MELB – Peter O'Halloran

In terms of the next series, we're now moving onto Criterion 2, which goes to better inventory management and the first presentation we have Peter O'Halloran, who's actually an NBA staff member and I should be able to give you his CV without referencing it but I wouldn't want to miss anything. Peter is the Executive Director and Chief Information Officer for the National Blood Authority. His extensive management experience across the university and government sectors. He joined the authority from the National Health and Medical Research Council in 2008 as the director of corporate services secretariat. He's currently responsible for Health Provider Engagement and this is what this is about and also for the ICT systems and services. Those of you who are familiar with BloodNet, he's otherwise known as Mr BloodNet. So as the afternoon goes on, if you want more out of BloodNet or you want to congratulate him on what a great job he's done, that's the man. Peter.

Before this week, I don't think I was ever called Mr BloodNet Leigh's doing a good job for me. Thank you everyone. This afternoon's session, the first session after this, I'm talking a bit about the high level issues around controlling inventory management and wastage and I'm followed by two rather exceptional scientists and we talk about what they've actually done in their hospitals to actually control this issue and do it, so please feel free to wait for the really exciting meaty stuff in their presentations. I'll give you the lovely government bureaucratic view and a couple of ideas but we'll go from there. Very much why am I talking about this? We're looking at these two criterions so looking at very much managing the receipt, storage and collection of blood and blood products with a focus very much in inventory management, which is one of the key thrusts of Standard 7.

So I'll do the 30 second spiel and as Mr BloodNet, I couldn't get away without having a BloodNet screen. For those of you who haven't seen BloodNet, it's really not that exciting. Basically think if you can go online and buy a movie ticket or buy something on Ebay, that's what BloodNet is except for blood. In essence, what it allows staff in laboratories to do is go online order blood and blood products, record inventory levels, also to confirm they've received those units and to record if the units are discarded or transferred to another site. So for those of you who haven't seen it, it provides that collection and that data source, which is essential to helping you meet both the national stewardship statement from health ministers but also in terms of Standard 7, so I could talk about it for hours. To be honest it's not that exciting but it's a key thing that we can go simply, here's the system.

This helps, you simply tick that box for accreditation and collect the data. Now, for those of you who do know all about BloodNet and have used it, you've all seen in the last few weeks the whole new look and feel to BloodNet and thank you very much to those in the room that provided feedback. There's quite a number of faces in this room who actually were involved in that process. One of the other things we're doing and I think probably, in my view, one of the biggest shortcomings of BloodNet over the last few years has been the emphasis on the system making it functional, less so in terms of enhancing the reporting and the capabilities we have. So one of the things we've been doing over the last few months is starting to develop enhanced reports in BloodNet and also enabling

you to get all of your data back so what I just thought I'd do is just a quick snapshot of something on our website.

Two reasons I want to show you this. One, is what we're doing is we're doing a complete revamp of all the BloodNet reports so over the next 12 months you'll see a series of new ones coming out. What we're doing when we're doing that is we're also publishing the specifications for those reports on our websites so if you're statistical services people and your hospital actually want to know the nuts and bolts of where did that data come from, you can actually, simply, point them here. They can get the information they want. But also to point out this lovely new report that's been out for about three or four weeks now, which has a very unexciting title of "Fresh Blood Orders and Issues Extract". What it actually enables you to do is give you, in essence, a raw data dump of all the units issued to your hospital.

So for example, you want to sit there and do some modeling how much of our blood came in with a certain phenotype, what percentage was eradiated CMV neg, how old was the product when it was issued to us, that enables you to download that data yourself, manipulate in Excel to answer your own question so the next time you're asked some questions about what type of units are being shipped out to you, it might give you some ideas of a place to go and play on Excel to get some of that data. And I promise the other reports coming as well are nice, pretty tables. Largely at the moment we've been producing extracts like this one where you can manipulate in Excel, what we have coming out and, in fact, the next one comes out in the next week or so is some new FATE reports that actually gives you group tables that actually identify for you discard rates compared to your state average, the national average and the like, so you can actually start doing some benchmarking yourselves at a D identified level to see how you're tracking compared to other sites that are similar.

So that's where we're going with BloodNet and reporting. The other bit just to touch on for 30 seconds for that collection, transport and storage, over the next few weeks, there's a whole lot of materials coming through and I'll talk about that in a minute. Three, key things where I'll point you where we might actually be able to provide you with some assistance and also to look at. First of all, we've had a whole lot of questions from various sites about how do they actually train staff in hospitals who are collecting the blood, very much about appropriate handling. This is where I say look at the wonderful work coming out of BloodSafe eLearning in South Australia. There is a particular course on transporting blood. If you've got hospital porters or orderlies and the like, who are actually collecting and they haven't yet done this course, it takes about half an hour.

It's not very boring like me talking. It's actually YouTube videos, all sorts of simple things like that, that actually appeal to people learning that gives them a very short summary of what they need to do, how they should handle the product so if you're looking at training your staff in appropriate handling practices when it's being collected from the laboratory and going to the ward, that's a great resource. The second is, there's been a number of enquiries recently in relation to validating shippers and what validation arrangements have be to be put together for shippers if people aren't using the standard Blood Service shippers and packing them in accordance with the standard configurations documented on transfusion.com.au.

For that, we've been doing some work with NATA and there's actually some information going up on our website for public consultation, which, in fact, will start tomorrow on a piece of work coming up that actually has an appendix in the back that has set out exactly the points that need to be looked at if you're validating your own shippers in terms of who can do the validation, the steps that need to be followed, the documentation and the like. A number of sites, at the moment we understand, are looking at validating new shippers and changing how they move product around. We'll have some good pointers on that. And the final one is remote blood fridges.

If I could solve that problem I think I'd be a millionaire. There are a whole variety of options. We've all seen the paper-based logs, which are used or abused based on which hospital you are and how scary people are up in theatres and the like. There are a range of software options. Most of you have probably had the sales pitch from some of them. There are some excellent systems used overseas. There have been a couple of implementations of those in Australia. I would urge you if you do have particular problems with blood fridges and remote blood fridges, to look at some of those options. They are highly effective, particularly if you say look, at the UK. There's been some very good work done over there and those products that are used over there are available in Australia. Anyone who wants to talk about it more, come and see me afterwards.

I'm not on commission for either of those companies so I don't really want to talk about their stuff in detail but there are some very good options out there if you need to address it. So off from that and onto the topic of discards and wastage. I thought I'd set the scene a bit with just an overall summary of where we are in discards and wastage, what data we're seeing nationally and it's important to mention that there's been a strong focus from governments in the last two or three years on actually looking at what blood products are being wasted and discarded and hospitals actually trying to record and measure that. So we've gone from a position where two years ago, less than half the country was recording discards of units to a position where we're about 95% now. So what we're seeing is that figure is coming up as the quality and the quantity of the data is increasing.

The downside of that is if any of you have actually been tracking this area closely, you'll actually see there's been a less than 1% rise in the discard rate for red blood cells according to the published data. Now, look, our view, very much is, that from what we're seeing in some audits we've done, the rate of discards isn't increasing. What's increasing is the quality and the quantity of the data. So we're much at a point now where people are actually paying a lot more attention to it. They're capturing a lot more data so we're getting a much truer picture of what's actually being discarded. But this gives you a rough summary as Lee said. In round numbers it's about 70 - 75,000 fresh units are being discarded each year across the country and it's important I suppose here to talk about, we refer to the percentage as DAPI, discards as a percentage of issues.

There is a point where you need to hold a certain stock of all products or of certain product families based on the hospitals processes, mix, distance from I&D units from the Blood Service and like, to actually ensure that you have the appropriate product available for patients when and where they need it. And that may mean at times, you don't use all of it and that may be fine. And so we've viewed that overall bucket of everything that's not transfused or transferred to

somewhere else as discards. A subset of that and based on practices within your laboratory is then, in essence, wastage.

What could you have actually reasonably controlled to reduce the likelihood, it actually would be time expired, discarded, damaged and the like and I suppose we call that subset wastage so very much today I'm talking about wastage so I'm only focusing on that subset. There are a whole range of reasons across the country why people need to hold certain products, certain product mixes. It might not be economic to resolve the issue. I don't know. Let's say, if you're in Alice Springs for example, they might need platelets there to deal with the case mix they get there. It's a reasonably small town. You can't always use them. It's probably not economic to fly out one or two platelets a week to someone else to use for the few hours to live so in that case, that might well be a discard that was quite appropriate to ensure it's there for clinical use but that it's not actually, in essence, wastage, which is what I'm targeting today.

Total cost to taxpayers, conservatively $27m, $28m. That's $27m, $28m that's not going somewhere else in healthcare. It's as simple as that. And what I'd like to do is try and see that decrease. So of course, we are government, so I'll give you more data and then we'll talk about a strategy because we've got a strategy for everything about what we're doing for this. So looking at red blood cells. Not a huge surprise here, 71% of red cells are discarded due to time expiry. Nothing new there. 20% roughly for storage and transport and of that 20% it depends. It's a good mix. There's a small number of fridge fails in there but that seems to be decreasing these days as people have other arrangements in place for moving product into other fridges, into shippers until it gets repaired and so forth.

We're really seeing that is primarily between labs and also from the lab to the wards. About a third of that seems to be product that goes out of temperature spec or the conditions are unknown so it might go for a little excursion up to the ward or theatre, comes back an hour later, who's really got a clue where it's been? Has it been in the fridge? Has it not? It might feel warm and the like. But there's very little that are actually coming back as damaged. And so historically, the advice we received was a whole lot of units get damaged and they get spiked in the ward, changing of packs etc. The data's not bearing that out. So really it is time expiry is the prime issue we're targeting. We are looking at storage and transport and trying to do some other ideas around that and we talked about remote blood fridges a bit earlier and that's an area we can focus on, I think, where we could get some real savings.

But really, time expiry is the number one enemy at the moment. Looking at platelets, slightly different mix here, 95% due to time expiry, short expiry, short life product, possibly understandable. Storage and transport 1%, damaged 0.09%. I mean that's sort of a unit here, a unit there across the country. It's a very low level of damage. Time expiry really is the number one issue for platelets. There are a range of things coming through the pipeline that might help us deal with that and we'll touch on those in a moment but it really is that problem still with platelets. If you go to fresh frozen plasma, it's a very different story though. 62% are disposed due to time expiry and the majority of those are products that are not thawed, so it's interesting to look at. Now for damaged, historically we're told the reason is you put it in the plasma bath, it thaws, it cracks and so forth. A certain amount of plastic going down to minus whatever as it freezes, understandable.

Only a third of that 17.72% that are due to damage is actually marked down as damaged when it was thawed. The rest is other damage that happened to the packaging and so what we're seeing there is quite interesting. The other hides a lot of, thawed for a patient and then not required, couldn't be used so some of the new guidelines that come out around extended life plasma, might well address some of that. But interestingly, we're now seeing the mix moved from damage where, historically, we're told the discard rate from thawing might have been 30, 40% in some cases. The work the Blood Services have done over the last few years about improving the packaging, the cardboard sleeves around the FFP and the like, really does seem to have done the job so the work they've done there, the work that labs have done to be very careful about how people go through the freezers, moving the packs, you're seeing the data, it's really coming down quite dramatically.

Time expiry still worries me though, particularly when a lot of those are units that haven't been thawed in many cases that does seem a little strange given the length of time for the shelf life for those products. So it's a shared problem. I can sit in Canberra and develop wonderful strategies about what we can do and how we can do it all and it will have absolutely not impact in the real world. That being said, what we have developed, we've developed a strategy on actually how do we tackle this across the country? It's a problem costing Australian taxpayers $30m plus a year. It's putting a significant workload on laboratories in terms of receiving product in, processing it, not being able to give it to a patient, that's time that could be saved for other purposes.

So what we have developed, we have developed a quick strategy that actually looks at what are the issues. We're addressing some systemic, underlying issues looking at length of expiry for platelets, various other issues that you really can't influence directly at a laboratory level but what we've also done is develop some tables that actually look at what can be done today, where can we go to actually assist hospitals and laboratories to deal with some of these issues and so you'll see in the strategy, there's a series of tables like that one up there that very much give you an idea, what are we doing this year to help you with this issue? What are we going to be doing next year?

So you get an idea of what our forward work plan will be. That being said, we don't have all the answers and my apologies to the two people in the room that are also in the photo with me here. This gives you, I suppose, an example of really how we're trying to approach this issue. There is not a one size fits all approach. Every laboratory, every hospital is different in some ways, whether it's the mix of the patients you're treating, the procedures you're undertaking, the delivery arrangements from the Blood Service, the capacity of fridges, the clinical practices, practices in the laboratory, practice and the like, all of those are different. In many ways they're comparable but there are always little nuances that are slightly different. And so what we do, there isn't a one size fits all approach. We are working with each state and territory and each jurisdiction to discuss what's working for them, what's not.

And in Tasmania one of the things Tasmania's done for a long time, is they've had a state-wide approach to try to decrease wastage and also trying to ensure they can move inventory between the laboratories, both public and private, to ensure they actually have products available where and when patients need them. And it's a really great approach that they've done. A number of you may

have seen some of their MOUs that they have developed across the state and certainly, every time I go across the country, someone or other will have a copy of the Tasmania MOU. Here's something great we're looking at. It's a very simple way of actually ensuring that given the geographic distances that some of their laboratories have, their distance from I&D sites for resupply in emergencies, they actually have the ability to move products from lab A to lab B, whether that's a public laboratory or a private laboratory.

And you can see the differences in their discard rates across the state as a whole but it's also interesting, we had this meeting, it was Friday last week in Tasmania. Anyone who's been there, lovely town called Campbell Town about an hour outside of Launceston. Most amazing place and I've got to go back for a holiday sometime but a whole lot of discussion around the day was focused very much about having people looking at others data and so there was a discussion about one particular laboratory and everyone around the table was talking together about how can we all work together to improve this practice? It wasn't very much, your data's bad, that's not on, it was very much a shared approach to we need to ensure that we have product across the state for our patients.

We need to ensure that we deal with our geographic distances. We deal with the emergencies and the type of services we provide. And there was a state-wide approach to actually working together and certainly, that's the same thing that happened in Queensland, we saw two or three years ago and up there it had a similar impact. There was a transparency of data where it was shared across the public and the private pathology organisations and it made a big difference where laboratories could actually sit there and talk to someone who otherwise might have been their competitor or in a different organisation and actually take a shared approach to saying "this is not helping any of us". In terms of MO restrictions and like, you actually want to know that you can move product around or that it's been used in the most appropriate manner.

We're conserving that precious gift from donors. And certainly, we are strongly encouraging everyone in this type of manner and it's working very well. What are we doing to actually help you with that? Well I'm not a laboratory scientist. I haven't worked in a hospital for a long time and in the nicest possible way, I'm a well-meaning bureaucrat from Canberra. What we have done is we've gone out there and actually tried to identify better practice that's been done in hospitals across the country and laboratories across the country. And so we started developing case studies. And you'll actually hear from one of the sites this afternoon about what they've done there. But we're also looking at what's been done at a jurisdictional level in a hospital to actually implement it and you'll find that some of the answers are radically different and so for the same issue, how to you address improved inventory management and decrease wastage, we've got three case studies currently in our website.

There's a fourth about to be published and a few more are coming down the pipeline. In one of the case studies they say do X, Y and Z. The complete other end of the spectrum over there, another case study says do the exact opposite or something different but they both come to the same answer. It works in their laboratories. And so what we're doing is we're putting those case studies up there for you to look at and it may be that not everything is applicable to you but it enables you to have a look at what they're doing, does it work for you, would you like to grab their from about X, Y and Z. Do you have a problem with, I don't

know, fridge maintenance records, new standards in, have you updated your fridge check sheets for the new standard?

If somebody else has already done it and it work well well we'll make it available on our website it. You can download it and have a look at it. The other thing we're also working on very much is guidelines and supporting materials for you so hopefully a few of you have seen this lovely publication floating around. If anyone can read the title from your seat, you're doing better than I am. Managing Blood and Blood Product Inventory, Guidelines for Australian Health Providers. There's a copy of these on the stand outside. There's copies on our website. All it really does it take a common sense approach to what do you need to do to actually help improve inventory management? But it puts it down in a simple, easy to find manner that a lot of your junior scientists particularly can pick up and actually run with and what we're really trying to encourage is that culture where enhanced inventory management is seen as a core part of everybody's role who's working in the laboratory, not simply, oh it's a scientist in charge problem or that's their problem.

As people seem to move to call laboratory staff and that side of it, so it seems to be simply on rotation, we're seeing an increase in some of the discard rates in those sites where they're moving down that path. What we're trying to do is provide some simple guides that your staff can look at. What can they? Why do I care about inventory management? What's something simple I can do, so it comes with things like checklists. It's got suggestions on stickers, all of those type of things. And all of it's on our website for you to download and use. So what's also coming, vapour ware that will be here in the next six months, enhanced BloodNet reporting and you'll start seeing some of those coming through middle of next week onwards. We're also doing a really great project in collaboration with the Blood Service, the National Inventory Management Framework, which is looking very much at red cell inventory levels, triggers for resupply and doing a whole lot of recalculations around appropriate stockholdings. And the Blood Service have been great in that project.

There's about seven sites that have been selected for pilots. It's progressing well. So if you're interested in what we're doing there, there's a whole lot of information on our website about it and there's some good things that you can apply from that now to your own situation. We're also developing what we're terming the National Reference Set, so the idea that people all across the country have some great ideas and some great resources. What we're doing is putting those up online with their permission so that other people around the country can download them, modify them, adapt them, use them locally in your hospital. So if somebody else has gone to the trouble of spending hours and hours developing a really great poster about single units, you can download and go "we really need some good PR around our hospital. This is great.

We've got to put our logo here. Don't quite like the look of that graphic there. I'll change it" and so forth, we're making those things available on our website. The other thing that a few of you might have seen already and certainly, I know I've received comments from some of your about it so far, is developing a new chapter to go in the back of this book, which is all about transfers. How do you ensure that you can move blood between laboratories, between laboratories and remote blood fridges and remote sites quickly, readily and easily but actually ensure that you can be confident that when you get the blood, it's actually safe to

use. That when you go through a NATA accreditation that the assessors aren't going to say "well how do you really know that fridge was in spec? How do you really know that unit hasn't actually gone outside temperature points"?

So it's very much looking at that. It's also looking at how do you communicate with laboratories that you're sharing product with? So rather than somebody going "oh great, we'll have an MOU between these five laboratories to move product around and it's great because I don't have any wastage now. I dump it all on the poor guy down the road" it's very much also suggesting what are the appropriate times you might want to look at and getting you to agree. So for example, have a conversation beforehand with that laboratory. If you're transferring red cells around to try and reduce discards, how old should they be when they be transferred? Should they have six hours to live? Should they have seven days to live, 14 days to live?

And so it's talking about some of those very issues and we've got some suggestions in that guideline. It will be going out, formal process of public consultation will start Friday this week. It'll be out for five weeks. Once that process is finalized, we'll be going through an additional process with NATA and they've already been involved in the development of the material so far and been very supportive in that way and then it'll be published before Christmas. And so the idea is, what we're seeing and all the evidence is supporting this, is if you really want to reduce discards and you really want to ensure that you actually have appropriate inventory management, you can have the product where you need it for a patient at the right time, looking at having arrangements to transfer that between laboratories is a really great way of doing it.

Tasmania, they have a state-wide arrangement. South Australia are looking at doing the same thing. Somewhere like Victoria or New South Wales, that might not be relevant. It might be you have an arrangement with the three pathology laboratories within a small, short radius or within an organisation. There's no one size fits all but it's something you should look at. We're also very excited about the work the Blood Service is doing at the moment to put together the case to TGA to look at extended platelet expiries to seven days. That, I think, should be a game changer. If that can actually get approved and get up and the Blood Service is doing a lot of work in that space now, that should have a major impact over time on discard rates for platelets. Okay.

So enough of the sales pitch that I can solve all your problems. What can you do today walking out of here? These are some of the things we picked up from talking to people across the country about what's worked well in their hospitals so I have merged a whole lot of that together into a quick sort of here are 8, 10 things you can do. You might be doing some of them brilliantly already, in which case, ignore it. They might not apply to you. Say Peter's a fool who doesn't know what he's talking about but have a look and just think about these are some of the things you should be looking at. What is the culture across your organisation of inventory management? And I don't just mean in the laboratory where generally there's quite a focus on that. You will have heard earlier today, Standards 1 and 2 for governance over overarching. They cover everything. It is not just the staff and pathology, haematology, the laboratory that are actually responsible for discard rates and wastage of blood and blood products, it's everybody in the health service.

So how do you actually ensure that you get management buy in and Standard 7 is a great way of doing that. We saw, earlier, some of the specific points relate to minimizing wastage of blood and blood products, managing that. So if your organisation's anything like ours, you'll have a dashboard report, a management report. Here are the KPIs for your health service. Make sure that wastage is on there. Get senior management to actually recognise the issue, to see how well you're doing or where you can do with some more support. And I can guarantee, if it's something they see on a regular basis where there's an issue or there's a concern, it will help you in your development business cases for, here are other options we can do to address this issue.

No matter how good the practice and the laboratory is, unless you get the support from clinicians and enhanced communication with the wards, you can do all the work in the world, you'll still have all that work undone where you don't have engagement from the commission so that is really important. Reviewing inventory locations and levels. Very much, everything we see, remote blood fridges generally are the root of all evil in many respects. You often end up with almost two parallel inventories, one at this age in the blood bank often with lower, average age and another remote blood fridge whether it's in theatres, whether it's oncology, wherever it's wherever or another site even, often where that locally held inventory, if it's been kept as emergency O-negs and that type of thing, often that inventory is ageing and not being managed in the same way as the stock in the main lab. So look at that.

Are the levels appropriate for what you're doing? Is there appropriate rotation of blood, particularly for emergency blood between those fridges. Use the oldest product first. We all do it when we go to the supermarket now. If you're anything like me, you go and buy milk from the supermarket and they've always got the shortest expiry product at the back. I then ferret through and find one that's a few days longer to live and grab it from the back of the shelf but the same thing still applies in laboratories and I've been to so many labs where there's a sticker on the fridge saying old blood’s at the front, make sure you use it. It really is how do you find a way to make sure staff actually do that. I've heard some great stories about you go in and sometimes you see people got a little whiteboard sticker stuck on the fridge and someone writes on these are the short expiry units to do.

Look at also things like can you produce a report from your LIS that actually gives you that, these are the units that have got three days to live, five days to live and so forth so they can actually be used by the staff every time they're going to look for a unit, check that list first. It really can have a big impact and a big change. For those of you have interface into BloodNet, which is, yes, a couple of people in the room, should have done that one in Sydney, I get a lot more in the room there, one of the things we are looking at is for those who are interfaced into BloodNet is actually developing a dashboard that you can actually run in your laboratory that'll list those on the screen for you, on the wall at all times, so these are the short expiry units.

For those of you who don't have blood interfaces, come and harass me at afternoon tea and we can talk more about it. Currently 205 of the national suppliers will be interfaced into BloodNet by Christmas this year and there's a whole lot more coming down the pipeline so it is almost no long vapour ware. There are real sites using it and hopefully you might hear from one of those sites in the next half hour or so. Look at cross-matching procedures. Do you cross-

match for everything? Do you group and screen, group and hold, those type of arrangements? There are certain perverse incentives in the private sector that encourage cross-matching. How long are units held on cross-match? Do you reserve them for 24 hours, for 72 hours? Generally the shorter they're in the stock fridge, the easier it is to manage inventory.

I've been to one private laboratory recently where three-quarters of their stock was actually held in the cross-match fridge. They'd processed it. It was sitting there. And I look at that and I go "what hope do those poor staff in the laboratory actually have of really managing the age of that product when three-quarters of their inventory is allocated out to patients and it's hard to manage"? Look at remote blood fridges. I wish I had the answer but I don't. And work together with your colleagues and that's it from me. The main thing is we are here to help. Like the tax office, I'm here to help. No.

In all seriousness, we're very good at connecting people to other places that are doing great things so if you've got a particular problem, we often know somebody else across the country elsewhere who might have a similar issue and we're happy to get you two to talk together, to share experiences and ideas. We've got a lot of information going on our website and please feel free. Have a look what's there, give us a call and yes thank you.