REGULATION 28 REPORT TO PREVENT FUTURE DEATHS

THIS REPORT IS BEING SENT TO:

[redacted], **President of The Intensive Care Society,**
Dean of The Faculty of Intensive Care Medicine
Churchill House,
35 Red Lion Square,
London WC1R 4SG

CORONER

I am Robert Chapman, Assistant Coroner, for the Coroner Area of Manchester (City)

CORONER'S LEGAL POWERS

I make this report under paragraph 7, Schedule 5, of the Coroners and Justice Act 2009 and regulations 28 and 29 of the Coroners (Investigations) Regulations 2013.

INVESTIGATION and INQUEST

On 1st February 2011 I commenced an investigation into the death of Joanne Elizabeth Oliver, aged 31. The investigation concluded at the end of the Inquest without a jury on 3rd April 2014. The conclusion of the inquest was:

The Cause of death was:
1.a. Multiple Organ Failure
1.b. H1N1 Influenza (treated)
II. Obesity

The Conclusion was:

Narrative Conclusion

Joanne had been a patient at the Freeman Hospital in Newcastle where she had been receiving ECMO treatment for H1N1 flu, known as swine flu.

On the 17th January 2011 Joanne was transferred from the Freeman Hospital to the Manchester Royal Infirmary by air ambulance. During the course of the journey her condition deteriorated, but by adjusting her ventilation and medication it was possible to keep her stable.

She was received as an inpatient into the Intensive Care Unit at Manchester Royal Infirmary where she was ventilated and received medication. Unfortunately her condition deteriorated further and at 8.40 pm she went into cardiac arrest and died at 9.16pm the same day.

CIRCUMSTANCES OF THE DEATH:

Joanne Oliver was aged 31. In early December 2010 she began to suffer from 'flu like symptoms and went to see a GP on the 7th December who diagnosed lower respiratory tract infection, prescribed Amoxicillin and Codydramol and gave safety net advice. On the 13th December Joanne went to a "walk in" health centre who immediately arranged for her to be admitted to The Royal Oldham Hospital. There she was diagnosed as suffering from H1N1, swine 'flu. She was ventilated but her condition worsened and on the 19th December 2011 she was admitted for ECMO treatment to The Freeman Hospital in Newcastle

She had a stormy period of treatment but by the 12 January 2011 she was weaned off

ECMO. She had improved by Friday 14th January to the extent that it was agreed to repatriate her by road ambulance to the Manchester Royal Infirmary (MRI). That attempt was cancelled because when Joanne was transferred to the transport ventilator she quickly developed respiratory acidosis due to her inability to clear sufficient carbon dioxide, and that in turn induced a supra-ventricular tachycardia.

She improved over the following weekend, and arrangements were made to transfer her to the MRI on Monday 17th January 2011 by a specialist team from the NW region led by a consultant in anaesthesia and intensive care, who was skilled in the transfer of critically ill patients. The transfer was to be by helicopter.

On the 17th January her clinical signs indicated that she was stable. She was taken off renal replacement therapy at 11.20am. The consultants and other medical personnel at the Freeman and the Consultant responsible for Joanne's transfer, and who would accompany her, all agreed that she was fit to travel. She was transferred to the travel ventilator and shortly afterwards her blood pressure dropped. The adrenaline was increased and her blood pressure was restored within 5 minutes.

During the flight to Manchester her end-tidal carbon dioxide level increased which was dealt with by increasing ventilation pressure, and her blood pressure was supported by gradual increases in the rate of adrenaline infusion, additional metaraminol and a bolus of fluid. The flight took approximately 1.25 hours.

At the MRI she was received by an ICU consultant, who took a hand over from the consultant responsible for her transfer and was provided with the Critical Care Transfer Form on which was set out details of Joanne's condition during the flight and the adjustments made to her medications and ventilation. A set of her notes and a Transfer Letter from Newcastle were delivered.

She arrived at the MRI at approximately 3pm, and was transferred onto an ITU ventilator which was set slightly higher than the travel ventilator setting to help clear her CO2. It was not possible to take blood from an existing arterial line for blood gas analysis, and blood was not taken from the existing venous lines. The doctor who was looking after Joanne read her file and made notes. He had also other patients to look after. By 6pm (3 hours after arrival) a plan was made to insert a new arterial line, but unfortunately that proved difficult and it was not until around 8pm that he was successful. A blood sample for gas analysis was taken and the results at 8.11 pm, showed severe metabolic acidosis with high levels of CO2 and potassium. By that time she had been present at the MRI for 5 hours and off renal replacement therapy for 9 hours. Emergency treatment was given to try to reverse this but half an hour later, at 8.40pm, Joanne suffered a cardiac arrest and despite CPR she died at 9.16pm. It was accepted by the MRI that the delay in obtaining blood for gas analysis, and subsequent monitoring, was unacceptable.

The transfer from the Freeman to the MRI was with a background of pressure on the Freeman that once a patient had completed their ECMO treatment their bed should be released to another patient requiring ECMO treatment. "We were in the middle of a swine flu epidemic and there was great demand on ECMO facilities and ICU beds throughout the country".

CORONER'S CONCERNS

During the course of the inquest the evidence revealed matters giving rise to concern. In my opinion there is a risk that future deaths will occur unless action is taken. In the circumstances it is my statutory duty to report to you.

The **MATTERS OF CONCERN** are as follows. –

(1) Evidence was given that there is no detailed guidance from the Department of

Health or the Intensive Care Society to assist in the decision to transfer a critically ill patient. Some guidance is given in a document "Guidelines for the transport of the critically ill adult (2011)" but that is focused on the actual transfer of the patient and not the decision whether to transfer or not, or when this should take place.

(2) It would be of assistance to doctors making the decision to transfer, and would help them to justify the transfer if it was later questioned, if Guidelines could be given to assist in the preparation of a written risk assessment. The evidence was that the "MEWS Score system", now the "NEW Score system" was never designed with critically ill patients in mind.

(3) Any risk assessment would need to consider:
   (a) The multitude of background clinical factors that indicate whether the patient was fit to travel
   (b) The practical tests that should be undertaken to confirm fitness for transfer eg trial of transport ventilator, assessment of biochemical stability when renal replacement therapy is withheld
   (c) The seniority of the doctors who make that decision, and the numbers of doctors to be involved
   (d) Whether it is in the best interest of the patient to make the transfer
   (e) The pressures for beds where there is, as in this case, an epidemic forcing doctors to make difficult decisions on the priority of patients.
   (f) The danger that a patient is moved out to allow another one in when the first patient is not fully in a state to be moved.
   (g) The risk that the doctor responsible for supervising and travelling with the patient may be pressured into agreeing to the transfer
   (h) The distance and time of the journey
   (i) The risks of deterioration during that journey time
   (j) Whether there are risks that the journey time will be extended
   (k) Whether it is by road or air, and any factors that arise from the mode of transport
   (l) The equipment and medication available during the transfer
   (m) The medical staff to accompany the patient and their skills in transferring patients
   (n) The actions to be taken by the transferring or receiving doctors on receipt of the patient to confirm their stability after transfer, and the timeframe within which this should be undertaken
   (o) The information that should be given to patients or their next of kin prior to transfer such that they too are aware of the rationale for transfer and the intrinsic risks
   (p) The standards of documentation for the decision-making in these circumstances and in the above domains
   (q) Audit of outcomes of patient transfers (acknowledging that outcomes will not necessarily be collated for those patients deemed unsuitable for transfer for whatever reason)

ACTION SHOULD BE TAKEN

In my opinion action should be taken to prevent future deaths and I believe that the Intensive Care Society has the resources and power to prepare the necessary guidelines referred to and advise your members to comply with the guidelines

YOUR RESPONSE

You are under a duty to respond to this report within 56 days of the date of this report, namely by 27th June 2014. I, the coroner, may extend the period. I fully appreciate the need for considerable thought and discussion before such Guidelines are completed and I would therefore be amenable to extend the time for a reasonable period, upon application with an indication of the additional time required.

Your response must contain details of action taken or proposed to be taken, setting out

the timetable for action. Otherwise you must explain why no action is proposed.

COPIES and PUBLICATION

I have sent a copy of my report to the Chief Coroner and to the following Interested Persons:

[redacted]
The Freeman Hospital and their solicitors
The Manchester Royal Infirmary and their solicitors
[redacted] and her solicitors
Go To Doc and their solicitors
Aintree University Hospital NHS Foundation Trust and their solicitors

I have also sent it to the following who may find it useful or of interest:
The Department of Health

I am also under a duty to send the Chief Coroner a copy of your response.

The Chief Coroner may publish either or both in a complete or redacted or summary form. He may send a copy of this report to any person who he believes may find it useful or of interest. You may make representations to me, the coroner, at the time of your response, about the release or the publication of your response by the Chief Coroner.

29th April 2014

[SIGNED BY CORONER]