ADL - Rick Tocchetti

Thank you Merrilee.

I'd like to thank the organisers for giving us time to talk about BloodMove, it's something that's quite close to Merrilee and my heart.

So cold chain security, I've sort of split that into three parts. The first part is the storage. The storage of blood is very important. The specific fridges designed for the storage, they're not cheap, they vary from about $9,000 to $13,000 each but they are extremely well made precision bits of equipment and there is an Australian Standard that specifies, one, how these fridges are made; of late point has come out and it's designed specifically for manufacturers; point two is if someone owns a blood fridge, how you are to maintain it and oversee it. So there is a specific standard for the oversight of blood fridges, AS3864 we know quite well.

What's important what we've come across with these fridges is that the SA government has allowed vaccines to be stored within these fridges because they far exceed vaccine fridge requirements and I believe the new Strive For Five will have a clause that says blood fridges can be used to store vaccines and whatever blood fridge monitoring is being performed is the only monitoring that's required. So it's basically a very handy bit of extra ability of the blood fridge because it saves these sites needing to maintain two fridges.

In the past there were hand-me-down fridges from metropolitan hospitals that were given to the country sites because they were basically better than nothing. These fridges were good but they were borderline compliant and the safety issues from the top view of these fridges were far from adequate. They would definitely fail any sort of electrical inspections. That's part one, the storage.

Part two is the documentation or the assurance documentation. As we know we basically document everything. The more you go up the food chain, when you get to the TGA level everything's basically documented. Fortunately the blood fridges don't need to be on the AATG they can be voluntarily entered on the AATG but if you use a blood fridge you need to use it according to the standard.

There's various parts of the assurance documentation. One is the consignment record. This is the paperwork that the lab sends accompanying the unit or the units of blood. My pointer doesn't sort of show, in this document there's a part that the laboratory completes. It's basically a checklist. The lab completes the by what configuration the blood was packed, for whom it was for, the time it was packed and then there's a section that the receiver completes and the receiver will indicate that "yes, the blood was received in temperature" and this sheet is sent back to the laboratory and the laboratory there has confirmation that the blood was sent, it arrived and it was within temperature. So that's one leg of the trip that has been confirmed.

The next leg is the confirmation of the storage of the blood in the refrigerator. This is a standard sheet that is available online, I believe on our Blood Safe site but also the Blood Service has it on their site. It's for sites that do not have electronic computer monitoring of their fridges. In this case the standards allow

for daily monitoring, so you do daily manual recordings of the blood fridge temperature in addition to the circular chart, the thermographs that are continuously recording and those charts are providing objective evidence of what the temperature is.

We've also got space in this form, just trust me what it says, is these are sections where you actually do the temperature alarm or the alarm challenges, be it power off alarm challenge or a temperature challenge, just to make sure that the alarm systems are all working and these are currently being done weekly. In the future this form is going to be updated to reflect the new standards which do not require weekly challenge testing. So just what this space for the new form. It allows for any occurrences and deviations to be documented. There's a section where it is signed off and this document is actually sent back, a copy of it is sent back with any returning units, thereby providing evidence to the laboratory that it was stored correctly.

But labs being somewhat meticulous with certain things want further evidence and this evidence here comes in the (5.33) form and this (5.36) form provides, it's signed off by the person, be it the nurse sending the units back, they put the details of the unit number, any occurrences with that unit number, so they document the units that are being returned and again checklist sign off items that yes it's been stored correctly, it hasn't been taken out of the fridge for longer than 30 minutes, all the charts are compliant and everything has been checked; and again they sign off and date that. So it's not really a stat dec but it's basically a storage confirmation sheet and that's sent with the returning units. The lab has got a checklist as well that they go through and with that, once it fully complies, then the lab is happy that those units can be reintroduced into their inventory and possibly used for another patient. So that's documentation.

Now we go to shippers. Normally I talk a lot about shippers. Other talks I've had 10 or 15 slides on shippers but I was indicated that I only had one slide for shippers. I've actually got two, one data slide.

The shippers comes into the responsibility of the laboratory. The laboratory who gets the MBS item number in the rebate for providing the pathology service needs to be able to send the blood to the receiving site. The lab must use blood shippers that have been validated for common and uncommon dispatch routes. In the main, Blood Service shippers are used and these need to be validated if there is any variations to the stated Blood Service times. The supplying lab must provide shipper packing procedure and the returning courier system to the hospital. It's got to make everything easier to the hospital to be able to return the blood. So we've got packing instructions, we've actually got pre-printed courier consignments notes. Those consignment notes are only used for the return process. And obviously the hospital must use this packing procedure and the courier system when returning blood. So this is part of the education that we go through every time we visit a site.

Blood shipper validation, as we know we have many challenges in Australia and I'm sure there's other bigger challenges in other parts of the world but basically you need to know your consignment pathways, know your possible temperature excursions and you've got to make your shipment system robust, so robust in that if there are any subtle variations that occur operationally in the field need to be able to, the system be able to deal with that. I had lots and lots of data slides of

the scores of validation experiments I've performed on the Blood Service shippers but I want to show one data that I got from a colleague from Townsville. He used to work here in South Australia but he knows a lot about shipper validation and he basically did the Blood Service shipper system, which used to be called "A" now it's called "R1", with four units of blood in the back of a car in the Townsville car park. It got to 52° in that car. This is at 24 hour cycles, so obviously day time is a lot warmer than it is at night time. The increments at the bottom are 12 hour blocks here. So it's basically two to two and a half days worth of exposure to this shipper and the blood stayed within temperature for 42 hours. So it's a very robust shipper, we're very happy with it.

So you really need to know your temperature pathways. This is inside the TOLL Courier, so the TOLL depot at the airport. It's a massive depot, probably about 50 semitrailers can fit inside this depot. I've put in a logger. That's a box with a logger. I'm recording the temperature inside the TOLL depot to supplement the data that we get from the Bureau of Meteorology because I've got data from outside the airport, I've got data from Mount Crawford, data from Kent Town but you want to get data, where does the shipper live, where does the shipper stay overnight when it's being sent to its destination. So you really need to know your destinations and what applies to South Australia might apply differently to ACT in winter or alpine winter conditions, so you've really got to formulate a system.

This is a picture, we've got this laminated, this system packing instructions. It goes to all our country sites. It is basically the R1's Blood Service configuration and we know this can last quite well beyond 24 hours but 24 hours is the time that I'm sticking with.

Audits. We perform audits, both Blood Move and Blood Safe audits are done in all the hospitals. We audit the blood for each records, the blood registers and Blood Safe does audits of the blood administration records. This is not necessarily done by the Leads, this is done by the network that Merrilee alluded to.

We need to have an Incident Reporting system. SA Health is fortunate enough to have an SLS system, which refers to Safety and Learning System. So basically if you don't know if something has happened you'll make that same mistake again. The laboratory system has got a similar system called (12.11)QPOS and OFIs generator, OFIs being Opportunities For Improvement. This system basically reports anything that occurs because of a laboratory issue. This graphic, the person loaded with information can achieve advancement where the people that haven't got information cannot. So the important thing is you need to share your errors and don't be shy to tell others about the errors that have occurred and that's the only way that we can improve, is by corrective action.

Communication is important between the team, the laboratories and the transfusion committee. This network that Merrilee mentioned, it allows the stakeholders to tap into and get advice. So the channels that were present before between the labs and hospitals are nurtured and enhanced. The site visits provide guidance, training and support. Merrilee meets with the clinical nurses by teleconference often and us as Leads, we provide guidance and problem solving between the hospitals and laboratories. So we act as conduits. Sometimes Merrilee deals with the clinical issues and where I deal with the laboratory issues. So it's a unique team and I believe it works well.

So what's the future? Basically we are always assessing new systems and processes to minimise blood wastage and cold chain security and better inventory practices, this might be wireless recording of blood fridges or targeted use of loggers or better shippers. We want to raise the bar to ourselves by lowering the target wastage KPI. In the past country was 6.4, now it's been reduced, city we're reducing our targets. Once you get to the comfort level you want to challenge yourself again and lower the bar and see how good you can get.

Blood Move assistance has been offered. It was actually offered 12 months ago to the private sector and all of the private sector in Adelaide has embraced it. I have Blood Movers in every private Hospital and metropolitan South Australia bar one and they're all quite happy to be involved because they know it assists with their Standard 7. The private laboratories have all come on board as well which is great and already assistance, the private laboratories assist with using their couriers to bring back public cross matched blood from the private hospitals. Just by doing that we've saved $100,000, just by that simple move.

Also Blood Move is assisting with hub the hub, inventory management between the public metropolitan and private transfusion services and this is realising significant savings. So the seeds that were sewn some time ago are going to blossom and grow into very fruitful trees we hope in the future.

But what I'm really excited about is not the nuts and bolts and paperwork and equipment and shippers that we've been dealing with but what we're really excited about is the cultural change, what we've achieved. Now staff are mindful of wastage and the do their utmost to avoid it, staff embrace ownership of the units, they've embraced the concept of being a steward. It is something now that people, if they see that there is potential wastage they will do whatever they can. So it's basically accepted practice throughout Country Health SA and the laboratories. So what was previously thought as unavoidable wastage is now seen as avoidable. There's resources available at the SA Blood Safe site and as Leigh mentioned on the case study site and the NBA.

Thank you. So a blood cell "look after me, I'm special, I'm a volunteer".