

STATES OF JERSEY



FLU PANDEMIC FUNDING

**Lodged au Greffe on 13th May 2008
by the Minister for Treasury and Resources**

STATES GREFFE

PROPOSITION

THE STATES are asked to decide whether they are of opinion –

- (a) in accordance with Article 11(8) of the Public Finances (Jersey) Law 2005 to amend the expenditure approval for 2008 approved by the States on 18th September 2007 in respect of the Health and Social Services Department head of expenditure, to permit the withdrawal of up to an additional £1,230,000 from the consolidated fund for its net revenue expenditure in order to fund preparations for pandemic flu;
- (b) to agree, in principle, that they will approve an additional allocation of £590,000 to the Health and Social Services Department in the event of an out break of pandemic flu.

MINISTER FOR TREASURY AND RESOURCES

REPORT

Background

Under the Public Finances (Jersey) Law 2005 heads of expenditure for departments are, in the normal course of events, approved as part of the Annual Business Plan approval process by the States. The sum of such approvals is known as the “expenditure approval”. The Public Finances Law, does, however, state in Article 11(8)–

“ ... the States may, at any time, amend an expenditure approval on a proposition lodged by the Minister on the grounds that –

- (a) there is an urgent need for expenditure; and
- (b) no expenditure approval is available.”

Two such spending pressures emerged in 2007 meaning that the existing expenditure approval was no longer adequate. The States have already approved amendments to the 2007 expenditure approval in respect of the Social Security Department’s head of expenditure and the Health and Social Services Department’s head of expenditure for 2007. The Health and Social Services Department is now requesting the balance of the sum originally requested for pandemic flu preparation in September 2007, less that approved in December 2007. That request was withdrawn at the time pending further consideration. The States approved additional funding of £517,000 in December 2007 to cover expenditure already incurred in 2007. The current request will, in itself, not increase the base cash limit of the department in subsequent years.

Funding for pandemic flu preparations

Details of the need for the request for additional funding are set out in the report from the Health and Social Services Department attached at the Appendix to this report.

The States are requested to approve the additional allocation of up to £1,230,000 in respect of expenditure already incurred on preparations for a pandemic flu epidemic. This would increase the 2008 net revenue expenditure of the Health and Social Services Department from £147,901,500 to £149,131,500.

The States are also requested to agree, in principle, to support a further request for funding of £590,000 in the event of an outbreak of pandemic flu.

Financial and manpower implications

There are no additional manpower implications arising from this proposal. The financial implications are as set out in this report and its Appendix.



Health and Social Services Department

Preparation for an influenza pandemic in Jersey

Phase Two (Updated)

(Paper for States Assembly)

15th April 2008

1.0 EXECUTIVE SUMMARY

1.1 Current situation

- This report is an update from the previous report to the Council of Ministers, titled Preparation for Pandemic Flu – Phase Two presented in April 2007.
- The Minister for Health and Social Services (H&SS) is now reassured that his questions concerning the original proposal have been answered and he now supports option one from the Phase Two plan.
- In the meantime, the antiviral drug (Tamiflu) has already been purchased to provide 100% island wide coverage.

1.2 Option one proposal (updated)

- Option one has been marginally updated from the previous report but essentially requires the purchase of vaccines and additional medical supplies as previously identified.
- The States Assembly is asked to support the proposal to make a maximum of £1.24 million available to H&SS in 2008 for pandemic flu preparation and to request that a further £0.59 million is available for when the pandemic occurs.
- Option one (updated) is effectively the same as the previous proposal agreed by the CoM in 2007 but excluding the purchase of the antiviral drug (Tamiflu) which was approved separately.
- H&SS are unable to support this initiative within existing agreed 2008 cash limits.
- In the event that the flu pandemic does not occur, H&SS commit to updating the preparation plans (and if necessary requesting additional resources) to coincide with the States Business Planning cycle.

1.3 Risk and Indemnity

- Any litigation costs arising from the use of the vaccines would need to be met by the States.
- The financial risk from litigation has been assessed and considered to be low. The States insurers quote for indemnity cover was not cost-effective.
- The Council of Ministers are asked to support the proposal to the States Assembly that the risk is carried by the States.

2.0 INTRODUCTION

The purpose of this paper is to update the States Assembly regarding the current view of the Minister for Health and Social Services on extending stockpiles of medical supplies in readiness for the predicted world-wide flu pandemic and to request funds to support this vital initiative.

In November the States Assembly received a proposal extending flu pandemic medical supplies, under the Ministerial sponsorship of Senator Syvret and Deputy Scott-Warren. The proposal was presented by the Minister for Treasury and Resources. On his appointment as Minister for Health and Social Services, Senator Shenton wished to review this proposal and asked a number of questions about the phase two plan to the Medical Officer of Health. Due to this request for additional information the proposition was withdrawn at that time.

The Minister is now satisfied that option one from the phase two plan, as previously presented to Council of Ministers in April, has his support.

3.0 PANDEMIC STATUS

3.1 A pandemic is coming – a reminder

The World Health Organisation (WHO) and the Chief Medical Officer (CMO) of England predict that there will be a worldwide human influenza pandemic during the next three to eight years. A pandemic is an outbreak of an infectious disease on a very large scale often associated with increased severity and deaths.

It is predicted that the next influenza pandemic will start outside Jersey, most probably in the Far East, and spread to Jersey within one month. Most islanders will be susceptible to the new virus and all ages will be affected.

3.2 Improved knowledge and technology

Both internationally, in the UK and in Jersey, pandemic flu plans have developed during the last year, as has the research base for more informed decision-making and new technologies. In March the UK produced an updated plan which included more extensive stocks of protective clothing and other supplies for infection control. As recently as November, the UK Government announced that they would be stockpiling further supplies again of protective clothing and antibiotics. They also announced that they would be doubling their stockpile of the antiviral drug Tamiflu.

Here in Jersey, after reviewing the epidemiology of the 1918 pandemic in Jersey and Guernsey, we have revised our initial planning assumptions and now predict that a pandemic may run its course in Jersey in only four weeks. We have discussed this revised hypothesis with Dr. Van Tam from the National Health Protection Agency who has confirmed that this pattern is more likely for a small island community such as ours. This has led us to change our plan for managing the pandemic.

4.0 ANALYSIS OF THE VACCINES

4.1 Pre-pandemic vaccine H5N1 (generic)

A H5N1 vaccine has been developed by a number of companies for use before a pandemic strikes – the ‘pre-pandemic’ vaccine. Pre-pandemic vaccines are the only clinical countermeasure with the potential to develop population protection before a pandemic virus emerges. Mathematical modelling indicates that such a vaccine, given to the whole population, could, if combined with other clinical countermeasures, reduce the pandemic’s impact to that of seasonal influenza.^[1]

The pre-pandemic vaccine is based on the H5N1 bird flu strain and is likely to produce some protection against any human variety of H5 influenza. Although no-one can be certain which strain will be responsible for the next pandemic, WHO and the CMO of England predict that H5N1 is the likely source of the flu pandemic when it arrives.

To date, there have been 350 cases of H5N1 in humans with a mortality of 60%. If the next pandemic were to be H5, 80% of the world's flu virologists believe that there is no genetic reason that requires a reduction of virulence to adapt to man. Based on the experts' opinion, a H5 pandemic would potentially be catastrophic.

4.2 Pandemic-specific vaccine

Pandemic-specific vaccine is expected to be the most effective vaccine against the pandemic virus as it will have been manufactured against the actual pandemic strain. The pandemic-specific vaccine, however, is unlikely to be available until four months after the initial wave.

4.3 Assessing the final propositions from the vaccine manufacturers

After a year of top level effort and negotiations to secure pre-pandemic vaccine and an advanced purchase agreement for pandemic-specific vaccine, three companies came forward and offered us the opportunity to buy pre-pandemic vaccine (H5N1). The relative advantages and disadvantages of each offer have been reviewed with a view to identifying the best value offer for the Island. The vaccination schedule for the H5N1 vaccine is two doses given three weeks apart.

In the event of the pandemic occurring, the manufacturers can offer an advance purchase agreement for pandemic-specific vaccine.

5.0 INDEMINITY – THE POTENTIAL RISK TO THE STATES

5.1 Proposal from the States Insurers

For both the pre-pandemic vaccine and the pandemic-specific vaccine indemnity would need to be carried by the States of Jersey and not by the manufacturers.

In April, the Medical Officer of Health raised this potential risk with the Council of Ministers and recommended that the States took out insurance from the States insurers to cover this risk. Our assessment of the Insurer's offer was that it effectively failed to protect the States sufficiently in the event of any claims and would not be cost-effective. The basis for this conclusion is that it is estimated that in most cases the individual liability would be less the £100k and for any significant case e.g. involving obstetrics the liability would probably exceed the £1 million maximum.

5.2 Assessment of risk

We have assessed the magnitude of the risk by extrapolating the side effects claimed for from the USA mass vaccination of 40 million Americans against swine flu in 1976. Recent studies^[2], carried out since the USA Swine flu vaccine episode, indicated that the likely risk of Guillain-Barre syndrome, associated with influenza vaccine, is in the region of one to two people per million people vaccinated. This would equate to 0.1 to 0.2 islanders.

6.0 OPTIONS

6.1 Option one preparation package (updated)

Option one from my previous report^[3] aims to prevent severe flu for all. Every islander would be offered protection in the form of Tamiflu and pre-pandemic vaccine under this plan. Also pandemic-specific vaccine would be available and offered to those who could benefit from it.

The additional supplies of Tamiflu (antiviral drug) have already been purchased and the funding for this was agreed in a proposition to the States Assembly on 5th December 2007.

In summary the phase two (option one) plan would be to purchase –

- Pre-pandemic H5N1 generic vaccine for the whole population
- An advance purchase agreement to supply enough pandemic-specific vaccine, once manufactured, to protect the remaining vulnerable portion of the population
- Additional protective clothing for staff
- To create a rotating stockpile of antibiotics
- 11 non-invasive ventilators
- Undertake a pandemic major incident exercise in 2008
- Cold storage facility for vaccines
- Health population database server
- Validation check of database

The overall effect of the option one preparation package is approximately £1.23m.

6.2 Option two preparation package (updated)

Option two from my previous report was to do the minimum by keeping healthcare workers well to care for the sick and to treat flu after diagnosis. In this option we would only procure sufficient quantities of the pre-pandemic H5N1 generic vaccine to protect healthcare workers only.

Due to the low volume of the pre-pandemic vaccine purchase it is highly unlikely that we would be able to secure the advance purchase agreement to supply pandemic-specific vaccines even for healthcare workers.

In summary the phase two (option two) plan would be to purchase –

- Pre-pandemic H5N1 generic vaccine for the healthcare workers only
- Additional protective clothing for staff
- To create a rotating stockpile of antibiotics
- 11 non-invasive ventilators
- Undertake a pandemic major incident exercise in 2008
- Cold storage facility for vaccines
- Health population database server
- Validation check of database

The cost of these items is approximately £0.23 million as identified in Appendix II.

7.0 ADDITIONAL FINANCIAL EFFECTS IN THE EVENT OF FLU PANDEMIC

As stated above in 3.1 the pandemic is expected to strike within the next three to eight years. Due to the uncertain nature of the consequences of such an event it is extremely difficult to ascertain the exact costs when a health service is overburdened with a demand of this nature.

7.1 Option one additional costs

Under option one H&SS would have made the best possible plans to defend against the flu pandemic and we would be able to purchase the pandemic specific vaccine. We can also confidently predict that we will need additional oxygen supplies in this situation and will require a further £0.15 million to secure these supplies.

Therefore if we adopt option one preparation the States is asked, in principle, to support the request for an additional approximate £0.59 million for when the pandemic strikes, see Appendix I. It should also be noted that due to a predicted lower illness rate considerable costs from excessive flu cases would be minimised.

7.2 Option two additional costs

Under option two we have only protected our healthcare workers against the full effects of the pandemic and we would have been unlikely to secure any supplies of the pandemic specific vaccine. As in option one though we would also need the additional oxygen supplies meaning that the States needs to allocate an additional £0.15 million for when the pandemic strikes, see Appendix II. In addition there would be a greater number of islanders who would become ill which would create a high burden of extra costs on the hospital and community health services.

7.3 Quantification of total financial loss under option two

If option two is adopted then whilst there would be reduced financial effect for the actual planning, the majority of the population would face the full effects of the flu pandemic with limited defences.

The expected effects are likely to be –

- 3% of children, young adults and older people would die.
- 25% of the workforce would be off work, sick with the flu.
- Doctors and nurses would be overwhelmed (as well as considerable numbers being absent to look after young children and elderly relatives).
- General panic and social unrest, probably leading to a media frenzy and criticism of emergency planning procedures.
- Island supply chains would be considerably disrupted e.g. food and fuel.

In an attempt to quantify the financial effects of only undertaking option two the States Statistics Unit has identified the number of Ftes and the annual profits per Fte for the different industrial sectors on the Island.

Assuming that 25% of the workforce is off sick, losing 7 productive days as a result of the flu pandemic, Appendix III shows that the financial effect of option two could be to cause an approximate £11.6 million loss in profits to the Island's industrial sector (approximate £9.2 million of this figure is associated with the Financial Services Industry).

8.0 FUTURE REPLACEMENT COSTS

Due to the rapidly changing nature of worldwide flu pandemic planning and the different vaccines etc. that may become available in the future, it is very difficult to exactly specify the replacement costs of this proposal.

In the event of the flu pandemic not having occurred within three years, the Minister for Health and Social Services would present a review report with an appropriate proposal to the Council of Ministers and the States Assembly for flu pandemic preparation.

9.0 CONCLUSION

The pre-pandemic and pandemic-specific vaccines were the key issues under review by the Minister from the Phase Two Plan. We have reviewed the offers from three drug manufacturers to supply us with these vaccines and have assessed the balance between the risk to the States posed by pandemic flu without vaccine, compared with the risk from giving the vaccine. The Pandemic Influenza Vaccine Subgroup (PIVS) has answered all the Minister's questions to his satisfaction and recommends option one. The PIVS also considers that the occurrence of any significant side effects from the vaccines is likely to be low and recommends, therefore, that the States carries this risk.

10.0 RECOMMENDATION

We recommend that the States Assembly –

- Makes a sum of £1.23 million available to fund the purchase of the medical supplies set out in the revised option one proposal.

This would also mean that in the event of a flu pandemic, an additional £0.59 million would be necessary for essential medical supplies.

- Agree that the States of Jersey carry the risk (expected to be very low) in the event that there are claims against the States resulting from the use of the vaccines in the context of a worldwide flu pandemic.

Dr. Rosemary J. Geller MB ChB FFPH
Medical Officer of Health

Russell Pearson
Director of Finance and Information Systems

15th April 2008

Option 1 (Updated) - To Prevent Severe Flu for All

	Total Cost £
PREPARATION COSTS	
Ref: 1 Pre-pandemic H5N1 vaccine	
2 Protective clothing for staff	
3 Stockpile of Antibiotics	
4 Additional non invasive ventilators	
5 Pandemic MAJAX simulation exercise	
6 Cold storage facilities for vaccines	
7 Health population database server	
8 Validation check of database	
9 Possible change in antigen	
TOTAL PREPARATION COSTS	<u>1,223,900</u>
 COSTS UPON OUTSET	
10 Pandemic specific vaccine	
11 Additional supplies for oxgenators	
TOTAL COSTS UPON OUTSET	<u>584,700</u>

NOTES AND ASSUMPTIONS

Future replacement costs will be the subject of another proposition to the Council of Ministers and the States Assembly, therefore no replacement costs have been included in this proposal.

Option 2 (Updated) - Do minimum by keeping health workers well to care for the sick and to treat flu after diagnosis

	Total Cost £
PREPARATION COSTS	
Ref: 1 Pre-pandemic H5N1 vaccine	
2 Protective clothing for staff	
3 Stockpile of Antibiotics	
4 Additional non invasive ventilators	
5 Pandemic MAJAX simulation exercise	
6 Cold storage facilities for vaccines	
7 Health population database server	
8 Validation check of database	
9 Possible change in antigen	
TOTAL PREPARATION COSTS	<u>226,498</u>
COSTS UPON OUTSET	
10 Pandemic specific vaccine	
11 Additional supplies for oxgenators	
TOTAL COSTS UPON OUTSET	<u>150,000</u>

NOTES AND ASSUMPTIONS

Future replacement costs will be the subject of another proposition to the Council of Ministers and the States Assembly, therefore no replacement costs have been included in this proposal.

Expected Financial Effect of Flu Pandemic

Sector	Total No of Ftes in Sector No.	Annual Gross Profit per Fte £000s	Total Annual Gross Profit £000s	Total Gross Profit per Working Day (Note 1) £000s	Lost Profits per Working Day (Note 2) £000s	Total Lost Profits (Note 3) £000s
Agriculture	1,456	10	14,560	66	17	116
Manufacturing	1,530	7	10,710	49	12	86
Electricity, gas, water	492	41	20,172	92	23	161
Construction	4,370	9	39,330	179	45	313
Wholesale & retail	7,264	10	72,640	330	83	578
Hotels, restaurants, bars	4,697	6	28,182	128	32	224
Transport & comms	2,391	23	54,993	250	63	438
Finance & legal	11,095	104	1,153,880	5,245	1,311	9,179
Other business activities	5,952	11	65,472	298	75	522
Total	39,247		1,459,939	6,637	1,659	11,617

Source of Fte & annual gross profit figure data - Kevin Hemmings (Head of Decision Support)

Notes and Assumptions

- 1 Total Gross Profit per Working Day assumes 220 productive days per annum
- 2 Lost Profits per Working Day assumes 25% level of sickness
- 3 Total Lost Profits assumes that each individual will be off sick for 7 productive days

[1] Department of Health, *Pre-pandemic and pandemic influenza vaccines*, Scientific Evidence Base, 2007.

[2] Centre for Infectious Disease Research and Policy, (www.cidrap.umn.edu/)
Juurlink, DN; Stukel, TA; Kwong J, et al. *Arch. Intern Med* 2006; 166 (20): 2217-21.

[3] *Preparation for Pandemic Flu Outbreak – Phase Two* (R. Geller – April 07)