertain contacts and deliver specimens to DGoH laboratory. Results from the regional laboratory were now notified to the Regional Flu Response Centre. These were not always communicated back to the local

Public Health Department and considerable time was spent chasing results, to enable these to be fed back to patients. Some patients results were 'lost' in the system.

As the number of suspected cases increased, the Flu Team was supplemented with community nurses redeployed from their existing duties within the Community Services Directorate. A member of staff from the FHS Department was re deployed to support data entry.

The Flu Team operated out of St Johns House and was required to cover weekends and bank holidays. Maintenance of full functionality of St Johns was problematic in the early stages (heating switched off; access to IT). A requirement for IT out of hours cover was identified and implemented by the PCT IT department.

#### **The Containment Response: Flu Team: What worked well?**

- Rapid institution of arrangements with swabbing etc. which had not been anticipated in pandemic pre planning.
- Flexibility of staff in redeploying from existing roles.
- Very rapid development and documentation of clinical protocols and procedures.
- Rapid development of required database.

#### **The containment response Flu Team: What didn't work well/could be improved?**

- The Regional Flu Response Centre took some pressure off the local system but also had the potential to drain resources from the local response; made patients/results tracking more difficult; and effectively brought local surveillance to an end.
- Externally contracted specimen courier services were not able to perform to the reliability standards required and local NHS staff were necessary to transport specimens.
- Ensuring weekend operation of St Johns offices was at times problematic (heating, IT).
- Although staff volunteered and worked extra hours, systems to remunerate some staff groups were slow.

### **The containment phrase; the Flu Team: Learning**

- A new service (the Flu Team) can be instituted from scratch using the combined resources of Dudley Public Health and a Community Services Directorate within 24 hours.
- Protocols, procedures and policies are now available for a home visit service, which could be adapted for future response.
- For a disease of a pandemic nature with rapidly escalating spread a small flu team can only hold the line for a matter of weeks rather than months.
- If regional centralised response is to be utilised in the future a clearer understanding of the protocols vis a vis the local Public Health Department needs to be developed at a very early stage and could be agreed during a planning period.
- For any response which requires working 24/7, by an organisation that doesn't normally work 24/7, particular attention needs to be paid to ensuring estates and facilities services available during the week are fully functional during weekends and bank holidays.
- Use of external courier services should not be the first line response to transportation of specimens – adaptation of currently existing routine services works best,

### **The Treatment Phase: Antiviral Collection Point**

The Dudley ACP was located at Stourbridge Health and Social Care Centre (SHSCC), as had been latterly planned. A backup second site had been identified and planned including walk through and police assessments in respect of potential crowd/traffic control. An exercise to test fully the operational procedures at Stourbridge was conducted just before it became necessary to open the centre for distribution of prophylactic medication.

Local clinical protocols (e.g. patient group directions) had been developed for dispensing antiviral medication for treatment, but the need for prophylaxis had not been planned for. This required very rapid development of new/amended protocols.

The opening hours of the ACP were flexed according to demand. At the peak the ACP opened from 10.00 hrs – 20.00 hrs weekdays and 10.00 hrs – 17.00 hrs weekends. Opening hours were subsequently reduced as demand decreased.

The ACP required on-shift staffing of:

- a Centre Co-ordinator
- a pharmacist
- a nurse and
- two admin support

throughout opening hours. Maintenance of a rota of redeployed (voluntarily) centre co-ordinator, administrative and nursing staff fell heavily on the Community Services Directorate. Pharmacy cover was maintained by Public Health pharmacists and practice based pharmacists working additional hours. Corporate HQ staff also worked Centre Co-ordinator and administrative shifts. The requirement to keep the ACP open over weekends and bank holidays required staff to work overtime, for which the appropriate rate was paid to Band 7 staff and below. Other staff received time off in lieu. For two days over the 2009/10 Christmas period the Walk-in Centre at Holly Hall, run by Primecare, provided the ACP.

As demand dropped the ACP was relocated to Tesco pharmacy Burnt Tree, who were paid under standard pharmacy contract terms.

All details of patients and medication dispensed to flu friends for them were kept on a patient data base which was developed rapidly by the in-house PCT ICT department. Similarly a local stock control system had to be developed – again by the in-house ICT department. When the national flu line was implemented, a national stock control system was introduced and the ACP staff had to switch over to this.

It became clear that some patients did not have anyone they could nominate as a flu friend to collect their medication. The Red Cross were commissioned to fulfil this role using their trained volunteers.

There were two information governance incidents (involving system access) at the ACP during its operation. Both were investigated, documented and remedial action instituted

Using the SHSCC out of hours and over weekends and bank holidays led to some problems with facilities including heating, access to the building, keys, codes and alarms. All of this was complicated by SHSCC being in third party ownership (Liftco). Earlier involvement of the landlord in setting up the ACP may well have mitigated, if not eliminated, many of these.

### **The Treatment Phase: Antiviral Collection Point – what worked well?**

- Good cross team working between Public Health and Community Services Directorate.
- Community Services Directorate flexible and readily able to redeploy staff using business continuity arrangements already planned and in place.
- Team spirit at ACP (staff from all Directorates of the PCT).
- Positive feed back from Bank staff employed for shifts at ACP.
- Pharmacist role at ACP from the outset – provided correct clinical expertise and gave confidence to other staff groups.
- Red Cross support for the flu friends role worked effectively and efficiently.
- Good liaison between pharmacists at the ACP and DGoH pharmacy.



- Responsiveness of PCT IT department to the changes required in ACP systems.
- Handover to community pharmacy during latter stages of the response

### **The Treatment Phase: Antiviral Collection Point – what didn't work well/could be improved?**

- Attention to detail on Information Governance when setting up systems/procedures would have avoided the two incidents that occurred.
- Earlier involvement of third party landlord.

### **The Treatment Phase: Antiviral Collection Point: Learning**

- Preparation of local protocols during pre-pandemic planning aided speed of opening of ACP.
- Need to be prepared for rapid change in prescribing requirements (e.g. prophylaxis as well as treatment regimes).
- Mass treatment centres should always have pharmaceutical oversight.
- Pre pandemic live exercise on mass treatment centres yielded valuable lessons for setting up ACP.
- Walk through exercise invaluable in ensuring smooth clinic operation.
- Involve landlords of premises at earliest possible stage, preferably in pre-incident planning period.
- Rapid and flexible IT support absolutely essential to ensuring safe tracking of patient medication dispensed.
- Check that all information governance issues are covered when new/rapid IT systems implemented for emergency response.

### **The Immunisation Programme**

The development and subsequent availability of a vaccine for H1N1v swine flu required the introduction of three new immunisation programmes – one for patients in a defined set of 'at risk' groups, one for healthy children aged 6 months to 5 years and one for front line health and social care staff. The national definition of 'front line' was relatively loose.

As indicated earlier, PIP set up a vaccine planning sub group to ensure delivery of these three programmes. Once initial set up was achieved the 'at risk' and children's patient programmes ran in a similar fashion to routine immunisation programmes. A DES was in place for 'at risk' patients and a LES was produced for Phase 2 children. One GP refused to sign up to Phase 2 LES so these children had to be immunised by another provider (DCS).

Delivery of the occupational programme for PCT staff proved more problematic. It became apparent that the Occupational Health Service contracted by the PCT via an SLA with Dudley and Walsall Mental Partnership Trust was not going to deliver the programme at the volume and speed required. The decision to use the Community Services Directorate

School Health staff (with extra hours and supplemented by bank nurses) was taken.

A database to capture data on all staff immunised (Vacc Track) was developed by the in-house PCT IT department and the Public Health Immunisation Team. This enabled notification of any member of staff's GP for incorporation of the immunisation record into the lifelong clinical record for that member of staff. It also allowed extraction of uptake data. Data entry was not at the point of delivery. Paper records were maintained at staff immunisation sessions and subsequently transferred to Vacc Track.

Sessions were undertaken between 2<sup>nd</sup> November 2009 and 25<sup>th</sup> January 2010, when the programme reverted to individual immunisation on request by DWMHPHT Occupational Health Service.

Frontline staff in General Practice were also eligible for immunisation and practices, as employers, were responsible for organising this and then notifying the PCT of uptake.

Substantial communications effort was put into place but this was not supported by a clear media strategy at national level. So, many staff were taking negative messages (e.g. vaccine 'untried and untested') from the national media; and there seemed to be no national counter to this from DH. Letters from the PCT Chief Executive and PCT Executive Nurse Lead were sent to all relevant staff backed by frequent bulletins and staff briefings. The ability to text message individual members of staff holding PCT mobile phones would have been beneficial, but was not available.

#### **Immunisation: what worked well?**

- Rapid planning and cross health and social care economy working.
- IT and Public Health Immunisation Team department development of Vacc Track.
- Flexibility of School Health Advisers to redeploy and rapidly implement the PCT Staff Immunisation Programme.

#### **Immunisation: what didn't work so well/could be improved?**

- The contracted occupational health service did not appreciate the speed and scale of response required.
- Flexibility needed in the Occupational Health SLA specification and delivery to cope with pandemic-type emergency situations.
- Last minute requirement for local negotiation of GP payment placed an additional local hurdle.
- Data entry at point of delivery would have improved efficiency.

### **The Immunisation Programme: Learning:**

- Consider data entry at point of delivery.
- Formal written declines of immunisation from staff need to be documented.
- More emphasis on staff 'duty of care' in messaging.
- Enhanced means of rapid communication with individual staff members is required
- There were difficulties in establishing a consistent list of the eligible cohort of PCT staff. For rapid response staff immunisation programme, early management attention for establishing the definitive list of eligible staff is needed.
- Occupational uptake in primary care staff was exceptionally low more targeted messaging is required for these staff.

### **Enabling Functions**

Delivery of the requirements of the pandemic response needed considerable support from the **IT department**, on a variety of activities and issues ranging from rapid planning for a local call centre (which, in the event wasn't needed) to development and implementation of a range of new databases, many of which held confidential information. In general, these were developed to time and considerable flexible support was given as the changing operating circumstances led to a requirement for systems amendments. Out of hours IT cover was willingly put in place.

**Human Resources (HR)** policies for the pandemic had been prepared during the pre pandemic planning period. Most of these did not require activation as the relatively mild nature of the disease for many people meant that substantial staff absenteeism was not experienced. In the very early stages managing a potentially high level of staff absenteeism was highlighted by PIP as a key risk for the PCT since the then current absence notification and recording systems were simply not timely enough for operational management of a sustained incident of this type. HR (provided from DWMHPT via a SLA) and the PCT IT department developed a Central Absence Reporting System (CARS) which was partially implemented only from 2<sup>nd</sup> November 2009. Whilst the notification of absence procedure was fully implemented, the daily reports designed to provide information to senior management for rapid redeployment of staff between functions, remained in early development, as it became apparent that they would be not required. The CARS database was designed to hold data on individual staff skills. Notification of absence via CARS has continued beyond close down of the swine flu response, given its assessed usefulness to the organisation. There would be merit in refining and bringing to a conclusion the format and delivery of the daily reporting sit rep/statistics function.

The PCT's **Procurement Department** played a major role in ensuring the adequacy of the response. PPE had been purchased by the PCT in advance

of the pandemic and further supplies were pushed to PCTs by DH on a national distribution. There were also PPE supplies for social care staff. These were receipted, stored, tracked and issued in line with PIP decisions. Antiviral medication had to be receipted, stored in correct conditions and distributed to the ACP, with any stocks remaining at close of pandemic response being returned to DH in line with pre issued procedures. All stocks had to be daily/weekly accounted for on a newly introduced DH stock management system. In the treatment phase, and before the go live of the National Flu Line, vouchers were issued nationally for GPs to request antiviral medication from the ACP. These were controlled stationery. Unfortunately, an attempt was made nationally to deliver these to each individual practice and the tracking of this controlled stationery became difficult. Further stocks of the controlled stationery was sent to the PCT stores and these were properly receipted and accounted for.

**Communications** are vital in the successful management of any outbreak. Top line briefs from HM Government Civil Contingencies Committee commenced on 26<sup>th</sup> April 2009 and were received and checked daily. At a very early stage the West Midlands SHA had set up a dedicated website and blog, which enabled PCTs to obtain early intelligence; share policies and procedures; and solve practical problems. A single incident email address was set up by the SHA and Dudley PCT did the same, though not immediately. A rhythm of daily Dudley public health communication to Dudley GPs was established covering clinical information, protocols and guidance. It would have been advantageous to have had more frequent communications with local pharmacists. The barrier to this was lack of ready electronic communication capability for all community pharmacies. All communications for the public were based on the national messages required, using national branding and signage. Throughout the pre-pandemic, communications teams from Dudley PCT, Dudley MBC DGoH and Dudley & Walsall Mental Health Partnership had worked together in a borough communications plan and this proved its worth in ensuring co-ordinated communications with the public and consistency of messages to staff in the various organisations. Though extensive effort was put into internal communications to support the staff immunisation programme, this was not sufficiently backed up by DH national media messaging and much of the national press coverage countered the local internal effort.

A **finance** ledger code to capture net additional costs to the PCT was set up. The response relied heavily on redeployment of existing staff and cessation of non-business critical activities. This meant that additional costs were minimised. The recorded net additional cost to the PCT amounted to £265,643. It's not possible to estimate readily the financial value of lost business or opportunity cost of redeployed staff time.

### **Enabling Functions: what worked well?**

- IT support was flexible and timely.
- Well developed business continuity plans in the PCT enabled prioritisation.
- HR policies already in place.
- FMC warehouse offered flexibility at short notice to store large volumes of PPE and also offered a secure caged facility within that for anti viral tablets and vouchers
- Additional supply chain processes worked effectively without extra resource and no impact on other core services
- The DH stock management system was well adopted with little training and supply lines from the FMC to Stourbridge H&SCC on anti viral tablets worked very effectively
- Supply and ordering and arrangement of anti viral tablets from national stocks was effectively administered by all parties
- Clear instructions and control by PIP on supply of PPE and supply chain issues.

### **Enabling Functions: what didn't work so well/could be improved?**

- Need to identify and secure any arrangement for out of hours/weekend working at the earliest possible stage.
- Poor co-ordination of PPE ordering between the DH, the SHA and PCTs leading to confusion and over-ordering. At the outset Trusts were encouraged to make their own provision, then later on, unsolicited deliveries arrived. Three different makes of FFP3 masks were delivered making fit testing almost impossible.
- Some confusion over how to handle and dispose of out of date anti viral tablets
- When anti virals were initially supplied no instructions were given to maintain accurate temperature records at receipt points. This later proved to be problematic when returning unused stock to national stockpiles.
- Vaccine deliveries did not match needles and syringes in terms of units of issue, this created some surpluses of consumables during vaccination programmes. In addition to this the unit of issue on vaccines was large and once opened could not be kept, this created some waste.
- CARS system was too late
- Systems for overtime payment were cumbersome and slow.

### **Enabling Functions: Learning**

- IT systems can be rapidly put in place to support emergency response but attention to information governance is required.
- Need to maintain Pandemic supplies.
- Any medication storage facility must have appropriate level of temperature control with recording of daily temperatures.
- Uniformity of FFP3 purchase to reduce need for multiple fit testing kits and services.
- Ensure system for cascade of fit testing (train the trainer systems)
- The FMC warehouse is a valuable asset.
- An epidemic or pandemic involving a more serious illness will require a speedier HR response in managing staff absence.

### **IN CONCLUSION**

Overall, Dudley's response to the 2009 H1N1 pandemic was well managed. Public confidence in the response was maintained. Dudley's pandemic pre-planning stood organisations in good stead. Hine's conclusion on the national response – that it was proportionate and effective – was mirrored at local level. Staff in the PCT demonstrated, yet again, their professionalism, dedication and camaraderie in meeting this emergency. The 2009 pandemic virus was milder in its general population impact than had been expected. The danger of another more severe pandemic has not gone away and the learning, set out in this report, allows the opportunity to make improvements for the future as the NHS moves into a changed organisational landscape, with constrained resources.

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