Strengthening CVD prevention in remote Primary Health Care

PAUL BURGESS, PHD FAFPHM

Clinical Director Coordinated Care
Strategic Primary Health Care
Top End Health Service

Cardiac Care in the NT Annual Workshop 2017 is proudly supported by:
Outline

- Background
  - Cardiovascular disease (CVD) epidemiology
  - Remote Primary Health Care (PHC) context

- Cardiovascular Risk Assessment

- Systematic approach to quality improvement

- Results

- Implications for policy and practice
Background

- Chronic Conditions account for > 70% of ‘The Gap’ in Indigenous life expectancy
- CVD is the single largest cause of death and disability
- Incidence of Indigenous AMIs has risen 60% since 1992
- Earlier onset and worse outcomes in remote Australia

AMI Incidence in the NT – Indigenous : Non-Indigenous*

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Incidence Rate Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-39</td>
<td>10.2</td>
</tr>
<tr>
<td>40-64</td>
<td>3.3</td>
</tr>
<tr>
<td>65+</td>
<td>0.9</td>
</tr>
</tbody>
</table>

NTG Primary Health Care

- **25,000** patients, 49 clinics over, 1.4 million Km²
- Triple whammy: IFD/Low SES/Chronic diseases
- Nurse led primary care + Aboriginal practitioners
- High staff turnover (non-Aboriginal)
- Language/Cultural barriers
- Evolving IT
- Distance!
NT Chronic Conditions interventions

- NT Chronic Conditions Strategy
- Chronic Care pathways within CARPA Standard Treatment Manual
- CVD risk Assessment – starting at 20 with 5% Indigenous loading
- Single Electronic Health Record with CVD decision support
- Continuous Quality Improvement
- Workforce reforms – Chronic Conditions Educators
- 2012: Chronic Conditions Management Model (G. Sinclair et al.)
Chronic Conditions Management Model (CCMM)

- Monthly “Actionable” task lists to frontline staff

<table>
<thead>
<tr>
<th>Client Name</th>
<th>Client Id</th>
<th>DOB</th>
<th>Age</th>
<th>Provider Type</th>
<th>Item Description</th>
<th>Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>14/08/1947</td>
<td>66 yrs</td>
<td>AHW DR RAN</td>
<td>CVR Assessment</td>
<td>19/03/2014</td>
</tr>
<tr>
<td></td>
<td></td>
<td>14/08/1947</td>
<td>66 yrs</td>
<td>AHW DR RAN</td>
<td>RESTART CARE PLAN</td>
<td>19/03/2014</td>
</tr>
<tr>
<td></td>
<td></td>
<td>30/01/1951</td>
<td>63 yrs</td>
<td>AHW DR RAN</td>
<td>PCD Clinical Items 3</td>
<td>30/03/2014</td>
</tr>
<tr>
<td></td>
<td></td>
<td>30/01/1951</td>
<td>63 yrs</td>
<td>AHW DR RAN</td>
<td>PCD Pathology 5</td>
<td>30/03/2014</td>
</tr>
<tr>
<td></td>
<td></td>
<td>30/01/1951</td>
<td>63 yrs</td>
<td>AHW DR RAN</td>
<td>Doctor/Medical Officer/GP</td>
<td>13/04/2014</td>
</tr>
<tr>
<td></td>
<td></td>
<td>13/04/1951</td>
<td>63 yrs</td>
<td>Doctor/Medical Officer/GP</td>
<td>PCD GP Midyear REVIEW</td>
<td>13/04/2014</td>
</tr>
<tr>
<td></td>
<td></td>
<td>9/09/1928</td>
<td>85 yrs</td>
<td>AHW DR RAN</td>
<td>RESTART CARE PLAN</td>
<td>27/03/2014</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5/07/1974</td>
<td>39 yrs</td>
<td>AHW DR RAN</td>
<td>HbA1c (Glycated Hb)</td>
<td>3/04/2014</td>
</tr>
<tr>
<td></td>
<td></td>
<td>26/10/1942</td>
<td>71 yrs</td>
<td>AHW DR RAN</td>
<td>PCD Clinical Items 4</td>
<td>16/02/2014</td>
</tr>
<tr>
<td></td>
<td></td>
<td>26/10/1942</td>
<td>71 yrs</td>
<td>AHW DR RAN</td>
<td>Doctor/Medical Officer/GP</td>
<td>13/02/2014</td>
</tr>
<tr>
<td></td>
<td></td>
<td>16/11/1940</td>
<td>73 yrs</td>
<td>Dentist</td>
<td>Dentist Consult</td>
<td>28/03/2014</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5/03/1951</td>
<td>63 yrs</td>
<td>AHW DR RAN</td>
<td>CVR Assessment</td>
<td>1/04/2014</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5/03/1951</td>
<td>63 yrs</td>
<td>AHW DR RAN</td>
<td>RESTART CARE PLAN</td>
<td>1/04/2014</td>
</tr>
<tr>
<td></td>
<td></td>
<td>20/07/1946</td>
<td>67 yrs</td>
<td>Doctor/Medical Officer/GP</td>
<td>PCD GP Annual REVIEW</td>
<td>6/02/2014</td>
</tr>
<tr>
<td></td>
<td></td>
<td>20/07/1946</td>
<td>67 yrs</td>
<td>Dentist</td>
<td>Dentist Consult</td>
<td>10/02/2014</td>
</tr>
<tr>
<td></td>
<td></td>
<td>20/07/1946</td>
<td>67 yrs</td>
<td>AHW DR RAN</td>
<td>PCD Clinical Items 4</td>
<td>27/04/2014</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7/01/1944</td>
<td>70 yrs</td>
<td>AHW DR RAN</td>
<td>PCD Pathology 5</td>
<td>19/03/2014</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7/01/1944</td>
<td>70 yrs</td>
<td>AHW DR RAN</td>
<td>PCD Clinical Items 3</td>
<td>24/03/2014</td>
</tr>
</tbody>
</table>
# Chronic Conditions Management Model (CCMM)

- **Quarterly Traffic Light Reports**
- **Frontline staff and managers**

## Community Health Centre

### Full Community List

<table>
<thead>
<tr>
<th>Identifier</th>
<th>Age</th>
<th>Gender</th>
<th>ATSI</th>
<th>NHIC</th>
<th>Start Date</th>
<th>PCT</th>
<th>Rep</th>
<th>Plan Start</th>
<th>Plan Month</th>
<th>Care Plan Review</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>60</td>
<td>male</td>
<td>ATSI</td>
<td></td>
<td>6/05/14</td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td>8/02/13</td>
</tr>
<tr>
<td>2</td>
<td>64</td>
<td>female</td>
<td>ATSI</td>
<td></td>
<td>9/01/14</td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td>9/01/14</td>
</tr>
<tr>
<td>3</td>
<td>77</td>
<td>female</td>
<td>ATSI</td>
<td></td>
<td>24/02/13</td>
<td></td>
<td></td>
<td>3</td>
<td></td>
<td>9/10/12</td>
</tr>
<tr>
<td>4</td>
<td>77</td>
<td>female</td>
<td>ATSI</td>
<td></td>
<td>19/09/13</td>
<td></td>
<td></td>
<td>9</td>
<td></td>
<td>5/10/12</td>
</tr>
<tr>
<td>5</td>
<td>74</td>
<td>female</td>
<td>ATSI</td>
<td></td>
<td>4/09/13</td>
<td></td>
<td></td>
<td>9</td>
<td></td>
<td>3/09/12</td>
</tr>
<tr>
<td>6</td>
<td>74</td>
<td>female</td>
<td>ATSI</td>
<td></td>
<td>19/09/13</td>
<td></td>
<td></td>
<td>9</td>
<td></td>
<td>3/09/12</td>
</tr>
<tr>
<td>7</td>
<td>74</td>
<td>female</td>
<td>ATSI</td>
<td></td>
<td>1/04/14</td>
<td></td>
<td></td>
<td>4</td>
<td></td>
<td>7</td>
</tr>
<tr>
<td>8</td>
<td>74</td>
<td>female</td>
<td>ATSI</td>
<td></td>
<td>7/02/14</td>
<td></td>
<td></td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>73</td>
<td>female</td>
<td>ATSI</td>
<td></td>
<td>10/01/14</td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>73</td>
<td>male</td>
<td>ATSI</td>
<td></td>
<td>9/08/13</td>
<td></td>
<td></td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>72</td>
<td>male</td>
<td>ATSI</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>70</td>
<td>male</td>
<td>ATSI</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>70</td>
<td>female</td>
<td>ATSI</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>70</td>
<td>female</td>
<td>ATSI</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>70</td>
<td>female</td>
<td>ATSI</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>70</td>
<td>male</td>
<td>Non-ATSI</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>69</td>
<td>female</td>
<td>ATSI</td>
<td></td>
<td>24/10/13</td>
<td></td>
<td></td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>69</td>
<td>female</td>
<td>ATSI</td>
<td></td>
<td>2/12/13</td>
<td></td>
<td></td>
<td>12</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Chronic Conditions Management Model (CCMM)

- Quarterly Trend Reports
- System managers
- Managing variation
- Sharing successes
- “Learning Organisation”
Objective & Outcomes

To evaluate CVD outcomes associated with CCMM implementation between 2012-14

- Primary Outcome
  - % aged >20 with CVD risk documented in past 2 years

- Secondary Outcomes
  - % of ‘high CVD risk’ prescribed risk lowering medication
  - % of ‘high CVD risk’ achieving treatment targets
Methods

▪ Inclusion criteria
  ▪ All Indigenous NT residents aged > 20 years registered with a NT Government clinic

▪ Exclusion criteria
  ▪ Non-Indigenous residents and visitors form out of service areas

▪ 3-monthly clinical audit of primary and secondary outcomes
  ▪ Descriptive statistics
Results – Primary Outcome

CVRA increased from 23% to 59%
~10% aged 20-34 have high CVD risk
BP Goal: Systolic ≤130 mmHg
Lipid Goal: Total Chol ≤ 4.0 mmol/L
Discussion

▪ Smoking prevalence unchanged at 50%

▪ Strengths – Systems approach
  ▪ Data-driven population health approach
  ▪ Empowering frontline PHC teams

▪ Limitations
  ▪ No control group
  ▪ No data on medication dispensing
  ▪ Indigenous specific CVD risk calculators are required
Take home messages

▪ Even in tough PHC settings health care improvements are achievable by
  ▪ Setting clear program goals
  ▪ Providing care guidelines and technical assistance
  ▪ Empowering frontline teams with data to close evidence-practice gaps
  ▪ Leveraging intrinsic motivation through transparent reporting
Implications: What have we learnt?

- **The Good**
  - Process improvement
  - CVRA Population coverage in Feb 2017 is now **72.3%**
  - Benchmarked performance against other Aboriginal PHC settings
    - Odds Ratio for CVRA completion **18.8** (95% CI 7.7 - 46.2)*
  - Cited as national exemplar model in better cardiac care initiative

Implications: What have we learnt?

- The Bad
- Process improvements not matched by outcomes
- We are not changing behaviours
  - Clients
  - Staff
- Medication supply system

Appropriate prescribing

Medications are not getting to clients

Implications: What have we learnt

- The Ugly

- Forthcoming work
  - Greg Smith (MPH) – Health Care Home implementation
  - First community consultation in 21 years

- Our PHC delivery needs refocussing
  - AHPs in new non-acute roles
    - Health coaching
    - Self management support
  - Care coordination/navigation
  - Language based patient panels not portfolios of care
  - Cultural security
Acknowledgements

- Dr Gary Sinclair
- Mark Ramjan, Patrick Coffey, Christine Connors, Leonie Katekar
- Aboriginal Staff, Remote Area Nurses and Medical Officers
- Visiting staff – Chronic Conditions Educators and CQI staff


Paul.Burgess@nt.gov.au
Questions?

PRESENTATION AT THE CARDIAC CARE IN THE NT ANNUAL WORKSHOP
DARWIN, JUNE 2017