Warringal Private Hospital Health Information Service flood disaster recovery: Wednesday 3 December 2003

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This article describes the challenging task of restoring water damaged medical records while maintaining an acceptable level of efficiency in a Health Information Service (HIS) following flood damage in a suburban private hospital.

On Wednesday the 3 December 2003 at 0200 hours Warringal Private Hospital, in the Melbourne suburb of Heidelberg, was flooded as a result of exceptionally heavy rain which affected a large part of the Melbourne area. The HIS was dramatically affected, as were the Supply Department, Kitchen and office areas.

As the Health Information Services Manager, I was called in at 0730 hours that morning. Unsure of what to expect upon arrival, I was confronted with weary night staff and assorted helpers sluicing and barrowing out mud through the external door adjacent to the department. The water level, having peaked at approximately 30 cms, had by then subsided. A full linen bag in the doorway of the department acted as a sand bag and the carpet was completely sodden. The filing area bore the full brunt of the rising water, with the high water level reaching almost to the top of the lower shelf. Medical records had been collected in boxes piled on the floor.

When I arrived at the scene, records had already been removed and laid out in the adjacent staff dining room and boardroom. I was immediately asked if record covers could be removed to aid in the drying process, to which I hastily agreed but requested that the patient names remain visible. The other Health Information Manager (HIM) was contacted as well as assorted family members, and they were asked to come and assist in the enormous task that lay ahead. They were advised to bring gumboots in with them as the flood had caused an enormous amount of mud entering the department.

The preparation stage

The task that lay ahead was massive and overwhelming. ‘Think time’ was needed. With the prospect of another disaster in front of me if the damaged medical records could not be salvaged, I recalled hearing of an article on CodeL regarding flooding. My colleague emailed CodeL to see if responses to similar disasters could be accessed. HIMAA, the National Centre for Classification in Health (NCCH) and the Department of Human Services were contacted in an effort to locate other places that may have had similar experiences. We hoped to learn from their experiences and ensure that we would be heading down the right track in our own salvaging process. The response was remarkable.

We concluded from the accounts we studied that to restore the salvaged records, a de-humidifier should be used if the records were simply damp, or a freeze-dry process if wet; the records were in fact wet. We sourced a number of useful articles including a copy of the Yellow Pages search for document restorers, and through this we contacted the document restoration firm Munters. They immediately assessed the situation, confirming that freeze-drying was the most appropriate option in our situation, but because the flood had created so much work for them throughout the area, they would be unable to help until February 2004! The search started again, and I was finally able to secure the services of Mayfield Contract Freeze Dryers, a subsidiary of Consortia One Pty Ltd, who collected all of the affected medical records on Friday.

1 CodeL is a ListServer provided by the National Centre for Classification in Health, Sydney
In the meantime all records that were on the floor, and now in other areas, were listed on an Excel spreadsheet (Name/Unit Record number/location) to identify them. The records in the dining room were collected and laid out in colour-designated areas in the boardroom and another unoccupied, lockable room.

During this time all HIS staff were called in to assist, and many additional hospital staff offered their assistance although we could not accept their offers while the appropriate course of action was still unclear. During this time two staff members remained in the department at all times to maintain its daily running, while contractors removed 5,000 litres of mud. Dazed and confused, we sorted, cleared, collected ‘Baxter’ boxes to transport records and tried to implement processes that would allow us to continue to operate our service.

The timeline

**Day 1: Wednesday 3 December**
- Records from the floor were contained in two secure areas, then laid out and catalogued.
- Records on bottom shelves were not touched, as we did not want to risk damaging them further.
- The contractor visited and provided a quote for restoration by the freeze-drying technique.
- Catalogued records were entered onto an Excel database.

**Day 2: Thursday 4 December**
- The microfilm bureau was contacted and confirmed that microfilms may not retain integrity if freeze-dried.
- Some records were laid over the railing in the secondary storage area (theatre roof space). These records were also catalogued and dried there (rather wrinkly!), and returned to active filing area.
- Records stored in the secure area and boardroom (damaging the table) were boxed, awaiting pick-up the following day.
- Department services to our customers continued uninterrupted. The carpet began to smell; a fan was brought in to dry it.
- We started to box the records on the bottom shelves, which included removal of microfilms.

**Day 3: Friday 5 December**
- We confirmed the pick-up for freeze-drying was scheduled for first thing in the morning, and we were informed the man would be here ‘in his Commodore’.
- We informed him that a larger vehicle would be required, and we immediately organised a rally of vans with the assistance of the Supply Department (five in all were required), for the transport of 122 boxes.
- Records were removed from the bottom shelf and boxed all day by the HIM and a casual staff member.
- Boxes were stacked and loaded with the help of the truck drivers.
- By the end of the day, all of the water damaged records had been removed and were in a ‘drive-in’ freezer at the freeze-dryers and frozen. Once we reached this point no more deterioration of the records would occur; all we had to do was await their return.

Communication with hospital staff
All department heads were informed via email of the unavailability of medical records, and signs were put up around our department to that effect. When damaged records were requested while they were still being freeze-dried, a new cover for each was created, with a sticker attached to the front cover informing staff that the original
record was water damaged and unavailable. No complaints were ever received. The carpet was removed over the weekend and the smell disappeared.

**Processes and outcomes**

The records were returned in batches of twenty boxes, the first delivery being received on 17 December 2003 and the last on 11 March 2004.

The next steps were that:
- the records were counted
- damaged covers were replaced
- a sticker explaining condition was due to water damage was put on inside of cover
- microfilms were re-filed in pocket
- dirt was wiped off
- samples were collected for education
- records were re-filed.

The Excel database was also expanded to include:
- number of records per box
- number of covers replaced
- number of microfilms re-filed.

Final statistics:
- five tonnes (5,000 litres) of mud were removed from the area
- two litres of moisture were extracted per box
- 3529 records were returned from freeze-drying
- 65 microfilms required repairing (re-jacketed)
- 239 litres of water were removed from records
- no records were damaged beyond repair.

**Lessons learned from the disaster**

Because documents written in ballpoint pen were unaffected by water damage, while those written in water-soluble pen had disappeared, the Documentation Policy was altered to state clearly that non-water-soluble pens should in future be used for medical records. Posters were displayed in theatre tearoom and unit stations to inform staff of proper procedures. This policy was also reinforced via the committee structure. In addition, all filing bay shelves were raised approximately 100 cms to avoid damage should a similar flood occur in the future.

**Finally ...**

It should be noted that the purchase of Warringal Private Hospital by Affinity Health was finalised on Monday 1 December 2003; they had owned the hospital for only two days when the flood occurred.

The task of retrieving and restoring Warringal’s medical records after the 2003 flood was enormous, but was made more manageable with the invaluable assistance of health information colleagues who responded to our call for help. Thanks to all who gave us assistance, it was greatly appreciated.

Interestingly, the records returned from freeze-drying smelling of potpourri!

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[Note: Mayfield Contract Freeze Dryers is now known as Florever Contract Freeze Dryers.]

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