Remote Health “The new challenge”

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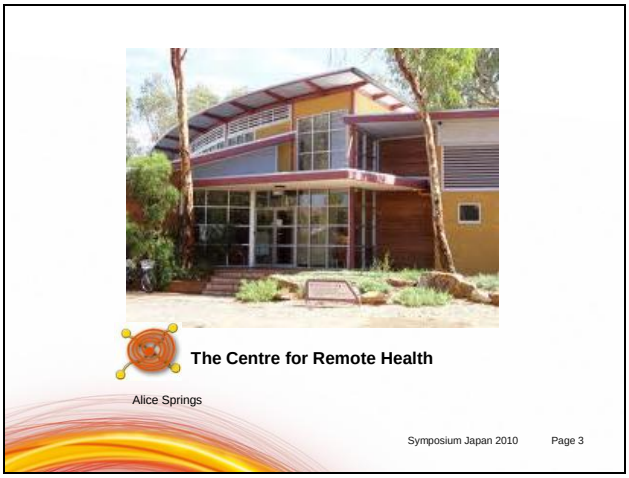
Haisai; Kon-nichiwa; also hello to Miyako Island nurses; but they are not there. They have decided to take a break; maybe they have taken off to the nurses in Micronesia, and instead of Japanese time, they have Micronesian time; Miyako time.

Okay, I would like to thank you for the very kind invitation to present at this symposium, particularly to Midori (Dr. Kamizato) whom I met in Australia; it was last year at CRANA plus conference; and to president Noguchi who has invited me to speak here. I am really an imposter; I meant to be professor Sabina Knight, but unfortunately, Sabina who is my very dear friend was unable to attend this symposium as she had many many other very big responsibilities. She has been the commissioner for the National Health and Hospitals Reform Commission in Australia, which has been the major government initiative to reform our health care services. So as a remote area nurse to take on such an important role, we are very proud of her, and many of the rest of us – remote area nurses – are keen to take up some of her other responsibilities when she is too busy. So from Sabina; she sent her regards, and she visited here last year – was it Midori? – last year, and Midori has some photos; she has a blond hair, and some of you may remember her. So what did she ask me? Well, I am Isabelle Ellis; I am a professor of Rural and Regional Nursing for La Trobe University, School of Rural Health, and my background is in remote area nursing in Australia where I worked for many years in the very Northwest of Australia. I worked in the place called Broome; and Broome has a long connection with Okinawa. The interesting thing about Broome is its whole reason for existence is that it has a pearling industry, started by the people from Okinawa who came and found *Pinkdata Maxima*, a very large pearl shell. And so the Okinawans have continued to work closely with Australians in the pearling industry in Broome. So I have a long association with Okinawa; and now it is wonderful to come and visit this beautiful beautiful place.

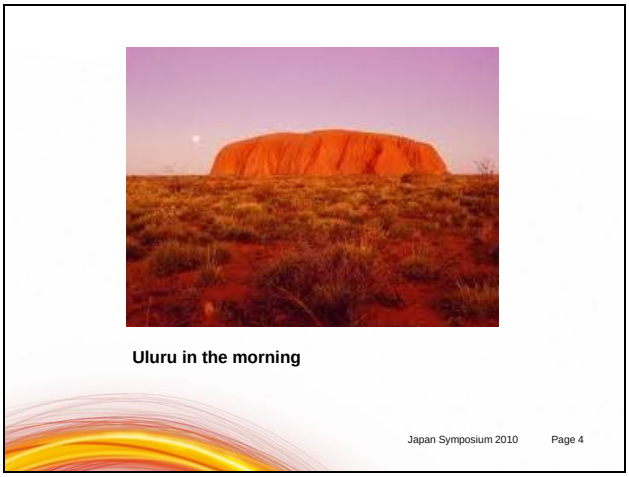
I have been working for a long time in remote health; and one of the problems that I have noticed – that has led me to do research – is that there is a great deal of difficulty getting expert advice into remote areas in Australia. Remote area nurses are specialists in general nursing; we know many many many things; but we only know a little bit about a lot of things. And so when we need advice, we need to set up systems to actually get that advice. So my research has been using

technology to actually develop systems to get advice to remote area nurses around a range of issues that we all face. Some of them may be wound care; how do we get specialist wound care advice for people who have chronic or complicated wounds? It might be to solve a problem such as how do we know what to do when the new disease emerges such as H1N1. So we have to set up systems to actually get that advice to remote areas.

Australia is a big country; it has very few cities; and the cities are around the coast. The best known city, of course, is Sydney, and people who come to Australia from Japan will often visit Sydney; it is on the east coast. Darwin is in the North, and Perth is the main city in the West. I live in a very small city; only 100,000 people; and it is just North of Melbourne in the very Southeast. I have only moved there in the last 4 months, and it is a big change from the Northwest which is very hot to the Southeast which is very cold. I work for La Trobe University, School of Rural Health, which is a new school and established to improve the health care to people in rural and remote Australia.



You can see from my picture that Japan is actually nearly as big as Australia. For me that was a very interesting fact; I think of Japan as a small nation, but in fact it is a very long nation that covers many many latitudes just like Australia. It has places that are very cold and places that are very hot. So you have a small landmass surrounded by sea. In Australia, we have a large landmass, but the middle of our landmass is all deserts. Our cities are surrounded by sand rather than by sea.



Some of you I know here have visited Alice Springs in the very center of Australia; and Yoko has visited the Center for Remote Health.

The most famous landmark in the center of Australia is a place we call *Uluru*. It is our version of Mt. Fuji. Some of you would know this very special mountain as Ayers Rock; it is just a single rock. *Uluru* is considered by aboriginal people to be a sacred place. Non-aboriginal people in Australia also love *Uluru*. It is a special mountain because it is just one rock that rises up out of the desert. A monolith, during the day, changes color. In the morning, it starts off with a very pale orange. In the

middle of the day, it becomes bright red; so red you cannot believe it. And in the evening, it changes to purple; purple, of course, is my favorite color, and so for me it is my favorite rock. It is a very amazing place to visit. So I hope if you ever come to Australia, you do not just visit Sydney or Brisbane, but you come to the most special part of Australia, and that is to the desert.

In Australia, remote health professionals work in a variety of settings. Some of them are railway towns; some of them are mining communities; or pastoral / farming places; and some of them are indigenous or aboriginal communities. As well as that, nurses work in islands and also outback towns. They are an integral part of the health care delivery to remote Australia. Remote area nurses contribute 50% of the workforce in remote

Australia, and they are assisted by aboriginal health workers who make up 45% of the workforce. And the remaining 5% – that is a very small amount – is doctors, general medical physicians, and allied health (these are all therapists).

So you can imagine we have a very interesting training program to try and assist these people to provide health care to the most remote part of our country. There are many challenges that we face in training health professionals for remote health practice. There are huge distances between where people work, and in each remote work place, there are only a small number of people working. Sometimes we have just one nurse and one health worker, and the next health center may be many hundreds of kilometers away. Sometimes we have a multi-disciplinary team which is a nurse, an aboriginal health worker, a doctor and some visiting allied health professionals. Depending on where you work, if you live in the very northern tip of Queensland – that is the pointy bit – you may even work with Torres Strait Islander health workers who are the indigenous people of that part of the country.

There are many problems with transport and communications infrastructures that need to be overcome. And remote health professionals need to be multi-skilled just like island nurses. They encounter problems requiring complex skills only very occasionally, so we have a great deal of difficulty in maintaining our skills for those particular problems; we call this “skills rusting.” You know when a car is left out in the weather, and it develops rust; well, it is because we are not using it and looking after it; and we have this problem.

For many communities, remote health professionals have to fly to the communities to go to work. And this is me with a bunch of my colleagues going up to work in a very remote community in the Northwest of Western Australia in the Great Sandy Desert; a place that is famous for its indigenous artists, a place called Balgo. And as you can see we were risking life in limb; all jumping into one small plane with a single propeller.

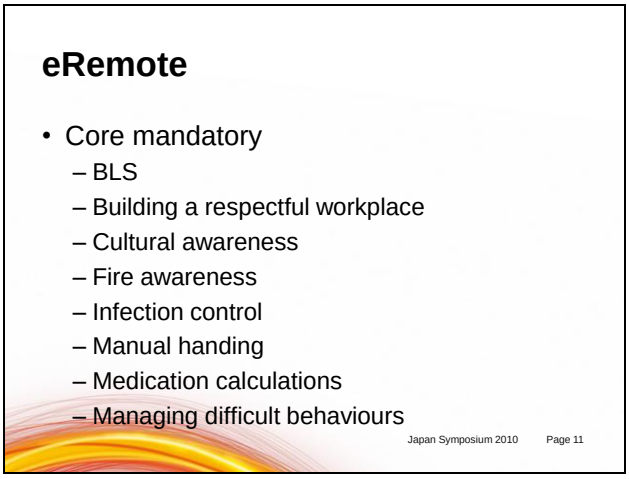
When we provide training to remote health professionals, we are trying to do it in an evidence based way. There has been quite a lot of research done into how you provide training in remote Australia, to people work in a particular remote area. And one of the things we found is that the course needs to be delivered locally. It is much better to actually bring the trainers out to the team who are working in the remote area than to bring one or two people from that team into a central location. It is much better to train the whole team at the same time. But one of the issues that we have is how you make sure that the courses delivered locally are of good quality. So what we do is that we have a National Steering Committee of people who are experts in the particular skill or area, and we also have people who are experts in remote health on that Steering Committee, so that the courses are relevant to the people who are being delivered to. We have to make sure that we use adult learning principles, and the case studies that we use actually are about the types of things people would find in their remote community. There is no point in giving a case study that is not relevant; the person will not be able to translate that knowledge into the practice setting. And I see lots of people nodding their heads. Even when you were a first year student, you really want to have a case study that you can relate to. So when you see the patient for the first time, you can think "Aha, yes, I have seen this; we have talked about this in my class; and now I am seeing it in real life." We like to have lots practice sessions and conduct role plays. Role plays are fantastic although we all hate being in a role play. Who wants to be the alcoholic person or the person who is drug affected? You do not like to play that character, but a role play is a very important way of actually taking on the role of the patient as well as taking on the role of the nurse; and a role play is a great way of learning. We also provide all of our students with pre-reading. This actually enables students to be prepared for when the course is being done. Nothing is worse than turning up for a lecture and you have not done the reading beforehand, and the lecture will straightaway going to the details; and you think "Oh my goodness, I am not ready for this." And I can see some of the students going "Oops, I did not do my homework," that is my feeling that I have had.

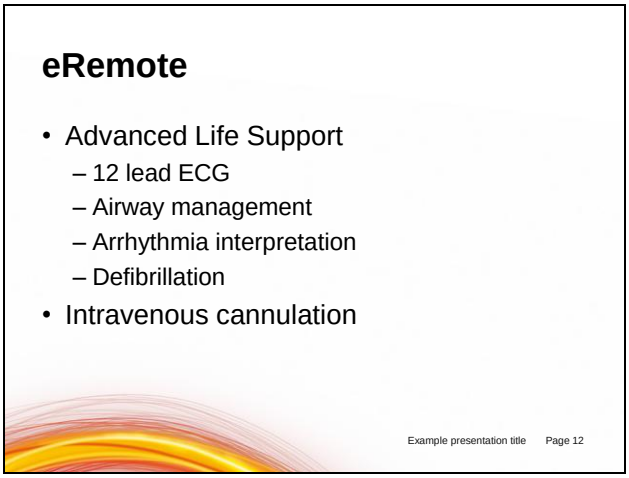
I work for the university, but for very very long time – since probably 1986 – I have been involved with CRANA*plus*. CRANA*plus* is the professional organization for all remote health professionals in Australia. Actually, I was the president of CRANA*plus* a couple of years ago and now I continued with CRANA*plus* on the board of management. We have recently had an annual conference at Adelaide. One of the big aims of CRANA*plus* is to provide relevant evidence based courses and education for remote health professionals. CRANA*plus* offers a range of courses in remote emergency care, and this is really to help with the problem of skills rusting. So you may not have a delivery in your clinic for a whole year. Even if you were a midwife, you would be unfamiliar with the skills, so when a person comes in labor, you would be panicking because your skills are getting rusty. CRANA*plus* looks at some of the core skills that nurses need for emergency care and then sends out courses into the remote areas, so that nurses can practice.

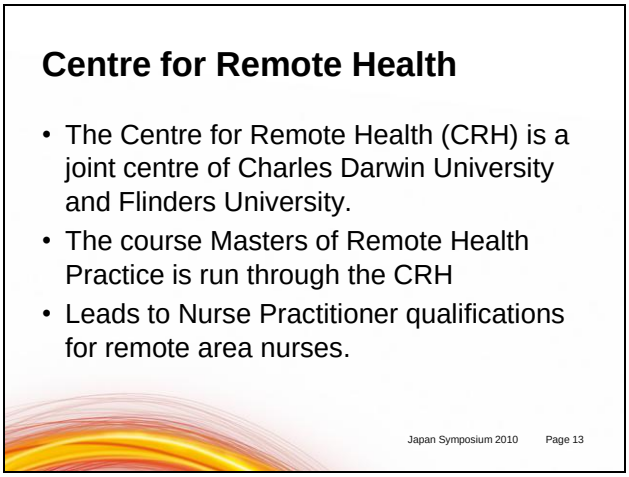
The MEC course is the Maternity Emergency Care. It is designed for non-midwives, but midwives take it as well. It ensures that nurses in remote areas are able to manage normal birth if a woman presents in labour without time for evacuation to the nearest regional hospital that conducts birthing. They are also taught to manage a range of emergency complications such as shoulder dystocia and PPH. We also run a FLEC course which is called the First Line Emergency Care course. It is a trauma and acute care management course. Both of these courses are offered to the multi-disciplinary team that includes any doctors who might be there, any aboriginal health workers who might be there, and the nurses, so that the whole team actually learns together. When you do have an emergency, the whole team is used to working as a team and able to respond appropriately. Facilitators for these courses come from all over the country. With CRANA*plus*, much of the work that everybody does actually has volunteer in nature. So we will volunteer allowed time to go and provide training to our colleagues and friends.

Of course, when you provide something that is useful, more and more people want to do that program. So owning to popular demand, the two main courses have expanded to include midwifery up-skilling because all of the midwives wanted to do the course, one on midwives because they thought it was useful. We have also got the advanced REC course which is offered for many general medical practitioners. And one of the interesting things for the advanced REC is that it includes intubation. For medical practitioners in remote areas, the skill of intubation is something they feel they get rusty with, and so we provide that.

In addition to the short courses which are face to face – so that we actually go out and provide the courses in the remote areas – CRANA*plus* offers a range of courses on line; we call this eRemote. The idea of setting up eRemote was that in many small communities, it is difficult for nurses, doctors and aboriginal health workers to leave their clinic for many extended periods of time. So some of the mandatory skills such as infection control and ALS; we felt that it would be beneficial to be able to do most of those skills on line. You have to do them in Australia every year, so really, it is just an update. Providing these in an on-line format means that the team does not need to leave their remote place for that kind of skill. It also means that when people do leave the community, they can go for things that are much more exciting such as the CRANA*plus* conference or maybe even come to Okinawa to present at the conference here. Who knows in the future? That might be possible.



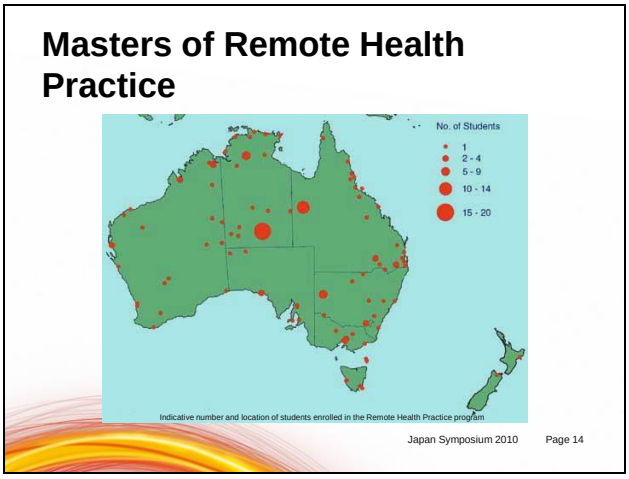




Remote health practitioners can take these courses at their own paces. At the end of doing each course, they sit a small on-line test, and they are given a certificate of completion. Employers are finding this a very useful way of ensuring that all staff is up to date on the relevant competencies, and some employers are paying for staff to complete the program, in place of providing these modules in house, or as part of an orientation program for new staff. For CRANA*plus*, it actually ended up being an income generating activity. For an organization where a lot of the work is done by volunteers, having something that generates an income is very very useful.

In addition to the short courses, we also have worked in partnership with Flinders University and Charles Darwin University. Nurses from remote areas can also now do formal qualifications, and up to Masters in Remote Health Practice. This course is a multi-disciplinary course. There are different streams in the course that actually allow medical practitioners to do them – Masters in Remote Health Practice – and aboriginal health workers and allied health staff to do the same. As of this year, thanks to the hard work of Sabina Knight and her team, our nurses who are doing the Masters of Remote Health Practice can now do the nurse practitioner stream. So that we are very proud of that; that is a very big step forward for us.

If you have looked at this map, you can see we have been running this course from the Center for Remote Health for the last 10 years. This gives you a sense of how popular the course has been. All of those dots give you an idea of a number of students who have completed the course around Australia. The great thing, I think, is that nearly every part of Australia has got a graduate who has completed the program through the Center of Remote Health.

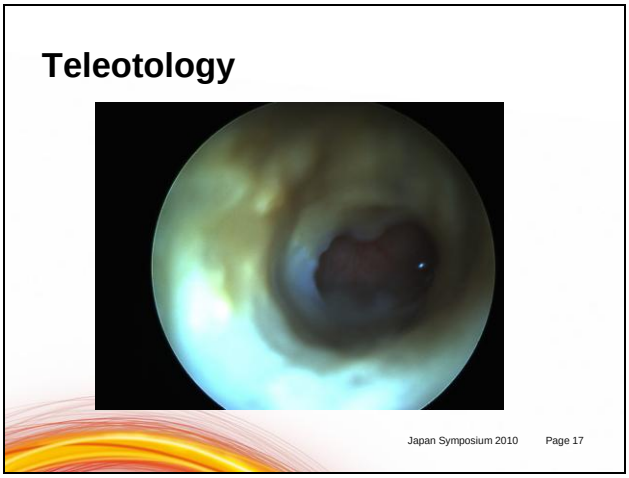


The curriculum for the program is very interesting; it has a number of integrating themes. Indigenous health is one of those things; it is very very important for nurses working in remote Australia to understand the context of indigenous health. Aboriginal people make up only 2.5% of Australians, but when you go to remote Australia, they become more and more common. The further you go into remote Australia, the more aboriginal people are part of the population. In Alice Springs, aboriginal people make up 45% of the population. In Hermannsberg – where Midori went to visit – aboriginal people make up 99% of the population. In Australia, there are still 300 aboriginal languages spoken today. So nurses come from mainstream Australia – Caucasian nurses or Asian nurses – find it extremely difficult to communicate with aboriginal people. It is not like you just learn one language; you would have to learn so many languages to be able to communicate with all aboriginal people.

In addition to Indigenous Health, we have an integrating theme of the Social Determinants of Health. For us in remote health, this is a very very important integrating theme. We also have Population Health; or as you guys call it over here Public Health. Primary Health Care is a very important part of what we teach our students. Evidence Based Decision-Making is what I teach. It is really about critical thinking in a way that is using the skills of critical thinking, but putting a framework around that, that allows the nurses and other health professionals to really come up with the question that they can answer by looking in a literature. They need to be able to think "What do we know?" and "Yes, there is a literature about that," but also "What do not we know?" and "How do I find out that information?" when there is not any randomized controlled trial that answers that question. Or we do not have any evidence of effectiveness for what we are trying to do here; so how do we actually make sure we collect the data, as we are going, so that in time, we can build up the evidence for what we are trying to do.

Cultural Safety is a concept that we brought from New Zealand. This is really about knowing your own culture as you work in another culture. We try and really build the skills in our

students. Anyone who works in remote health or island health knows that you have to concentrate on looking after yourself as well as looking after your patients. If you are not getting enough rest, well guess what, you are not going to be making very good decisions. So Self-Care is a very important part of the program. Teamwork and Collaborative Practice is also one of the key things when you are working in a remote community. You may not have the team with you, but you will have to get advice from someone else at nearly everyday. And you have to be able to build the team with people who are local and people who are distant from where you actually are.

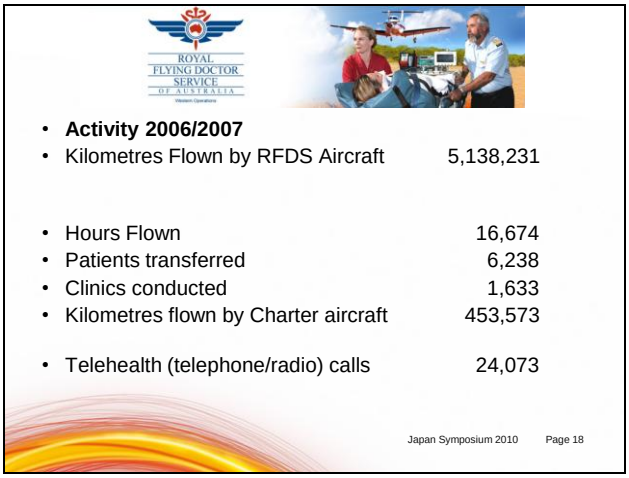


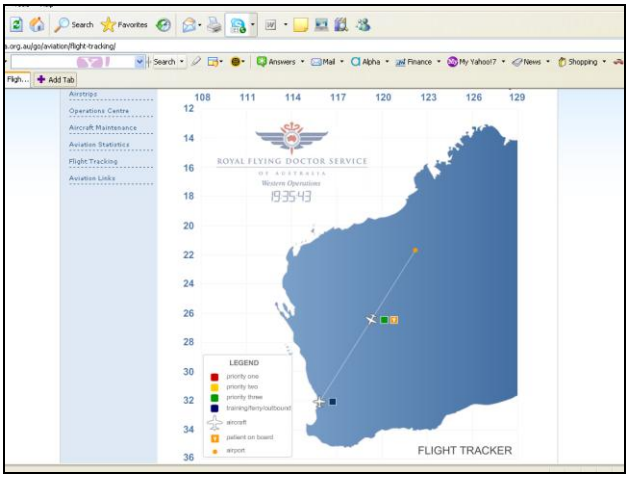
Unlike Japan, Australia has a widely dispersed population in remote areas. Some nurses live on farms or remote cattle stations and provide care to the communities and farmers in the district. In many areas, mobile phone coverage is poor, and nurses rely on satellite communication for phone and internet. In these cases, communication is both expensive and can be very unreliable; as soon as you have a cloud cover, you cannot use your satellite. Communication is essential to remote area nursing practice. Nurses in remote areas maintain all the records as part of state-wide and national public health statistics such as immunisation coverage, notifiable diseases, birth notifications and death notifications. Many of the clinics in remote areas maintain electronic health records (eRecords) for documenting client encounters. We also have a system whereby if you have a patient with a chronic disease, we use our electronic records to have recalls for visiting that patient in home or asking him/her to come back. So if the patient has, for example, diabetes, you might want to do a monthly hemoglobin A1c, it would be a small alert that would come up on your computer in the morning that says "Dura Naplura (name) needs to come in for his hemoglobin A1c today," so it is a useful tool. Some clinics in Australia have really embraced telehealth technologies and use telecommunications and IT to ensure that they have specialist advice for complex wound care and for managing chronic ear disease.

This is a project that I am involved in. Teleotology is when an image is taken of the ear drum using a video otoscope and then the image is included into a database that also provides information on the child's tympanometry results, hearing test results and any treatment that the child has had. The nurse then emails the file to the general medical practitioner or to the specialist. And children who may have had surgery can also be followed up more easily using teleotology consultations.

So this is not a very nice picture. I would love to be able to ask you "What can you see" and for

you to give me an answer in English, but I know that you would give me an answer in Japanese and I have not got my BabelFish earphone on. But if you notice, we have complete destruction of tympanic membrane. This is very common in remote Australia; 40% of aboriginal children have chronic suppurative otitis media. We are involved in a range of research areas, looking at why this is the case; we think that some of it is to do with lifestyle and hygiene issues; but we also concerned that some of this is genetic. But yes, in order to provide care, we really need some help from specialists.



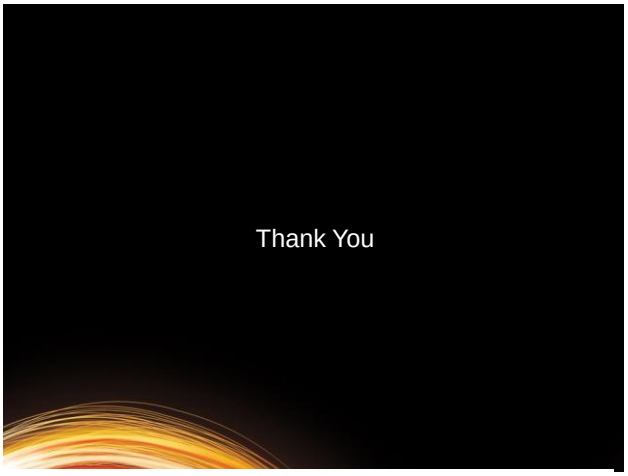


You may also have heard about our emergency transport system: the Royal Flying Doctor Service. This service has been operating since 1927. It was first started by the Reverend John Flynn who recognized that people in outback Australia needed access to health care, and remote nursing posts were set up across Australia. These nurses were supported by a doctor who was able to be called using a Pedal Radio, and then the doctor would come and collect the patient. In fact, it is such a famous service and so important to the cultural history of our country that we have John Flynn and the Traeger Pedal Radio on our 20 dollar note. So we really think it is an important thing. Actually, the system that we have in Australia today is not very different. We still call the doctor, but not using the Pedal Radio. Today we use the telephone and we still expect them to come and help us.

This is from some research that I did last year. You notice that telehealth consultations in one year in one state of Australia were 24,073 to the Royal Flying Doctor Service from nurses in remote Australia. And the Royal Flying Doctor Service flew 5 million kilometers.

When we are waiting for the patient to come, to be transported out, we can also track where the plane is; and this is a really really important innovation. When I first started as a remote area nurse – I think it was 1983; it was a long time ago – we had to just wait to we could hear the plane circling over head, and then we knew to go and enlight the strip, and get things ready for the flying doctor plane to arrive. Now we have much more time because we can actually track where the plane is. As the plane is arriving, we can talk through with the doctor about the patient's condition. We also know how long we have to wait. In many parts of remote Australia, it is not unusual to wait many hours for the flying doctor for retrieval. So if you have a patient who has Cardiac Arrest, or they may have some other pulmonary embolus (35:45), so you are on your own for a long long time before the flying doctor comes. So it (the tracking system) reduces your anxiety because you know "Okay, they are still 3 hours away; this is what I need to do" or "They are 20

minutes away; I can manage this bit." And we have improved the survival rates because we know what is going on now.



So in conclusion, we would like to work with you in Okinawa to develop the specialty of remote area nursing as we call it; and island nursing as you call it. We believe that remote area nursing is a specialty area of nursing. However, there is not enough research on what remote area nurses from around the world do. We need nurses to write about their practice, through case studies and through publications relating to remote area nursing practice. We need to learn from each other. I feel we need to work collaboratively around the world to identify the best practice initiatives and to share our knowledge.

Thank you.