



Archived at the Flinders Academic Commons:

<http://dspace.flinders.edu.au/dspace/>

This is the publisher's copyright version of this article.

<http://www.aihwj.com.au/>

Jones, R., Mazzachi, B. and Shephard, M., 2002. Point-of-care in Aboriginal hands. *Aboriginal and Islander Health Worker Journal*, 26(6), 13-16.

Copyright 2002 Aboriginal and Islander Health Worker Journal. Published version of the paper reproduced here with permission from the publisher.

Point-of-Care in Aboriginal Hands

RICHARD JONES#, BERYL MAZZACHI* AND MARK SHEPHARD*

Introduction

Diabetes, kidney disease and heart disease (which are all called chronic diseases) are among the most serious health problems facing Aboriginal people today. Aboriginal people suffer between 12 to 17 times more deaths due to diabetes than non-Aboriginal people. In many Aboriginal communities, between 15 and 25% of adults have diabetes. Across Australia, the number of Aboriginal people who have serious kidney disease and are on kidney machines (dialysis) is nine times that of non-Aboriginal people. We've all heard about the situation in the Tiwi Islands off the coast of Darwin where rates of renal disease are the highest in the world. Looking at cardiovascular disease, the number of Aboriginal people between 25 and 44 who have severe heart disease is now ten times that of non-Aboriginal people.

The problem with these chronic diseases is that a person may feel relatively well and not know they have the disease until it's too late. One of the keys to preventing these diseases is to identify them early through regular health checkups even when a person feels well. Early identification, with follow-up management, can slow and in some cases even prevent the diseases from becoming serious. This allows people to live longer and more healthily, without getting the serious complications these diseases cause (like

blindness from diabetes, being on the kidney machine, and strokes or heart attacks).

What's our Program About?

Through a partnership between the Port Lincoln Aboriginal Health Service (PLAHS) at Port Lincoln and the Community Point-of-Care Centre at Flinders Medical Centre (FMC) in Adelaide, we have been running a new comprehensive health program for the past year called 'Point-of-Care in Aboriginal Hands'. The program has a broad chronic disease focus that **(a)** looks for early signs of diabetes, kidney disease and heart disease collectively and **(b)** provides follow-up management for people identified as being at risk for chronic disease.

The unique feature of the program is that it involves the use of point-of-care (POC) medical instruments. These are small portable machines that can do exactly the same tests for diabetes, kidney disease and heart disease as the large hospital laboratories. However, the specific advantages of these machines in Aboriginal hands is that:

◆ Aboriginal health workers at PLAHS can do the tests in the Port Lincoln community (thereby empowering them to have greater responsibility for looking after their people's health),

◆ you only need a fingerprick of blood or a drop of urine to do the tests,

◆ and the results are available for clients within 10 minutes.

So it's a more convenient and easy service for clients at Port Lincoln. They don't have to have a lot of blood taken from their arm and they don't have to wait several days for their results - results are available on the spot and they can be discussed with the PLAHS Aboriginal health worker team and then with the service's doctor (David Mills) immediately. So the point-of-care instruments provide a real focus for chronic disease in the community and there is a strong sense of community ownership of the program.

Who is Involved?

The key people working on the project are Richard Jones (as the main Aboriginal health worker responsible for the program at PLAHS), fellow Aboriginal health workers Tony Burgoyne, Jeremy Coaby, Denise Thomas and Judith Sherry, clinic nurse Angela Dufek, Dr Mills, as well as Mark Shephard, Beryl Mazzachi and Karan Lavender from Flinders. The Flinders team's role is to train the health workers in how to use the instruments, provide a range of ongoing quality management services for the POC machines, and help manage the health information being collected. But, it's important to emphasise that the program is very much community-controlled and community-owned and run by the

Aboriginal health worker, Port Lincoln Aboriginal Health Service, SA.

* Community Point-of-Care Centre, Renal Unit, Flinders Medical Centre, Adelaide, SA.

Port Lincoln health worker team. Through a sponsorship agreement secured with the makers of the point-of-care machines, it's also a free service for the Port Lincoln community for the duration of the program (which is a minimum of three years).

The program is also being conducted in a similar way at three other sites, namely the Riverland region in SA, Meningie in the Hills Mallee Southern region of SA and at Bega Garnbirringu Aboriginal Health Service in Kalgoorlie, WA. Each site has a local Aboriginal health worker in charge of the program, with support from a local medical officer or GP. Depending on the site, other support staff may also include further health workers, a clinical nurse, as well as other health professionals like a diabetic educator or nutritionist.

So for example, from the Riverland, health worker Peggy Giles runs the program along with fellow health workers Muriel Fewquandrie and Regina Williams, while Dr Wayne Hayter provides clinical support. Sandy Wilson (from Meningie) is the health worker in charge of the program in the Hills Mallee Southern Mallee region and Sandy receives clinical support from Dr Michael Kerrigan. Denise Pompey is in charge of the program at Bega, with support from nutritionist Steve Pratt, Bega's chief medical officer David Dunn and other health workers Ray Coleman and Cyril Yarran.

How Does the Program Work in the Port Lincoln Community?

The program provides a **screening service for the early detection of chronic diseases** and there is also a **follow-up management arm** of the

program for people identified as being at risk.

In relation to the early detection side of the program, clients can simply come to the Port Lincoln Aboriginal Health Service voluntarily and ask for the free screening to be done. If a client is already at the clinic to see Dr Mills for another reason, then Dr Mills may ask that the POC tests be done opportunistically if he thinks the client may be at risk for chronic disease. Because the POC machines are small and portable, they can also be taken out to people's homes or the community to do testing there. For example, community information and screening days for chronic diseases have been run at the Mallee Park Football Club, at the Pt Lincoln Aboriginal Community Council, and at the local TAFE College.

To do the screening, the health



Some members of the Point-of-Care in Aboriginal Hands team at Port Lincoln. Front row (left to right): Denise Thomas, Richard Jones and Angela Dufek. Back row: Jeremy Coaby and mark Shephard.

worker checks the person's blood pressure, records their height and weight (so we can calculate their body mass index, as a measure of obesity) and then takes a fingerprick of blood, which is put onto the point-of-care instruments.

One machine, called the Bayer DCA 2000, does a test called Haemoglobin A1c (or sugar-haemoglobin). This test provides information about diabetes and how well the person's blood sugar has been controlled for the last three months. We're using the test not only for monitoring known diabetics but also to see if we can use it to pick up any new people with diabetes.

Another machine, called the Cholestech LDX Lipid Analyser, measures the lipids (or fats) in a person's blood, especially the different types of cholesterol, as well as glucose. This test therefore gives us information about risk of heart disease.

Each person is also asked to provide a urine sample, with the first morning sample being the best specimen to test. A small drop of urine is put onto the DCA 2000 point-of-care machine to test for albumin:creatinine ratio (or ACR) which looks for very early signs of kidney disease - at a point where kidney disease can be stopped or prevented from becoming serious.

Information is also collected about their personal and family medical history and aspects of lifestyle.

The whole process only takes around 10-15 minutes. The results are written onto a single-page result sheet that is immediately available to the client and to the doctor. Dr Mills takes all the information and uses it to build up a picture of the person's risk for chronic disease. It is explained to clients that, even if something shows up, it's better to know early because Dr Mills can work with them to improve their health. If things are left unchecked, then it may be too late to help once a problem is eventually picked up.

The Flinders team come over to



Working with the community: Beryl Mazzachi, Richard Jones and a client from Port Lincoln discussing her point-of-care results.

Port Lincoln regularly. They help with community days, assist with screening, provide on-going education and training, keep stocks of testing cartridges up to date, provide on-going quality management services for the POC instruments, and help manage all the results.

Looking at Some Results So Far

The program commenced in August last year, and will continue for another two years at least. As well as helping individual people, the program is also looking at community trends, which will help identify future health priorities for the Port Lincoln Aboriginal Health Service and highlight areas where we need to raise community awareness.

As at September 2002, 122 people from the community have been tested for their risk for chronic disease (comprising almost equal numbers of males and females). Twenty-eight of those screened were between 15 and 29 years of age, 49 were between 30 and 44, and 45 people were 45 years or over.

The overall chronic disease risk profile of our community currently shows:

- ◆ A quarter of all the people tested

have diabetes,

- ◆ High levels of total cholesterol were found in nearly 40% of people (with raised levels of other blood fats like triglyceride and LDL cholesterol also being very common),

- ◆ One in five people screened had early signs of kidney disease (called microalbuminuria), while a further 5% had established kidney disease (macroalbuminuria),

- ◆ Over a third of the people had high blood pressure, while over 40% had a body mass index greater than 30 indicating obesity,

- ◆ Rates of smoking, alcohol and family history were also common.

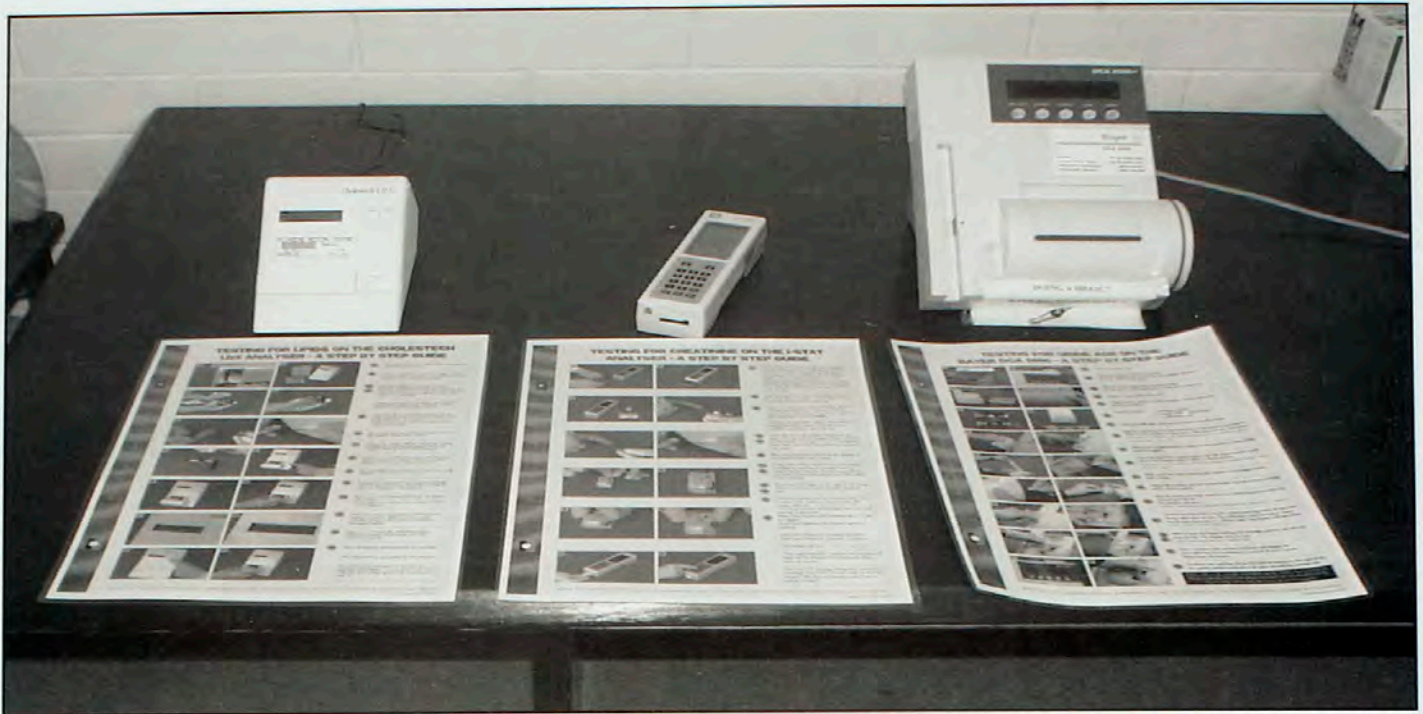
Looking across gender, we have seen that:

- ◆ men in the community have much higher total cholesterol levels than women,

- ◆ while women had a much higher rate of obesity.

So this information identifies health areas specific to both males and females that PLAHS can target for future health programs.

Looking even more closely at the information the program is generating:



The point-of-care instruments being used at Port Lincoln: Cholestech lipid analyser (left) and the Bayer DCA 2000 (right). The instrument in the middle is the Abbott i-STAT analyser, another POC instrument that may be used at Port Lincoln in the future. Pictured in front of each instrument is a step-by-step guide that shows how to perform a test on each instrument. These guides were produced by the Flinders team as an educational resource to assist the PLAHS health workers.

◆ There is a strong link between age and rates of diabetes, high blood pressure, early and established kidney disease (albuminuria) and blood lipids.

◆ Although, thankfully, the number of people with macroalbuminuria is small, we have also found a link between the degree of albuminuria and HbA1c and glucose, as well as body mass index.

Just a couple of words on the **follow-up or management arm of the program**, which is now starting to gather momentum as the number of people screened is getting larger. As mentioned earlier, a client comes to a health worker and has their point-of-care tests done. The results are written onto a single-page result sheet, which is given to Dr Mills. He then makes an assessment of the person's risk and, using a simple tick-box system at the bottom of the result sheet, records what further point-of-care testing is needed for on-going client management and the frequency of that testing. The result

sheet is faxed to Flinders, put into the client's notes, and entered by a health worker into the Ferrett patient management system that is used at Port Lincoln. The Flinders team then sends back regular lists of all tests requested for on-going management of each client (as requested by Dr Mills) including when they need to be done. (The Ferrett system also has a patient recall function that is used to help with patient management). As a further resource for health workers, a series of laminated cards that detail what follow-up tests are needed (and when) for different risk profiles has been produced by the Flinders team.

Across next year, we'll be working with Dr Mills to try to gather information about the relationship between point-of-care testing and improved health outcomes for our clients. We'll be trying to measure the impact that point-of-care testing has had on things like glycaemic control, compliance in taking tablets, turn-around times to get people started on management

plans, frequency of follow-up visits by clients, and we'll survey community members at Port Lincoln to see how they feel about having point-of-care testing available as a service in their community.

Concluding Remarks

The program and, in particular the POC instruments, (which are quick and easy to use) has been accepted well within the Port Lincoln Aboriginal Health Service. Clients seem to be happy with the service that's being provided and Dr Mills is pleased with having results immediately available that he can act on.

In the coming years, it's very likely that point-of-care instruments will be used more widely in Aboriginal communities across Australia. Through the Point-of-Care in Aboriginal Hands program and the partnership with Flinders, Port Lincoln Aboriginal Health Service is right at the leading edge of bringing this new technology to help the health of its people. ◆