PREPARING FOR THE PANDEMIC

A guide for cemetery and crematorium managers

(From a paper by Ken West, MBE, presented at the ICCM Corporate Seminar in April 2006.)

The pandemic, is it an imaginary or a real threat?

- How many of you feel it is a real threat?
- How many of you have completed a plan?

Representation on a Burial and Cemeteries sub group related to the London Resilience Plan has revealed a need to be prepared and the experts suggest that December 2006 to March 2007 is the next danger period.

The disposal of the dead is not a statutory service for local authorities, neither has central government any control of burial and cremation facilities. No government minister has responsibility for the component elements of the death industry. This includes the NHS, coroners and registrar's service, cemeteries and crematoria, many of these latter two being operated by the private sector. Funeral directing, cremator and coffin manufacturers are entirely private and independent bodies. The integration of all these disparate elements into a pandemic contingency plan is difficult and probably impossible.

The Registrar of Births, Deaths and Marriages is the only service that tracks the body and where disposal is not evident (through return of the part C) they would seek to find out why. This is purely a statistical requirement and not one based on public health or psychological needs. The burial and cremation services normally possess sufficient capacity to meet demand but it is not unheard of for bodies to be stored on hospital or funeral director floors because the disposal process has been overwhelmed for short periods. This has usually been during cold spells and extended crematoria shutdowns over Christmas.

1.0 HISTORICAL PERSPECTIVE

The last serious pandemic was in 1918 with less severe instances in 1957 and 1968. UK cemeteries seemed to have maintained business continuity in 1918 possibly due to the following reasons:

- They had ample new grave space
- They had perhaps six times as many gravedigging and gardening staff to fall back upon, all working longer hours over 6 days.
- Shoring was simpler, if used at all.
- All disposals were by burial and based on manual work.
- They were used to high death rates in winter from flu, excess cold, etc.
- They were used to high death rates in summer from cholera, typhus, etc.
- They were not reliant on gas, electricity and road fuel.
- They had highly efficient manual booking processes.
- Medical certification was more simplistic and post mortem numbers were much lower.
- They could hire additional staff immediately and a large pool of manual employees existed.

It is important to note that the huge pandemic in 1918 was not anticipated nor observed until after it had killed high numbers. It is suggested that 20% – 40% of the world population were infected. It affected many army units and in view of the war no contingency preparations were made.

In the 2nd World War contingency arrangements were considered but they did not always prove effective. For instance, government demanded that civilian deaths use shrouds (to save the use of wood in coffins), be interred in mass graves (to save resources) and be interred where they die (to save bodies being repatriated around the country). Both public authorities and people completely ignored this demand and continued to hold conventional funerals. Government was shown to be entirely out of touch with the situation on that occasion.

The danger is that little or no investment in contingency arrangements will occur and a stand-off between public authorities and government could develop over who funds what. If this happens then we are likely to lurch into an emergency and be forced to concentrate on the practical issue of body disposal and leave very little resource to handle the psychological aspects with the necessary sensitivity. The management of this large number of deaths cannot be resolved by technology and a huge amount of manual labour is going to be necessary in order to move and handle the bodies up to the final disposal.

2.0 THE CURRENT SITUATION IN CEMETERIES & CREMATORIA

The reasons outlined earlier as to why we might have maintained business continuity in 1918 have entirely changed. Most of us have little or no burial space, our capacity has been greatly reduced by restricting bookings to what can be managed by a minimal workforce working with a consistent and relatively stable death rate. The days of operation have been reduced to 5 and there is a total reliance on mechanical excavators. Grounds staff, long a crisis back-up, have been outsourced and are no longer available to perform back-up.

The death process now relies on technology and the loss of fuel for computers, cremators and excavators increases the risk of failure. The use of such equipment has also made it more difficult to introduce new staff, all of whom usually need a period of skills training. Success in coping with the pandemic will be entirely reliant on the availability of trained staff to keep the operation going. Hospital capacity will also suffer like ours and many of our staff will have to stay at home to care for the ill.

3.0 ESTIMATED TOTAL NUMBER OF DEATHS

An influenza pandemic occurs when a new virus subtype emerges that has not previously circulated in humans. Avian H5N1 is considered to be a strain with pandemic potential. An internet search suggests that the impact of a pandemic cannot be estimated with any certainty. The mortality rate varies between .37% and 2.5% and the infection rate anything up to 25% of the population. These figures appear less than the 1918 pandemic and closer to the epidemics in 1957

and 1968. Even more unreliable is estimates of the actual period of the pandemic. This suggests that a pandemic over a shorter period could have higher peak deaths and be less easy to manage than a pandemic over a longer period with lower peaks.

Using the latest models assumes a pandemic to last 17 weeks and the worse case scenario suggests that 25% of the population will be infected (the “attack rate”) and 2.5% will die (the “mortality rate”). It is estimated that 42% of the deaths will occur at the 2 week peak. All of these deaths are additional to what we would normally do and, taking Croydon as an example, it suggests a total of 2840 deaths (about 500 more than a full year) and contained within just 17 weeks. The total deaths for this period, and numbers per bereavement section are estimated to be:

		Pandemic/expected. deaths	**25% post mortems**	**14% burials**	**86% cremations**
Week	1	15/45 = 60	15	8	52
	2	15/45 = 60	15	8	52
	3	30/45 = 75	19	11	64
	4	50/45 = 95	24	13	82
	5	80/45 = 125	31	18	107
	6	120/45 = 165	41	23	142
	7	250/45 = 295	74	41	254
	8	435/45 = 480	120	67	413
	9	435/45 = 480	120	67	413
	10	240/45 = 285	71	40	245
	11	120/45 = 165	41	23	142
	12	95/45 = 140	35	20	120
	13	80/45 = 125	31	18	107
	14	50/45 = 95	24	13	82
	15	30/45 = 75	19	11	64

16	15/45	= 60	15	8	52
17	15/45	= 60	15	8	52
		…..	…..	…..	…..
		2840	710	397	2443

This is a frightening number of deaths on a week-by-week basis so how do we respond?

4.0 MANAGING A HIGH NUMBER OF DEATHS

One approach is to:

- Create a command centre at a central cemetery and crematorium office and control the section from that point.
- Suspend the usual public service including memorial orders, attention to visitors and suchlike.
- Make each unit responsible for their part of the “disposal” process and focussed purely upon their objective. In Croydon this relates to the mortuary, crematorium and burial sections.
- To agree a programme of trigger points relative to the numbers of deaths increasing week on week, and introducing new teams of back-up staff to continually increase the capacity to accept more funerals.
- Where disposal failure is evident due to lack of capacity, staff, fuel, coffins, to have a collective (mass) burial site prepared.

Let’s consider each of these operations in more detail:

5.0 COMMAND CENTRE - MANAGEMENT & SUPERVISION

The command centre will be based at your main cemetery and crematorium office. Staff here will constantly liaise with your mortuary staff (if you have them) and hospital mortuary staff to keep updated on the situation. The command staff have to ensure:

a.) That mortuary capacity, burial capacity and cremation capacity keeps pace with demand.

b.) That ‘trigger’ points are identified as bookings increase so that supplementary staff are drawn in to increase capacity.

The centre will then organise and constantly monitor all cemetery and crematorium bookings with funeral directors. A manager and deputy need to be present at all open times to manage any issues and generally oversee all operations. They would also need to constantly liaise with senior council staff, Emergency Planning Officers and the coroner and funeral directors. The first trigger would be:

- An **AMBER** warning would apply when 75 funeral bookings arise in one week and the introduction of the contingency plan would be prepared.
- A **RED** warning would apply if bookings continue to rise to 100 in one week and the contingency plan would be initiated.

- The burial & cremation booking service would be expanded to 7 x 12 hour days.
- All cremation and burial bookings would be dictated by you in order of receipt and with no choice of times.
- Only the partner and children of the deceased will be able to attend each funeral with their funeral director

6.0 BURIAL SERVICE - Burial Liaison

This small team will manage burial capacity and transfer all burial orders between the command centre and cemeteries. Both new graves and re-open graves will be utilised as normal.

The potential for error with using less skilled staff for burial is recognised and to avoid this the burial liaison teams will ensure that each grave allocated and finally checked is marked with a laminated sign giving full details of the intended burial. This will ensure that all staff are visually aware of which grave is to be used as each funeral arrives.

Grave excavation will be done by day only with team hours restricted to five days to ensure that staff doing this heavy work are not overworked. It is also essential to ensure that ground space exists for each team to work individual plots so that teams are not intruding upon each other both physically and with regard to noise disturbing funeral services.

There would be severe restrictions on the service such as all orders for new and reclaimed graves taking the next available grave and not be given any choice. It would also be unfair to delay other burials in order to offer burial within 24 hours to specific religions, so this option will be deleted.

In Croydon they would need 7 teams completing 2 graves each 10 hour day x 5 days, a total of 70 graves each week. It would require 5 additional excavators, shoring and tools.

7.0 CREMATION SERVICE

The cremation service would slowly expand to operate 24/7 and assuming 16 cremations per cremator every 24 hours Croydon can cremate 64 bodies each day and meet the target with capacity to spare. These could be accommodated with 30 minute bookings between 8am to 12 midnight each day. This would give funeral directors the ability to spread their funeral load over a long period and ease their own staffing and capacity problems.

Funeral directors have not yet produced their own national contingency plan. How they will cope with the contingency, the denial of a choice of funeral times or grave locations, and the restriction on people attending their funerals, has yet to be considered.

The storage of coffins at the crematorium will impede efficient operation so bodies must arrive to a “just in time” scenario, and be cremated fairly immediately.

8.0 PREPARING FOR COLLECTIVE BURIAL

The term collective burial is used where burials occur in a trench in rapid succession, each burial separate and identified. It can be provided by relatively unskilled staff and does not rely on technology or external help. It is not “mass” burial where the bodies are placed together and one on top of another. It is recognised that collective burial is not likely to be seen as morally acceptable in a modern society. Even temporarily, it could have a serious psychological impact on the bereaved in that the body will not be finally placed for some months and the grieving process will be interrupted. Much as I feel we must avoid collective burial this is only assured if a massive amount of chilled body storage is provided. The high cost of this will not be borne by many authorities and it is unlikely the government will fund it.

Collective burial would be necessary where:

Firstly, the number of dead exceeds the capacity to store, inter or cremate them

Secondly, where the dead have to be temporarily interred because autopsy, registration or the Coroner’s service has collapsed.

Collective burial would involve excavating a trench 4’ 6” (1350mm) deep, 300’ (90000mm) long and 8’ (2400mm) wide which would accept 100 coffins laid side by side 3’ (900mm) apart. One hectare would accept about 2,000 bodies.

A collective burial site could be used purely to put bodies into a sterile environment, as soil has an antiseptic quality, in order to hold back decomposition. After the emergency the bodies could be exhumed for post mortem or reburial/cremation in the conventional way.

9.0 BACK-UP STAFFING NEEDS

Having run through the implications of the plan we can now consider the back-up staffing requirement. In Croydon, assuming a sickness rate of 25%, they will need 53 back-up staff, twice their current full-time compliment. This does not

include staff employed on collective graves. There are many other back-up needs, not least generators and stocks.

10.0 AVOIDING INFECTION

The potential for infection is reduced by the restriction on mourners attending funerals, closing the routine office service and sending staff home where a family member is ill. Staff immunisation is not possible prior to the pandemic but if we are categorised as a **critical service** then the NHS might provide us with anti-virals, which have to be taken within 48 hours of infection in order to be effective.

It is important to note that there is no real risk of infection from bodies of people dying from the virus. It is expected that, assuming you survive, you will be ill for 5 – 6 days with the virus. The most important protection is personal hygiene and especially handwashing.

11.0 POTENTIAL BOTTLENECKS OR PINCHPOINTS

Apart from our own potential to fail we also need to consider:

- Failure of the registration service
- Failure to obtain Forms B & C from NHS/Hospice/nursing homes
- Failure of the Coroners service or mortuary service
- Failure of Funeral Directors to deliver funerals
- Failure of national road fuel supplies

12.0 ACTIONS

Some of the actions we need to consider include:

- Approaching cremator manufacturers about maintaining the operation of the cremators, and avoiding heat induced failures
- Funding the expensive training and organising an exercise and simulation prior to next winter

- Whether the pandemic could cause great hardship to some and particularly the disadvantaged. A response could include reducing the fees charged for burial and cremation.

- How much the NHS will do on the psychosocial care of survivors bearing in mind current resources for such care are very poor.

- How to ensure the psychosocial care of our own front line teams.

Conclusion

The Home Office will issue guidance in the near future, including the extent of emergency powers. They are likely to highlight the need for equitable provision between authorities as the media will immediately focus on inconsistent standards and the impact this will have on psychological and grieving needs.

They may accept that it is not feasible to store the pandemic bodies at mortuaries, crematoria or funeral directors. Neither is the use of refrigerated trucks for storage feasible in view of engine noise and pollution, and that moving bodies into and around these trucks is labour intensive, lacks decorum and requires a large discreet and secure parking area. A further concern is that so many authorities will be in the same dilemma that an assumption that refrigerated trucks could readily be hired is erroneous. The only solution is for each council to provide expensive temporary storage such as a chilled warehouse in order to avoid collective burial. It seems likely the Home Office will accept that this is unrealistic and unaffordable.

The Home Office may recognise that the disposal of a large number of bodies relies upon too many uncontrollable factors. These include the actual staff sickness rate, assumed at 25% even though some estimates are as high as 60%. Staff deaths cannot be discounted. The estimated attack rate has also varied over time and may well prove to be higher than the assumed 25%. There are also high risk factors with regard to supplies of road fuel, gas, electricity, cremator maintenance and the supply chain for spares, coffins, etc. In London there is also a chronic shortage of burial land and skilled staff, especially

mortuary staff and pathologists. The possibility of the service breaking down is extremely high and if bodies begin accumulating, the situation could quickly become serious. It appears that we are truly on the front line this time and the pandemic is going to tax our ingenuity and skills, if not our health, over the next few years.