It seems that South Australia has a range of key and important stakeholders in the sector and certainly Dr Kathryn Robinson falls into that category. Probably needs no introduction to this audience but for those interstate people who may not be aware I will just cover off some of her key points. Kathryn is a haematologist, the Australian Red Cross Blood Service and South Australian BloodSafe program and the Queen Elizabeth Hospital in Adelaide. She is the clinical lead of the South Australian BloodSafe program, a state wide collaboration to improve the safety and appropriateness of clinic transfusion practice and she has a particular interest and passion, I know, in relation to anaemia management and iron deficiency. As with Daryl, she is a great friend of the NBA and we certainly exploit her passion as much as we possibly can. Please join me in welcoming Kathryn.

Thank you for the invitation to speak today. So my topic is documenting the reason for transfusion, what was transfused and any adverse reactions. In the BloodSafe program over the last 11 or 12 years now we've been looking at improving the documentation of the patient's medical information, even before it became part of (1.30) and now part of Standard 7. So these are the relevant sections of Standard 7 regarding documentation of patient information, so including indications for transfusions, special requirements, transfusion history, what was transfused and the response to transfusion and the actions required by hospitals include ensuring that the patient history is documented, reviewing medical records to assess a proportion of records completed and then taking action to improve practice. And similarly with documenting adverse reactions to blood and blood products, similar themes are under 7.6.

In South Australia we have a public health service wide incident reporting system, Safety Learning System or SLS, so all our transfusion incidents, near misses are entered into SLS and the transfusion nurses are alerted and they will review with the transfusion service haematologist transfusion committee, review the incidents and follow up on them and also assess the actions based on the severity and also the frequency, so doing (2.50) scoring. And then an extra of that data from the SLS system goes into the National Haemovigilance program reporting from South Australia. So the BloodSafe program started in South Australia in 2002 as a project with 12 months funding and has achieved recurrent funding since that time. And we have part-time transfusion nurses in all of our major metropolitan hospitals, we have part-time nurses covering up to three hospitals, we also have a nurse for the private sector and for the country sector and we'd had involvement in both country and private sectors since 2004.

So the BloodSafe program is a collaborative between SA Pathology, Department of Health, Australian Red Cross Blood Service and hospitals and we've really focused on safe and appropriate transfusion practice for the last decade and in recent years have focussed as well on patient blood management principles including anaemia management. One of our key focuses right from the early days was improving the appropriateness of the use of transfusion, the safest transfusion is no transfusion if you don't need one and it also reduces the amount of unnecessary documentation that's required by avoiding unnecessary transfusions. So we've used an audit tool consistently over the last decade to
assess against the 2001 (4.27) guidelines and we've had a low rate of inappropriate use against those guidelines. And in 2013 we've audited against the new National Patient Blood Management guidelines and we've had a similarly low rate of transfusion outside of those guidelines.

So the types of strategies we've used for practice improvement in BloodSafe have varied. We all know that educational materials or didactic education alone has little or no effect on improving practice. Through the BloodSafe program with hospitals we've used audit and feedback as an effective strategy, using key champions at hospitals, reviewing local processes and where possible we've standardised processes across sites to reduce variation and reduce the risk of error and confusion as staff move across sites. We've engaged with patients through educational materials, through little wallet cards for them, questions for them to ask their doctor about why they need a blood transfusion. We've conducted educational outreach visits to GPs on the topic of iron deficiency anaemia and the importance of preoperative anaemia assessment. We're increasingly using decision support systems. A few weeks ago South Australia had the first pilot site go live with its electronic medical record called EPAS and that will certainly give us a lot more opportunity to be involved in decision support and electronic reminder systems.

I guess a lot of our strategies have been multi faceted where we use reminders at the point of care, we use champions, improving local processes along with education as well. And even though education alone is not an effective strategy generally I think right back from the start of BloodSafe we really found that the basic understanding of transfusion processes and why what we were wanting to improve at the coalface was important, there was a lack of understanding about what was important and the potential harm through unsafe practices such as checking processes, specimen ID. And so it was important to improve this at a systematic level.

So in 2004 through funding through our Department of Health we developed a transfusion practice module which covered basic principles of transfusion practice for both medical nursing staff, porters orderlies and laboratory staff. Basically, this formed the foundation of a basic competency and understanding for transfusion practice. And here's one of the pages, it's got information about what needs to be documented for the transfusion history and if you click on the right-hand side it gives you examples of documentation. It has information about indications for blood transfusion and also a section on documentation of the administration process. We've had quite widespread uptake of BloodSafety learning in Australia.

Now there are over 200,000 registered users of BloodSafe e-learning in over 1,000 hospitals. And this is the uptake in South Australia, the blue being from 2007 to 2011 and then 2012 and then year to date 2013 uptake. And this is our different health services, we've got excellent uptake in the private sector and also excellent uptake in Country Health SA, which is the second bar. And in brackets are the bed numbers of the hospitals. It's been very difficult to get actual staff numbers to work out percentage uptake of staff. And this is the same thing but just displayed with the individual hospitals uptake. So we've had over 20,000 staff in South Australia undertake at least the basic transfusion practice module. We now have other modules available and the BloodSafe eLearning has become a national program.
So as well as that basic understanding of safe and appropriate transfusion practice it's important to have some just in time knowledge and this is something we've also looked at over the years in BloodSafe. One of the first tools we used was the summary quick reference card for appropriate use of blood products developed in 2001 by the NHMRC. You can see that the section on red cells is about four or five lines and now this is one guideline, this is the medical module and this is one page from the quick reference guide which is multiple pages and we have this for both surgical, critical care, critical bleeding and soon obstetrics and paediatric (9.41) so the information is a lot more extensive now than what we had back in 2001. I've just highlighted one of my favourite practice points which is in patients with iron deficiency anaemia iron therapy is required to replenish iron stores regardless of where the transfusion is indicated.

So we also have an eLearning module centred on iron deficiency anaemia and another sort of point of care tool that can be used is the app, the iPhone app in terms of diagnosing the course of anaemia and then the management of iron deficiency anaemia, so that's available on the eLearning website. And then from a nursing point of view we developed (10.24) blood, it was around 2007 and it's now in its second addition updated last year and again used across Australia and valued by both country, private and public hospitals as a bedside just in time resource. So it's got information about what to do with transfusion reactions, documentation, special requirements, just information about how red cells are stored and removing them from blood fridges. Each product has a step by step guide for administration. This is an example of the transfusion reaction page so what to do in a transfusion reaction and then an adjacent table listing the symptoms and signs of the different types of reactions.

So that's provided at the clinical coalface to assist with practice. So the different ways historically of documenting transfusion, often recorded just on a standard fluid administration sheet, as you can see an example here. Generally not this much information in the progress notes about the indication for transfusion. And something we developed early in BloodSafe was a sticker to go in the case notes prompting medical staff to record the relevant associated factors, so rather than just being a trigger based on haemoglobin alone to think about the associated factors that would make that transfusion indicated. And some of the private hospitals have used this sticker template on the back of their standard IV fluid order chart to give an opportunity for the doctor to document the indication at the time that they're writing up the blood.

A couple of our hospitals for a number of years now have implemented this all in one transfusion prescription and administration form and this has been successful in being able to document both the patient's transfusion history, special requirements whether pre med diuretics are needed, that consent's been obtained, the urgency of the transfusion and then also the indication in line with NHMRC guidelines for each of the blood products transfused. And then on the back of this form is the places for the double sticky labels for the packs to be put on so that there's documentation of the donation number and the case notes that was transfused. And on the back there's also prompts about the important parts of the checking process, the beside checking process and also what to do if there's a transfusion reaction.

And so when this was first implemented at one of the hospitals there was immediate improvements in documentation of the transfusion process compared
to previous practice. And this is one of the hospitals that uses this form and you can see the yellow line is documentation of indication for transfusion both haemoglobin and a comment about the associated factors. So there’s been sustained improvement in that and a number of other documentation requirements as well. This is a form that was developed and has been piloted in Country Health SA and so this is a consent form that has a tear off patient information sheet and part of the consent form includes space for the doctor to document the particular reason for transfusion at that time. The other side of the form, so you’ve got the other side of the tear off patient information sheet and the other side of the consent form contains the information about consent and also appropriate transfusion thresholds for red cells and you can see now that that right-hand column is a compilation of all the current PBM guideline transfusion thresholds. So what was previously about four dot points is now a whole column of information and different thresholds for different patient groups.

So recently in South Australia, so as of a few weeks ago one of our smaller public hospitals went live with our enterprise patient information system called EPAS, which is a state wide electronic health record. And this will be rolled out across the public system and this gives us an enormous opportunity to improve documentation and provide just in time reminders and also forcing functions in terms of having entered required information before transfusion can proceed. Probably not going to be able to read a lot of that. We’ve got fields for special requirements, the indication as per the particular patient group and then the indication in the PBM guidelines on a drop down menu and then also what’s transfused, any special instructions. So it covers the whole transfusion process. So as I said, indications for transfusions, special requirements, consent, the specimens that are required for transfusion testing as well as the mandatory transfusion history in terms of pregnancy or transfusion in the last three months or administration or anti D. It incorporates the actual ordering from the transfusion service, it has a prescription in the electronic system and we’ve been able to standardise the terminology.

In South Australia it was not uncommon for an order of red cells to be written as ABP, I don’t know where it came from but we think it stands for add back pack or there would be an RC or there would be a blood and for platelets it would be people still prescribing in multiple units, so five units of platelets rather than one adult dose which are now pooled in one bag. And we’ve actually avoided using units at all apart from international units for factor concentrates. So you order an adult dose of platelets, you order on adult pack of red cells to avoid confusion. You can put special instructions such as review of the patient, diuretics, pre med. There’s a collection form that’s printed out, it incorporates the checking and the administration, any relevant alerts in terms of reactions to blood in the past and it can link to state wide guidelines and procedures or resources. We’re certainly looking forward to electronic case note audit rather than paper based case note audit. And also blood is one of the KPIs for this new system and so there will be some aggregated information to follow practice in terms of blood transfusion. It has the capacity to link to electronic technology such as bar coding. That is not currently funded but in the future potentially it has the capabilities to link to that. And thank you for your time.

Questions? Can't wait for EPAS would be one question. What would you say the challenges as you currently stand? You’re in this grey area between EPAS and paper, Kathryn, for the standards, your sort of
assessment in South Australia?

There has been an expectation that hospitals within a single health service will move to the same processes or the same forms and we've had amalgamation and de-amalgamation of health services and so that's been a bit of a moving feast and the timelines for EPAS I guess have moved forward, it has taken longer than expected so we've been in this zone of "is it actually worth standardising the paper base things across sites knowing that EPAS is coming along and will make those redundant". And you know, a lot of hospitals are coming up now quite close to standard seven and so decisions have to be made about whether it's worth trying to take resources away from implementing a major paper base change that's just going to be superseded by an electronic system and then when the accreditation is underway how that will be seen, the fact that we haven't necessarily moved to standardise the paper for the sake of standardising paper. Peter Buddy might like to comment on his thoughts because that's an issue for Adelaide Central Health Service having different paper based systems.

I actually would rather would like not to comment on it. Kathryn's articulated perfectly, it's a time of confusion because there are a number of processes in terms of the structure, restructure that are happening at the same time. The central Adelaide LHN's accreditation cycle is in December and EPAS is not going to be rolled out in either of the hospitals in the centre until later next year. So in that area we're moving towards having common paper systems unless it's a major change that requires a major investment of time and effort.

Pretty de-motivating. Who's in that situation other than the one mentioned. Have you got a solution?

So the other dilemmas with EPAS is it's not all of a country, that's one issue and the private links don't exist so there's no link to the private sector and at and it's difficult for GPs to get into it as well so it's not perfect and it raises issues in terms of accreditation.

What about your great passion, Kathryn, anaemia management? Do you just want to give a brief comment on where you see that at that moment?

Well I think certainly particularly iron deficiency anaemia, if there's one single thing you're looking at starting to do in terms of implementing patient blood management I think certainly the low line for it is iron deficiency anaemia because it is reversible and there's often other underlying pathology where and people can be anaemic for years and they undergo surgery, often multiple joint replacements over a number of years and you just see them progressively getting more and more anaemic. At the moment we do actually have a whole of public health system where we can see all patient encounters, outpatient visits, in patient visits, all the laboratory results and a lot of private GP testing is done in our state pathology service so you just look up a patient and you just see this pattern of years and years and years of worsening iron deficiency. Each time they're having elective surgery they've broken their hip and it's just the desensitisation to mildly low haemoglobin levels is extreme. So I think if anyone's looking to start somewhere in patient blood management I think certainly improving the management of iron deficiency anaemia is a place to start.

I just want to know where you get those stickers from.
You can order them from BloodSafe through the Blood Service.

Kathryn, you've hinted on bar coding for the patient. We have in Australia the driver's licence identifying card seems to be the most commonly used across, that only goes to adults of driving age and people who drive cars. Do you see us getting over this paranoia of an identity card business that some people have to the wonderful benefits of it? And if we had say a bar code that was on the bottom of our driver's licence that could be put into EPAS you could rock up to your surgeon, it could be on a computer retrieved base, you could be admitted to a public hospital for a car accident, you'd have an enormous immediate knowledge resource for that patient.

Yeah, and I think that needs to be driven at a national level and I think certainly for the countries that do have a national patient identification system certainly when you talk to them about these sorts of issues like for instance New Zealand or some other European countries that I guess you feel quite jealous that they've moved to that and that all these issues, a lot of these issues are taken away. I mean, patients in EPAS will have a unique UR number but not anywhere at a national type of level.

From a national perspective I can't comment, it's well outside my pay grade. I would say the (24.22) would seem to be a RFID implant we could just drop back. I'll bring it to a close now and on behalf of everyone, Kathryn, I'd acknowledge again you're one of the great champions in the sector and we very much appreciate your time.