Report to the Minister of Justice and Attorney General Public Inquiry

Canada
Province of Alberta

The *Fatality Inquiries Act*

WHEREAS a Public Inquiry was held at the courthouse in Edmonton, Alberta on January 26th and 27th, 1999 before **David J. McNab**, a Judge of the Provincial Court of Alberta.

A jury was not summoned. An inquiry was held into the death of **JILL REDLICH, born January 6, 1967 (age 31 years) of Edmonton, Alberta** and the following findings were made:

Date & time of death: March 16, 1998 @ 4:55 a.m.

Place of Death: University of Alberta Hospital, Edmonton, Alberta

Medical cause of death: Acute multiple drug toxicity

Manner of death: Undeterminable

Circumstances under which death occurred: Ms. Redlich was a serving prisoner at the Edmonton Prison for Women and was in the custody of Corrections Canada. While incarcerated, Ms. Redlich was under medical care at the Institution and had been prescribed a number of medications. Ms. Ineke MacDougall, an employee at the Institution, testified that all medications at the Institution are locked in a secure area. When prisoners receive medication, it is administered individually and Institution staff witnesses the taking of any medication. Ms. MacDougall testified that the medication was administered according to prescription. It is unclear as to how long Ms. Redlich had been in custody prior to her admittance to the University of Alberta Hospital ("UAH"). On March 11, 1998, Dr. Lobay admitted Ms. Redlich to UAH in order that she could have a skin graft done and a tracheotomy closed.

When a prisoner is transferred to a hospital, no medication accompanies the prisoner. A list of prescribed medication is sent to the hospital and a doctor at the receiving hospital will review the list, assess the patient's requirements and prescribe his/her own medication(s). This procedure was followed in Ms. Redlich's case. Upon her transfer to UAH, the hospital received a list of various medications that Ms. Redlich had been taking at the Institution. The significant drugs were:

- Meperidine ("Demerol") prescribed for severe pain;

- Trimipramine ("Surmontil") an anti-depressant medication;
- Methotrimeprazine ("Moziman") a sedative & anti-psychotic medication;
- Paroxetine ("Paxil") an anti-depressant medication;
- Carbamazepine ("Tegretol") sometimes a psychiatric medication, generally an anti-epileptic medication.

Upon an assessment of Ms. Redlich, prescriptions were ordered, except for the Paxil.

Ms. Redlich was under the care of Dr. Lobay and Dr. Robert Korbyl in relation to the scheduled surgery. According to Dr. Korbyl, the surgery was performed on March 12th and went without incident. Day 1 and day 2 of the post-operative period were apparently uneventful. On day 3 (March 15th), Ms. Redlich began to complain of shortness of breath. Dr. Korbyl consulted with the pulmonary team, who referred the matter to Dr. Allegretto (an "Ear, Nose & Throat" practitioner), who attended upon Ms. Redlich and examined her. Dr. Allegretto saw Ms. Redlich on the morning of March 15th and noticed turbulent airflow in the upper airway (i.e. above the trachea). Dr. Allegretto noticed that although there was some "noise" when Ms. Redlich breathed, her voice was normal. He conducted an ABG test (to measure the effectiveness of her breathing) and found that to be normal. He then used a fibre optic cable to examine and assess the upper airway and everything seemed fine. By this time, it was later in the day of March 15th.

While at UAH, Ms. Redlich was watched over by one or more guards from the Edmonton Institution. One of these guards, Shauna Kiziak, testified that she was providing security on the night of March 15th and early morning hours of March 16th. Ms. Kiziak knew Ms. Redlich from the Institution. Ms. Kiziak knew Ms. Redlich to be a smoker, with asthma, who required an oxygen tank to assist with her breathing from time to time. While guarding Ms. Redlich on March 15th, Ms. Kiziak said that Ms. Redlich's breathing was "different". She testified that Ms. Redlich complained of being in "lots of pain", although this was somewhat typical of Ms. Redlich's complaints while at the Institution (due to the burning on her legs & tracheotomy that necessitated the surgery in the first place). Ms. Kiziak could see that Ms. Redlich's breathing was laboured and had never before seen Ms. Redlich with this degree of difficulty breathing, although she did not comment on this to the nurses on duty that night. Ms. Kiziak said that the nurses did take some steps to alleviate the difficulty, including ensuring that Ms. Redlich's oxygen mask was available to her. Even with the mask, however, Ms. Redlich continued to have trouble breathing. Ms. Kiziak testified that at one point, Ms. Redlich began acting "strangely", as if she were hallucinating. Ms. Redlich was breathing very irregularly and suddenly (at 4:20 a.m.), made a strange noise and slumped over.

Ms. Kiziak and the other guard tried to arouse Ms. Redlich; they removed the oxygen mask from Ms. Redlich and noticed her lips to be blue. The second guard ran to the nursing station for help and retrieved Ms. Debbie Bradley, the nurse-in-charge. Ms. Bradley responded immediately. Ms. Kiziak was told to call for a doctor and the nurse "called in a code", which was in fact, a call for the cardiac team to attend.

Ms. Debbie Bradley testified that she is a Registered Nurse with some 23 years experience and had been working on Ms. Redlich's ward for 2 ½ years at that point. She was in charge on the night of March 15th, working with 2 others. There were 18 patients on the ward and she and the other two staff would check on and monitor the condition of these patients hourly. Ms. Bradley said that when she arrived for work that evening, the staff going off duty briefed her and the other two staff. They were aware of Ms. Redlich's condition, including the complaints about her breathing difficulties. Because of this, they checked on her more frequently then once per hour. These were "extra checks". Ms. Bradley first met Ms. Redlich that day at about 7:40 p.m., when she went into her room and introduced herself to Ms. Redlich. At that time, there was some breathing difficulties noticed, but this appeared "normal" for an asthmatic patient who had received a bronchoscopy earlier that day. Ms. Bradley ensured that Ms. Redlich had oxygen available and that her mask was accessible. The oxygen was to be self-administered as required. Ms. Bradley ensured that all medication required by Ms. Redlich (including a bronchi-dilator) was administered and checked to ensure that her oxygen saturation was satisfactory. Ms. Bradley found Ms. Redlich's vital signs (pulse, respiration, oxygen saturation) to be satisfactory, checking these at 1:00 a.m., 2:00 a.m., and 3:00 a.m.. Another staff member did these same checks at 4:00 a.m.. Ms. Bradley returned at 4:20 a.m. to check in on Ms. Redlich. No vital signs were measured (this having just been done at 4:00 a.m.) but Ms. Redlich seemed slightly disoriented. She appeared very tired, breathing nosily (but within normal limits) and was wearing her oxygen mask. The disorientation didn't concern Ms. Bradley, given that Ms. Redlich apparently had very little restful sleep in the preceding day. Ms. Bradley was with Ms. Redlich at this time for 3 – 4 minutes and returned to her nursing station. Moments later, one of the guards came to the station as outlined in the preceding paragraph. When Ms. Bradley responded, she found Ms. Redlich slumped over. Her lips were blue and she had no pulse. CPR was started immediately and Ms. Bradley "called in the code".

Within minutes, Dr. Brindley arrived with the cardiac team (and their "crash cart"). The cardiac team consists of a Respiratory Therapist, a Registered Nurse, a medical doctor (perhaps two) and a "recorder" of information (this being Ms. Bradley). Additionally, all nursing staff members are certified in CPR procedures. The cardiac team immediately began working to revive Ms. Redlich. The cardiac team worked from 4:25 a.m. until 4:55 a.m., administering CPR, medication, oxygen and whatever else was necessary to try and revive Ms. Redlich but were unable to do so. Ms. Bradley testified that there had been no deterioration of Ms. Redlich's condition between seeing her at 7:40 p.m. when first coming on shift and 4:20 a.m., when she last checked on her.

Dr. Peter Brindley, the medical doctor in charge of the cardiac team testified in detail as to the steps taken to revive Ms. Redlich and the inquiry is satisfied that all proper, and necessary procedures available were taken in their efforts.

The Autopsy et seq.: On May 16th, 1998 at Edmonton, **Dr. Bernard Bannach, Assistant Chief Medical Examiner**, conducted an autopsy. Prior to conducting the autopsy, Dr. Bannach had been given the background of this matter in a telephone call from UAH and had reviewed Ms. Redlich's hospital records. He was aware of the

complaints about breathing difficulties and specifically examined the airway for any sign of a polyp that was apparent during the bronchoscopy conducted on March 15th. Dr. Bannach found no sign of a polyp, but did explain that this was not unusual in the circumstances. He understood that the bronchoscopy was less than ideal and that it is possible that what was thought to be a polyp had simply been a mucous plug. Alternatively, if it had indeed been a polyp, it could have broken off and been coughed up, or, it could have been sheared off by the intubation procedure during the resuscitation efforts. In any event, Dr. Bannach found nothing that would have obstructed Ms. Redlich's airway.

Dr. Bannach specifically examined Ms. Redlich's liver. She had Hepatitis C and questions had been raised about the condition of her liver, specifically as it related to the liver's ability to properly metabolise medication. Dr. Bannach noted no death of any liver cells and no acute disease present that would suggest an impaired ability to metabolise medication. He found nothing in the gross pathology that would assist in determining the cause of death.

Dr. Graeme Jones, Chief Toxicologist with the Medical Examiner's Office, conducted toxicology tests. Dr. Jones was accepted by the Inquiry as an expert in forensic toxicology. Dr. Jones examined certain specimens taken at the autopsy and concluded that the cause of death was **Acute Multiple Drug Toxicity**. This conclusion was based on the presence of significantly elevated levels of Demerol, Surmontil and Moziman. It was Dr. Jones' opinion that each of these were, in themselves, approaching or at toxic levels, relative to what should be present having regard to "prescribed" levels according to the literature. Dr. Jones suggested the following scenarios:

- Ms. Redlich was not metabolising drugs effectively, although there is no evidence of liver damage (even with the Hepatitis C) sufficient to impair her metabolism
- The excretion of drugs was impaired, although there is no evidence to suggest renal problems
- Some medications interact and may cause the metabolism of one or more drugs to slow down (the example given being that Surmontil reduced the metabolism of Moziman)
- The drug Paxil can impair the metabolic pathways of the body that break down other drugs

Dr. Jones explained that with an impaired metabolism, drugs can "accumulate" in the body, rather than being broken down, used and/or eliminated. The levels of Paxil found were almost 3x those normally present. He explained that, aside from the possibility that drugs impaired the metabolic pathways, some 7% - 8% of the population are deficient in an enzyme which metabolises drugs. He also stated that even as drug levels increase, there would not necessarily be visible side-effects of this "accumulation" of drugs in the system. However, the accumulation of drugs such as Demerol, Surmontil and/or Moziman has an effect on the central nervous system. High concentrations of Demerol can suppress respiration and high concentrations of Surmontil and Moziman can cause cardiac arrhythmia.

Having examined Ms. Redlich's medical history, Dr Jones noted that the prescribed and dosages of these various drugs were within the usual therapeutic range. Dr. Jones stated that the **most likely** cause of inability to properly metabolise medication was the **combination** of drugs, although he did say that Ms. Redlich could be within the 7% - 8% group.

One matter not explained was the fact that Ms. Redlich received no Paxil during her stay at UAH, yet high concentrations were found 5 days later at the autopsy on March 16th. Dr. Jones' stated that Paxil is a drug whose level may increase following death, and, while nobody could explain the presence of Paxil in Ms. Redlich's body, it was not suggested that Paxil alone may have caused her death. On the contrary, it was suggested that there may have been as many as six (6) causes of death, these being:

1. Hypothermia
2. Low on fluids
3. Pulmonary embolism
4. Myocardial infarction ("heart attack")
5. Multiple drug toxicity
6. Respiratory failure

Of those who testified, various doctors stated that one could eliminate #1 (hypothermia) and #2 (low on fluids) as causes of death, given that Ms. Redlich had been in hospital for 4 full days prior to death. The autopsy showed no evidence of #3 (pulmonary embolism) or #4 (heart attack). This leaves only #5 (multiple drug toxicity) and #6 (respiratory failure) as possible causes of death, either individually or together. Given the evidence that Ms. Redlich was prescribed and administered medication in proper therapeutic dosages, the opinion that #5 (multiple drug toxicity) caused Ms. Redlich's death opens up the **possibility** that she was within the 7% - 8% group of the population who are deficient in an enzyme which metabolises drugs. Unfortunately, there are no tests to determine *post mortem* if an individual falls within this group. In conclusion, while **Acute Multiple Drug Toxicity** is listed as the "cause of death", there is no absolute certainty that Ms. Redlich's death was caused by acute multiple drug toxicity alone, as opposed to respiratory failure induced by multiple drug toxicity.

Recommendations for the prevention of similar deaths: For the record, two evidentiary matters came to the attention of the Inquiry that merit mention and clarification in this report. Firstly, the record-taking of the cardiac team's procedure contains many references to administration of the drug "Epimorphine". In fact, the drug administered was "Epinephrine and Ms. Bradley (the record-taker) was clear in pointing this out. She stated that there was no Epimorphine" in Ms. Redlich's room, nor was there any on the cardiac team's "crash cart". Secondly, Dr. Bannach confirmed the presence of an error in his autopsy report, where he makes reference to examination of a prostate gland. Given the gender of the deceased, this is clearly an error, but illustrates what can happen if one prepares reports from a template. It is equally clear that neither of these matters impacted what occurred or how it was handled.

It is my opinion that Ms. Redlich was given very good care during her stay at UAH. Every effort was made to save her life when UAH staff was called upon to do so. Based on the evidence taken, it is difficult to determine what more could have been done. **Accordingly, no recommendations are made.**

Dated this 4R day of February 1999

David J. McNab
Judge of the Provincial Court of Alberta