# Functional Reporting to drive health gains

Vermont Blueprint meeting

17 April 2015

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# Acknowledgements


* Gary Sinclair
* Mark Ramjan
* Patrick Coffey
* Christine Connors
* Leonie Katekar
* Primary Health Care teams in 49 health centers
  * Aboriginal community workers & drivers
  * Nurses
  * Doctors
  * Visiting support staff

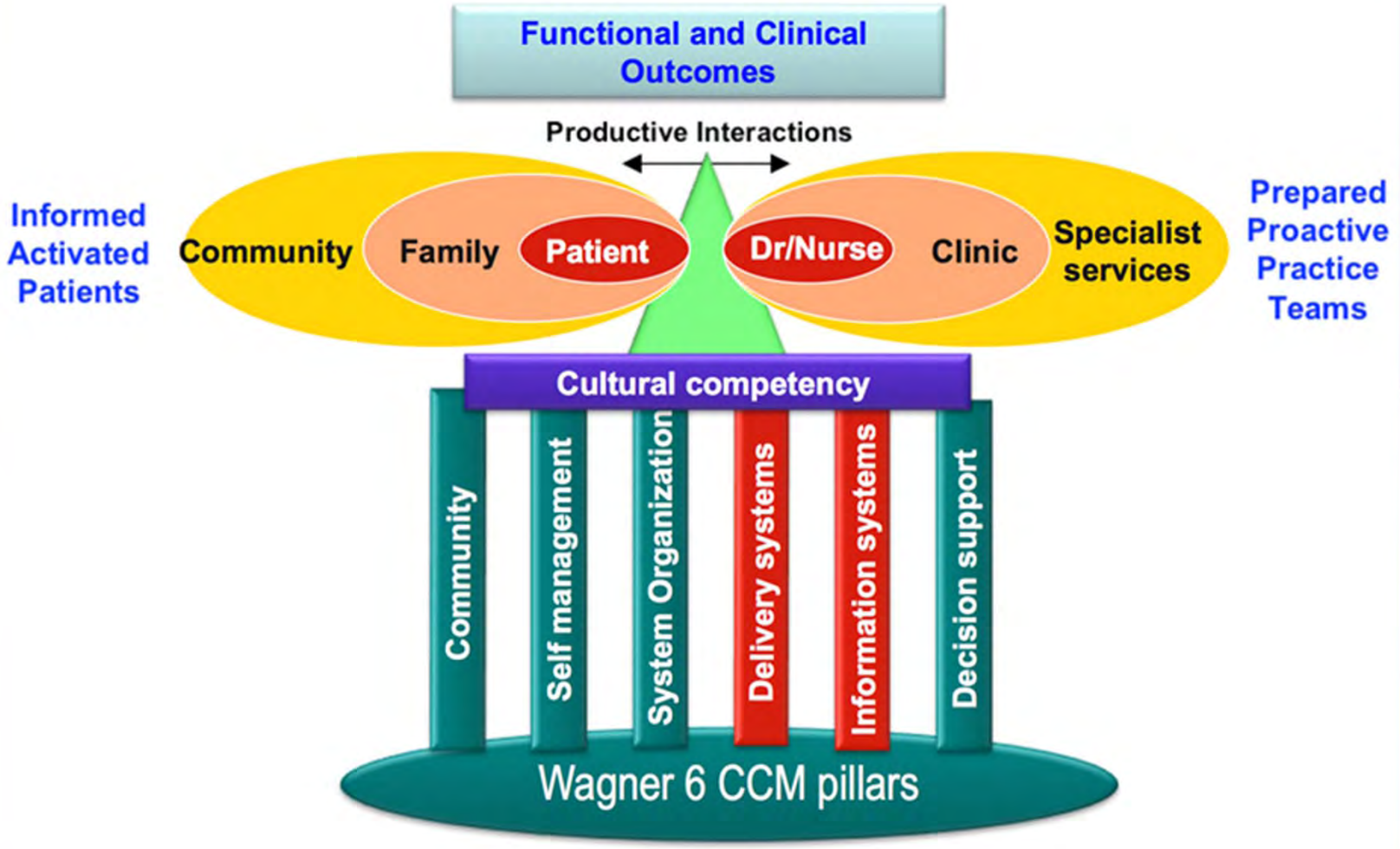
# Outline

* Background
* Reporting
  * Monthly
  * Quarterly
  * 6 Monthly
* Next steps

# Background

* 10 year history of CQI with noted limitations:
  * Sample size, manual audit, time delay, patient identification
* Functional reporting commenced August 2012
  * Based on Chronic Care Model (Wagner et al.)
  * "Chronic Conditions Management Model"
* November 2012 - commenced NT-wide distribution of functional reporting to NT government primary care services (N=51)

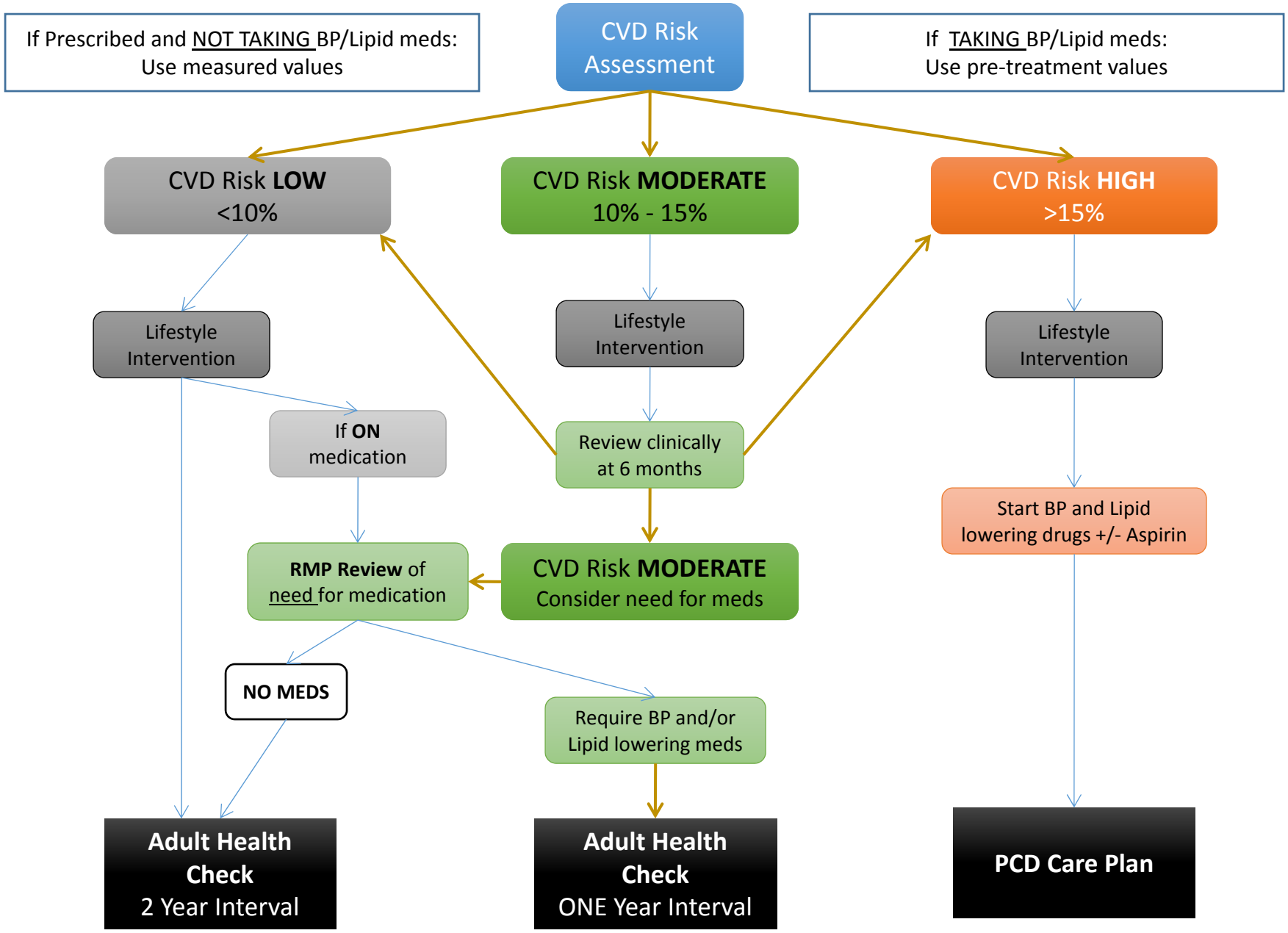
# Chronic Care Management Model



# Primary Care EHR

# Primary Care EHR functions

- Decision support
  - Structured care plans based on diagnostic groups
  - Annual cycle of care delegated to team members
  - Electronic prescribing
  - Electronic billing (fee for service)
  - 5Y Cardiovascular risk calculation (Framingham + 5%)
- Coordination of care
  - Secure messaging, Lab results and discharge summaries
  - Electronic referrals


If Prescribed and NOT TAKING BP/Lipid meds:
Use measured values
CVD Risk Assessment
If TAKING BP/Lipid meds:
Use pre-treatment values
CVD Risk LOW
<10%
CVD Risk MODERATE
10% - 15%
CVD Risk HIGH
>15%
Lifestyle Intervention
Lifestyle Intervention
Lifestyle Intervention
If ON medication
Review clinically at 6 months
Start BP and Lipid lowering drugs +/- Aspirin
RMP Review of need for medication
CVD Risk MODERATE
Consider need for meds
NO MEDS
Require BP and/or Lipid lowering meds
Adult Health Check
2 Year Interval
Adult Health Check
ONE Year Interval
PCD Care Plan

# Monthly Reports

GP / SRMP, Monthly Visit List, Community Health Centre, 05-14

| Client Name | Client Id | DOB | Age | Item Description | Due Date |
|---|---|---|---|---|---|
| | HRN | 10/1/1964 | 49 yrs | PCD GP Midyear REVIEW | 4/2/2014 |
| | HRN | 3/8/1964 | 50 yrs | PCD GP Annual REVIEW | 4/2/2014 |
| | HRN | 2/20/1986 | 28 yrs | PCD GP Midyear REVIEW | 4/2/2014 |
| | HRN | 4/24/1957 | 57 yrs | PCD GP Midyear REVIEW | 4/7/2014 |
| | HRN | 10/3/2000 | 13 yrs 7 mths | Echocardiogram | 4/8/2014 |
| | HRN | 4/20/1998 | 16 yrs | RHD Consult by GP/RMP | 4/10/2014 |
| | HRN | 8/15/1965 | 48 yrs | PCD GP Annual REVIEW | 4/15/2014 |
| | HRN | 10/18/1969 | 44 yrs | PCD GP Midyear REVIEW | 4/18/2014 |
| | HRN | 9/17/1969 | 44 yrs | PCD GP Midyear REVIEW | 4/21/2014 |
| | HRN | 8/23/1983 | 30 yrs | PCD GP Midyear REVIEW | 4/23/2014 |
| | HRN | 2/15/1979 | 35 yrs | PCD GP Midyear REVIEW | 4/27/2014 |
| | HRN | 2/27/1991 | 23 yrs | Echocardiogram | 4/30/2014 |
| | HRN | 2/11/1954 | 60 yrs | PCD GP Midyear REVIEW | 5/1/2014 |
| | HRN | 5/1/1965 | 49 yrs | PCD GP Midyear REVIEW | 5/1/2014 |
| | HRN | 1/1/1954 | 60 yrs | PCD GP Annual REVIEW | 5/3/2014 |
| | HRN | 9/8/1966 | 47 yrs | PCD GP Midyear REVIEW | 5/5/2014 |
| | HRN | 4/15/1984 | 30 yrs | RHD Consult by GP/RMP | 5/6/2014 |
| | HRN | 6/17/1981 | 32 yrs | PCD GP Midyear REVIEW | 5/7/2014 |
| | HRN | 1/1/1945 | 69 yrs | PCD GP Midyear REVIEW | 5/8/2014 |
| | HRN | 7/4/1987 | 26 yrs | PCD GP Midyear REVIEW | 5/8/2014 |
| | HRN | 3/14/1957 | 57 yrs | PCD GP Midyear REVIEW | 5/9/2014 |
| | HRN | 1/1/1937 | 77 yrs | PCD GP Midyear REVIEW | 5/10/2014 |
| | HRN | 4/6/1983 | 31 yrs | RHD Consult by GP/RMP | 5/12/2014 |
| | HRN | 2/5/1972 | 42 yrs | RHD Consult by GP/RMP | 5/13/2014 |
| | HRN | 7/1/1951 | 62 yrs | PCD GP Midyear REVIEW | 5/14/2014 |
| | HRN | 10/31/1989 | 24 yrs | PCD GP Annual REVIEW | 5/16/2014 |
| | HRN | 7/1/1948 | 65 yrs | PCD GP Annual REVIEW | 5/20/2014 |

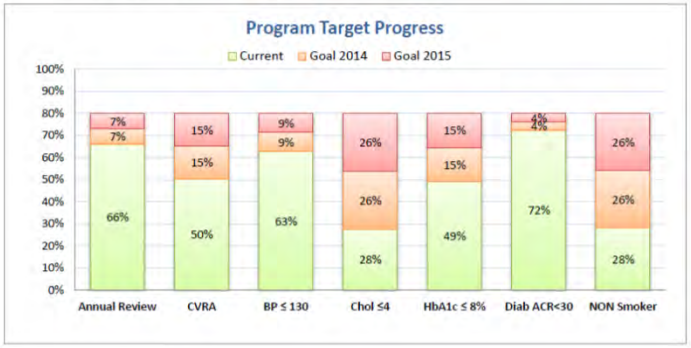
*Version 8.2*

| | |
|---|---|
| Total Population : | 1432 |
| ATSI Population : | 1308 |
| Non-ATSI Population : | 124 |

*Data Extract :* May-14

## Program Targets

| | Current | Program Goal |
|---|---|---|
| PCD Annual Review past year : | 66.1% | 80% |
| Cardiovascular Risk Assessment ; | 50.4% | 80% |
| CVRA High and BP ≤ 130 : | 62.8% | 80% |
| CVRA High and Total Chol ≤4 : | 27.7% | 80% |
| Diabetic and HbA1c ≤ 8% : | 49.0% | 80% |
| Diabetic and ACR<30 : | 72.3% | 80% |
| NON Smoker : | 28.2% | 90% |




**Known Data Issues**

1. Some Care plans which have "completed" as opposed to being "de-activated" may still appear on list as active.

2. A few AHC plans which have been recently de-activated may still appear on list as active. This will be rectified with next Business Objects load

| Traffic Light Table | |
|---|---|
| ≥ 75% | |
| 50% - 74% | |
| 25% - 49% | |
| < 25% | |

## NT AHKPI's

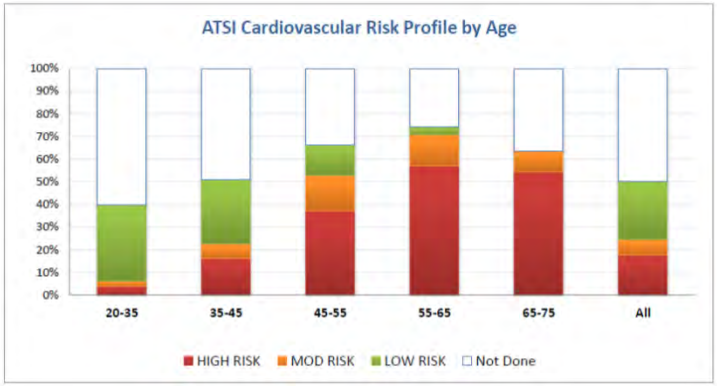
| | Current |
|---|---|
| KPI 1.7 (Diab/IHD GPMP last 2 years) | 87.5% |
| KPI 1.8* (Diabetics & HbA1c past year) | 94.5% |
| KPI 1.9 (Diabetes, ↑ ACR on ACEorARB) | 70.7% |
| KPI 1.10 (AHC 15-55 years age) | 25.4% |
| KPI 1.11 (AHC 55 years and older) | 24.1% |

## Cardiovascular Risk

| | |
|---|---|
| ATSI Clients age 20 and over: | 754 |
| ATSI Clients with CVRA last 2 years : | 380 |

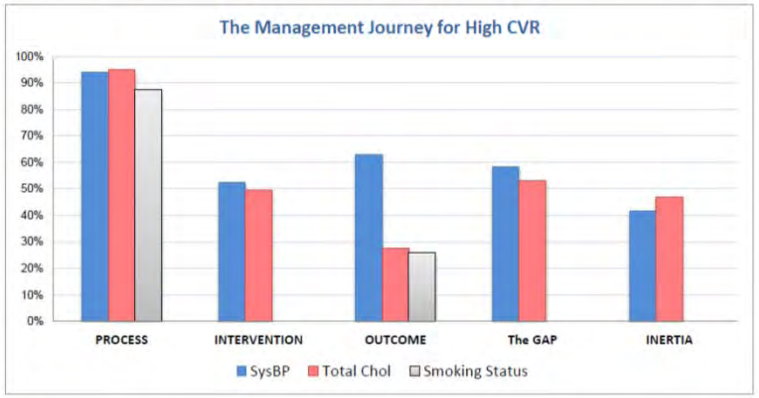
50.4%

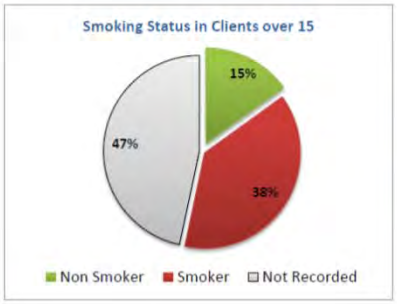
| *Cardiovascular Risk Category* | All clients | PCD Clients | Non PCD |
|---|---|---|---|
| HIGH RISK : | 137 | 131 | 6 |
| MOD RISK : | 50 | 23 | 27 |
| LOW RISK : | 193 | 20 | 173 |
| NO CVRA ASSESSMENT : | 374 | 46 | 328 |
| **Total CVRA Assessments :** | **380** | **174** | **206** |
| | 50.4% | 79% | 39% |

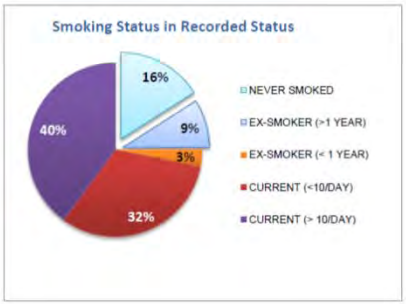



## CVR Management Journey

| Cardiovascular Risk - HIGH : 137 | PROCESS<br>Measured | INTERVENTION<br>On Rx | OUTCOME<br>To target | The GAP<br>>target on Rx | INERTIA<br>> target no Rx |
|---|---|---|---|---|---|
| Systolic BP (target ≤ 130) : | 129 | 72 on BP meds | 81 | 28 out of 48 | 20 out of 48 |
| Total Cholesterol (target ≤ 4.0) : | 130 | 68 on statin | 36 | 50 out of 94 | 44 out of 94 |
| Smoking Status : | 120 | - | 31 | - | - |
| Diabetes AND Hi CVRA : 76 patients | | 55 on aspirin | 55 | - | 21 |




## Diabetes

Diabetes Management Journey

| Number of Diabetics : 110 | PROCESS<br>Measured | INTERVENTION<br>On Rx | OUTCOME<br>To target | The GAP<br>>target on Rx | INERTIA<br>> target no Rx |
|---|---|---|---|---|---|

# Program goals

**Program Targets**

| | Current | Program Goal |
|---|---|---|
| PCD Annual Review past year : | 66.1% | 80% |
| Cardiovascular Risk Assessment ; | 50.4% | 80% |
| CVRA High and BP ≤ 130 : | 62.8% | 80% |
| CVRA High and Total Chol ≤4 : | 27.7% | 80% |
| Diabetic and HbA1c ≤ 8% : | 49.0% | 80% |
| Diabetic and ACR<30 : | 72.3% | 80% |
| NON Smoker : | 28.2% | 90% |

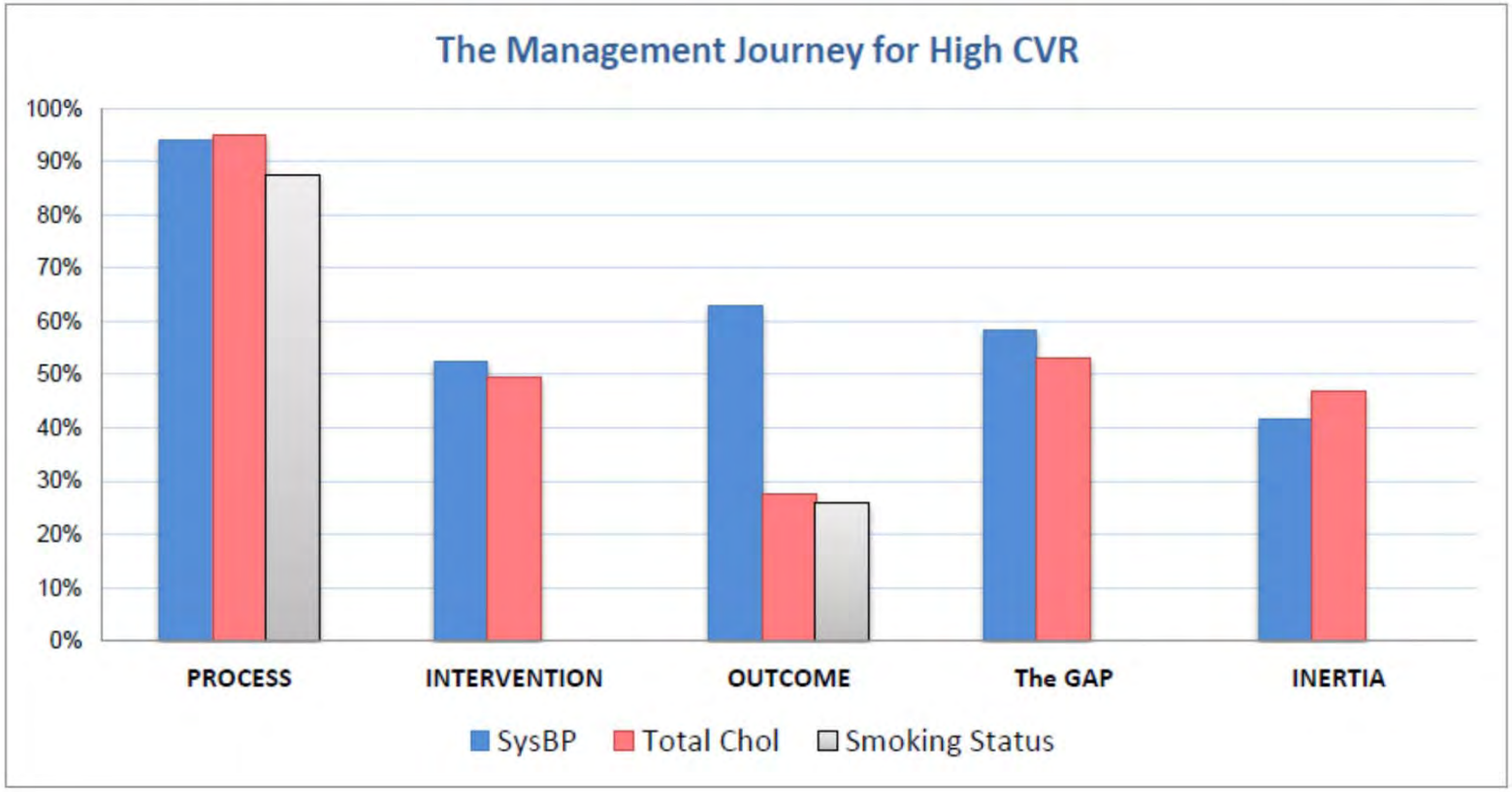
**NT AHKPI's**

| | Current |
|---|---|
| KPI 1.7 (Diab/IHD GPMP last 2 years) | 87.5% |
| KPI 1.8* (Diabetics & HbA1c past year) | 94.5% |
| KPI 1.9 (Diabetes, ↑ ACR on ACEorARB) | 70.7% |
| KPI 1.10 (AHC 15-55 years age) | 25.4% |
| KPI 1.11 (AHC 55 years and older) | 24.1% |

# Management journey

**CVR Management Journey**

| | PROCESS | INTERVENTION | OUTCOME | The GAP | INERTIA |
|---|---|---|---|---|---|
| Cardiovascular Risk - HIGH : 137 | Measured | On Rx | To target | >target on Rx | > target no Rx |
| Systolic BP (target ≤ 130) : | 129 | 72 on BP meds | 81 | 28 out of 48 | 20 out of 48 |
| Total Cholesterol (target ≤ 4.0) : | 130 | 68 on statin | 36 | 50 out of 94 | 44 out of 94 |
| Smoking Status : | 120 | - | 31 | - | - |
| Diabetes AND Hi CVRA : 76 patients | | 55 on aspirin | 55 | - | 21 |

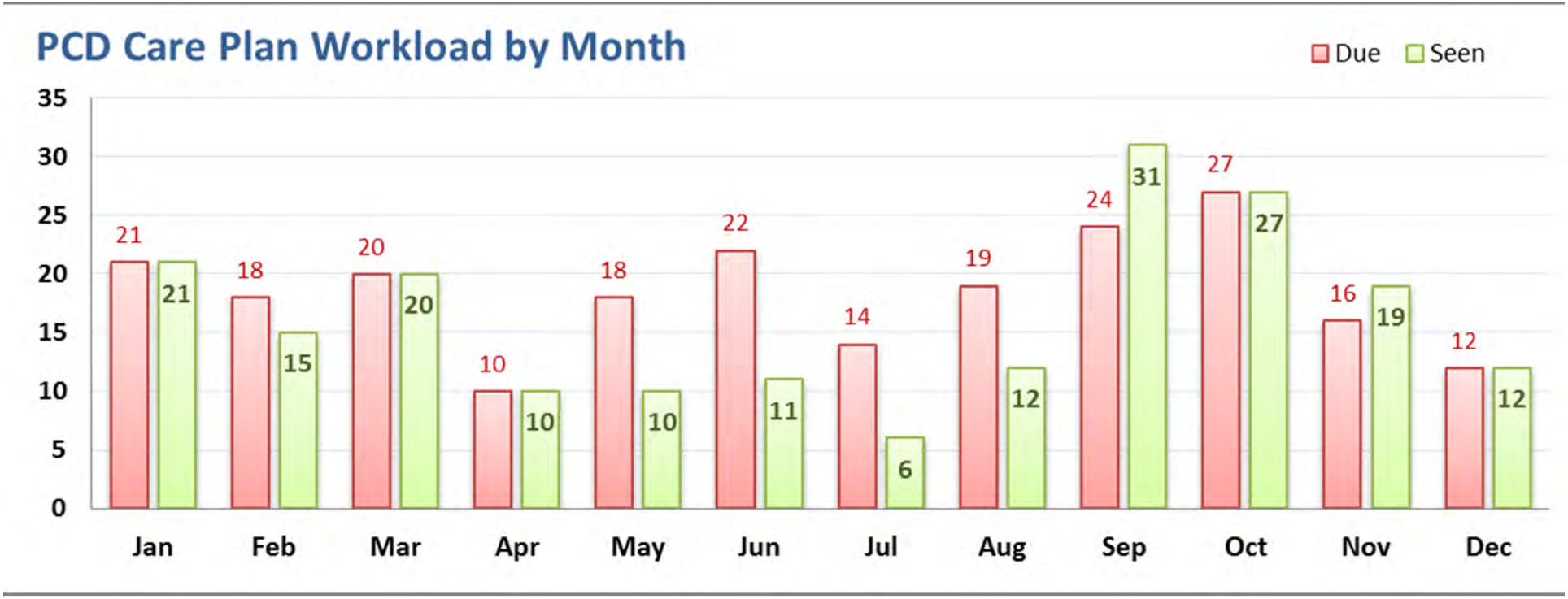


# Medication safety

**Medication Reports**

| Medication Exception Reports | No. Patients | |
|---|---|---|
| On ACE and ARB : | 1 | **Review and ? STOP either** |
| CVD : NO aspirin : | 17 | |
| Diab & High CVR: NO aspirin : | 21 | |
| Metformin with eGFR ≤ 50 : | 3 | Review and ? Reduce Dose |
| Metformin with eGFR ≤ 30 : | **0** | |

# Workload planning



# Drill down to find people in gaps

**Community Health Centre**

**Full Community List**

| | Demographics | | | Core Care Plans | | | | | | | Care Plan Review | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HRN | Age | Gende | Ethnicit | AHC | Start AH | PCD | Start PC | Plus RH | Start RH | Plan Mont | 715 | 721 | GPMP | Rev_Mont | 732 |
| identifier | 90 | male | ATSI | | | CKD3 | 6/05/14 | | | 5 | 8/02/13 | 1/05/13 | 30/04/14 | 4 | 6/02/14 |
| identifier | 84 | female | ATSI | | | iabetes_HiCV | 9/01/14 | | | 1 | | 9/01/14 | 9/01/14 | 1 | 9/10/12 |
| identifier | 77 | female | ATSI | | | HiCVR | 24/03/12 | | | 3 | | | | | 5/10/12 |
| identifier | 77 | female | ATSI | | | iabetes + CKD | 19/09/13 | | | 9 | | 11/09/13 | 11/09/13 | 9 | |
| identifier | 74 | female | ATSI | | | iabetes + CKD | 4/09/13 | | | 9 | 4/09/13 | 25/09/13 | 25/09/13 | 9 | 3/09/12 |
| identifier | 74 | female | ATSI | | | iabetes_HiCV | 19/09/13 | | | 9 | | 19/09/13 | 19/09/13 | 9 | 7/04/14 |
| identifier | 74 | female | ATSI | | | HiCVR | 1/04/14 | | | 4 | | | 3/07/13 | 7 | |
| identifier | 74 | male | ATSI | | | HiCVR | 7/02/14 | | | 2 | | | | | |
| identifier | 73 | female | ATSI | | | iabetes_HiCV | 10/01/14 | | | 1 | 27/06/13 | 10/01/14 | 10/01/14 | 1 | |
| identifier | 73 | male | ATSI | | | HiCVR | 9/08/13 | | | 8 | | 9/08/13 | 9/08/13 | 8 | |
| identifier | 72 | male | ATSI | | | | | | | | | 21/08/13 | 21/08/13 | 8 | |
| identifier | 70 | male | ATSI | | | | | | | | | | | | |
| identifier | 70 | female | ATSI | | | HiCVR | 26/06/13 | | | 6 | | | 26/09/13 | 9 | 22/01/14 |
| identifier | 70 | female | ATSI | | | CKD3 | 17/06/13 | | | 6 | 3/09/12 | 4/09/13 | 4/09/13 | 9 | 22/01/14 |
| identifier | 70 | female | ATSI | AHC | 1/07/12 | | | | | | | | | | |
| identifier | 70 | male | Non ATSI | | | | | | | | | | | | |
| identifier | 69 | female | ATSI | | | iabetes + CKD | 24/10/13 | | | 10 | 22/08/12 | 24/10/13 | 24/10/13 | 10 | 23/01/13 |
| identifier | 69 | male | ATSI | | | iabetes_HiCV | 2/12/13 | | | 12 | | 2/12/13 | 2/12/13 | 12 | 2/05/13 |
| identifier | 68 | female | ATSI | | | | | | | | 2/10/12 | | | | |
| identifier | 68 | male | ATSI | | | CKD3 | 25/07/13 | | | 7 | | 25/07/13 | 25/07/13 | 7 | 12/02/14 |
| identifier | 68 | male | ATSI | | | iabetes_HiCV | 17/03/14 | | | 3 | 31/05/13 | 1/06/12 | 15/04/14 | 4 | |

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## Chronic Conditions Management Report

**Northern Territory** — Quarterly Report

This report derives from 49 Remote Health PCIS Clinics

Report Date: Feb-15

| | |
|---|---|
| Total Population : | 28562 |
| ATSI Population : | 22329 |
| Non-ATSI Population : | 6233 |

| Traffic Light Table | |
|---|---|
| ≥ 75% | |
| 50% - 74% | |
| 25% - 49% | |
| < 25% | |

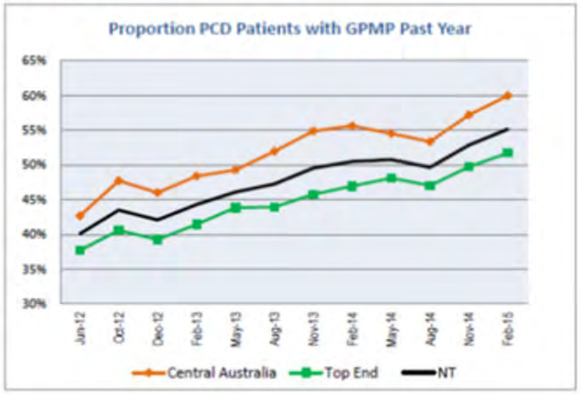
### Program Targets

| | Current | Program Goal | NT (All) | TE | CA |
|---|---|---|---|---|---|
| PCD Annual Review past year : | 55.1% | 80% | 55.1% | 51.7% | 59.9% |
| Cardiovascular Risk Assessment : | 64.5% | 80% | 64.5% | 63.5% | 66.1% |
| CVRA High and BP ≤ 130 : | 60.0% | 80% | 60.0% | 60.7% | 59.2% |
| CVRA High and Total Chol ≤4 : | 38.8% | 80% | 38.8% | 35.9% | 42.6% |
| Diabetic and HbA1c ≤ 8% : | 50.6% | 80% | 50.6% | 56.5% | 44.7% |
| Diabetic and ACR<30 : | 66.5% | 80% | 66.5% | 66.1% | 66.9% |
| NON Smoker : | 45.0% | 90% | 45.0% | 36.3% | 58.8% |

### NT AHKPIs

| | Current | NT (All) | TE | CA |
|---|---|---|---|---|
| KPI 1.7 (Diab/IHD GPMP last 2 years) | 79.2% | 79.2% | 80.6% | 77.7% |
| KPI 1.8* (Diabetics & HbA1c past year) | 81.4% | 81.4% | 82.7% | 80.1% |
| KPI 1.9 (Diabetes, ↑ ACR on ACEorARB) | 85.2% | 85.2% | 86.5% | 84.0% |
| KPI 1.10 (AHC 15-55 years age) | 32.0% | 32.0% | 32.3% | 31.4% |
| KPI 1.11 (AHC 55 years and older) | 39.2% | 39.2% | 36.8% | 42.6% |

Trend Graph



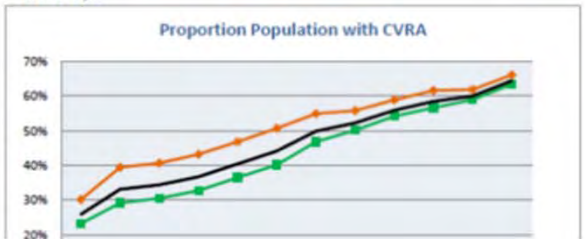

Benchmark Graph

### Cardiovascular Risk

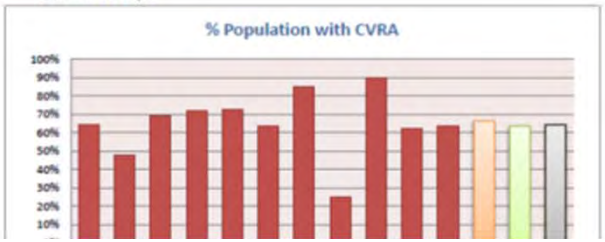
| | |
|---|---|
| ATSI Clients age 20 and over: | 12458 |
| ATSI Clients with CVRA last 2 years : | 8030 |

64.5%

Trend Graph




Benchmark Graph



# Population wide data

## Program Targets

| | Current | Program Goal |
|---|---|---|
| PCD Annual Review past year : | 55.1% | 80% |
| Cardiovascular Risk Assessment : | 64.5% | 80% |

## Adult Health Checks

| | | AHC Review | |
|---|---|---|---|
| Population 15 years and older : | 14658 | 4805 | 33% |
| Population < 5 : | 1974 | 849 | 43% |
| Population 5 to 15 : | 5282 | 827 | 16% |
| Population 15 -55 : | 13049 | 4174 | 32% |
| Population >55 : | 1609 | 631 | 39% |

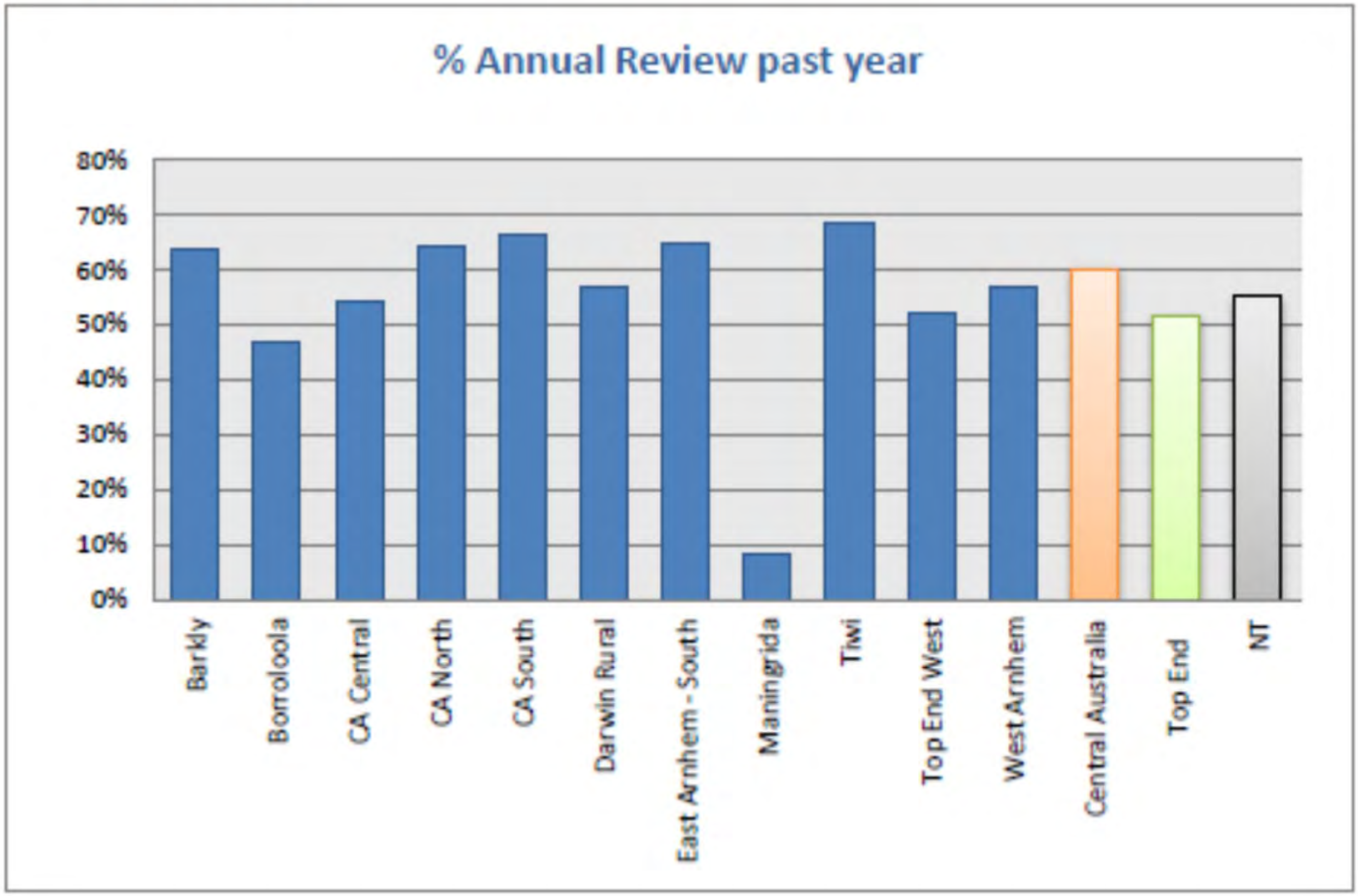
| | |
|---|---|
| KPI 1.8* (Diabetics & HbA1c past year) | 81.4% |
| KPI 1.9 (Diabetes, ↑ ACR on ACEorARB) | 85.2% |
| KPI 1.10 (AHC 15-55 years age) | 32.0% |
| KPI 1.11 (AHC 55 years and older) | 39.2% |

# Chronic disease profile

**Chronic Disease Profile**

| | Clients | ON Plan | NO Plan | Review 1 yr | Review Rate |
|---|---|---|---|---|---|
| All Chronic Disease | 4828 | 4038 | 790 | 2662 | 55% |
| Diabetes | 2579 | 2379 | 200 | 1736 | 67% |
| Cardiovascular Disease | 861 | 722 | 139 | 575 | 67% |
| No PCD with HIGH CV Risk | 1757 | 1579 | 178 | 1243 | 71% |
| Chronic Kidney Disease (3-5) | 685 | 627 | 58 | 473 | 69% |
| Chronic Lung Disease | 1009 | 546 | 463 | 471 | 47% |

# Chronic conditions care



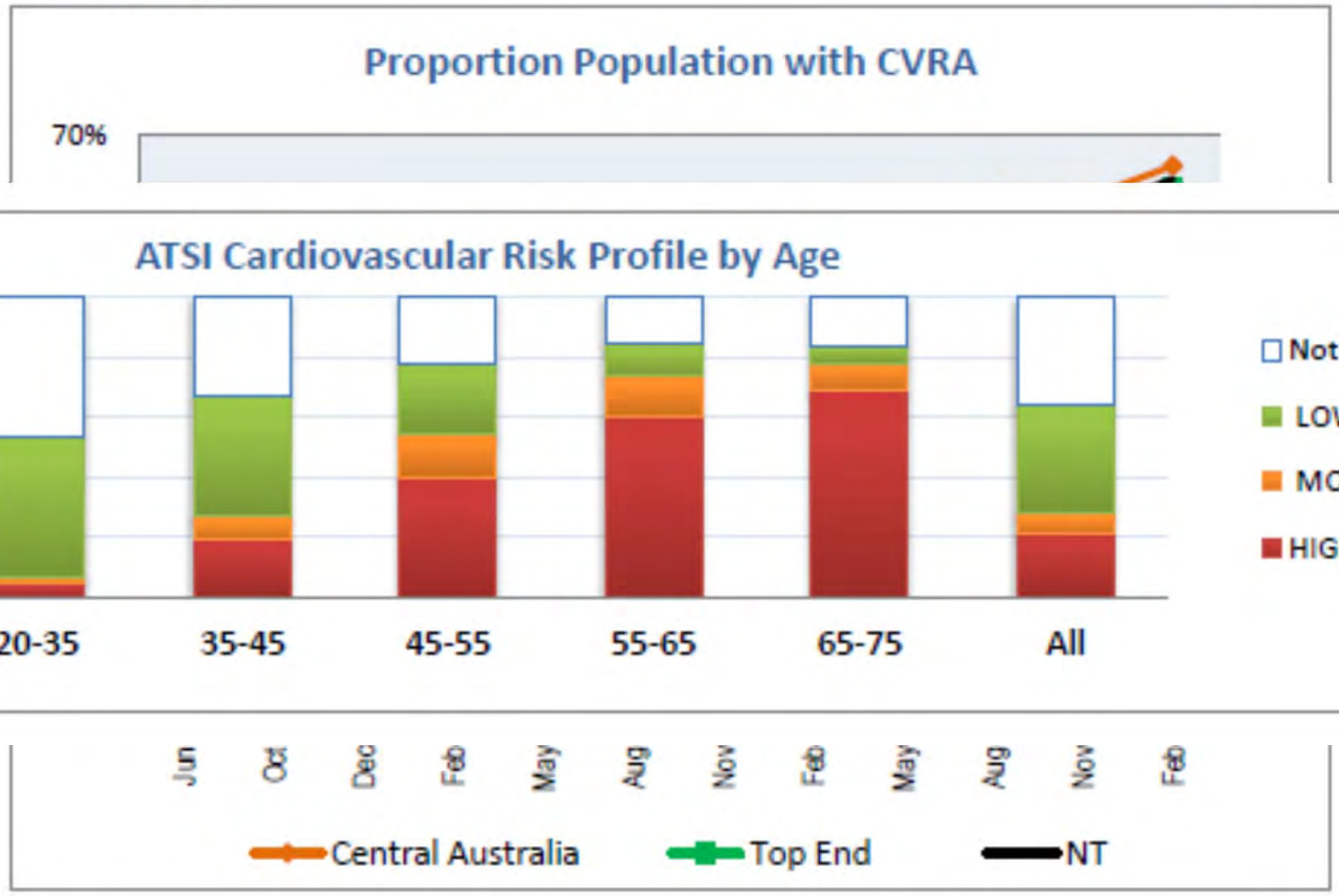
# Cardiovascular disease risk (CVR)

**Cardiovascular Risk**

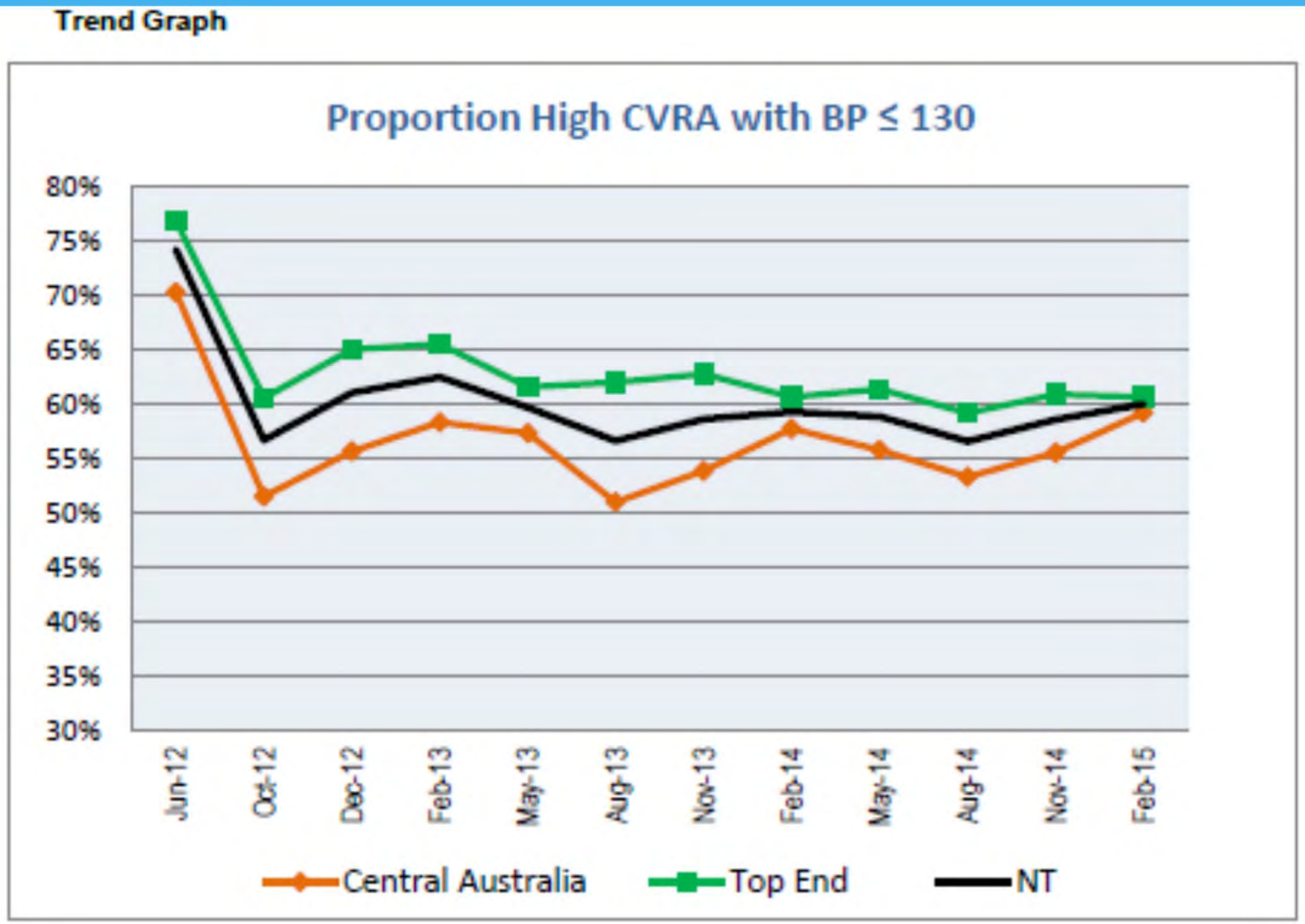
| | |
|---|---|
| ATSI Clients age 20 and over: | 12458 |
| ATSI Clients with CVRA last 2 years : | 8030 |

64.5%

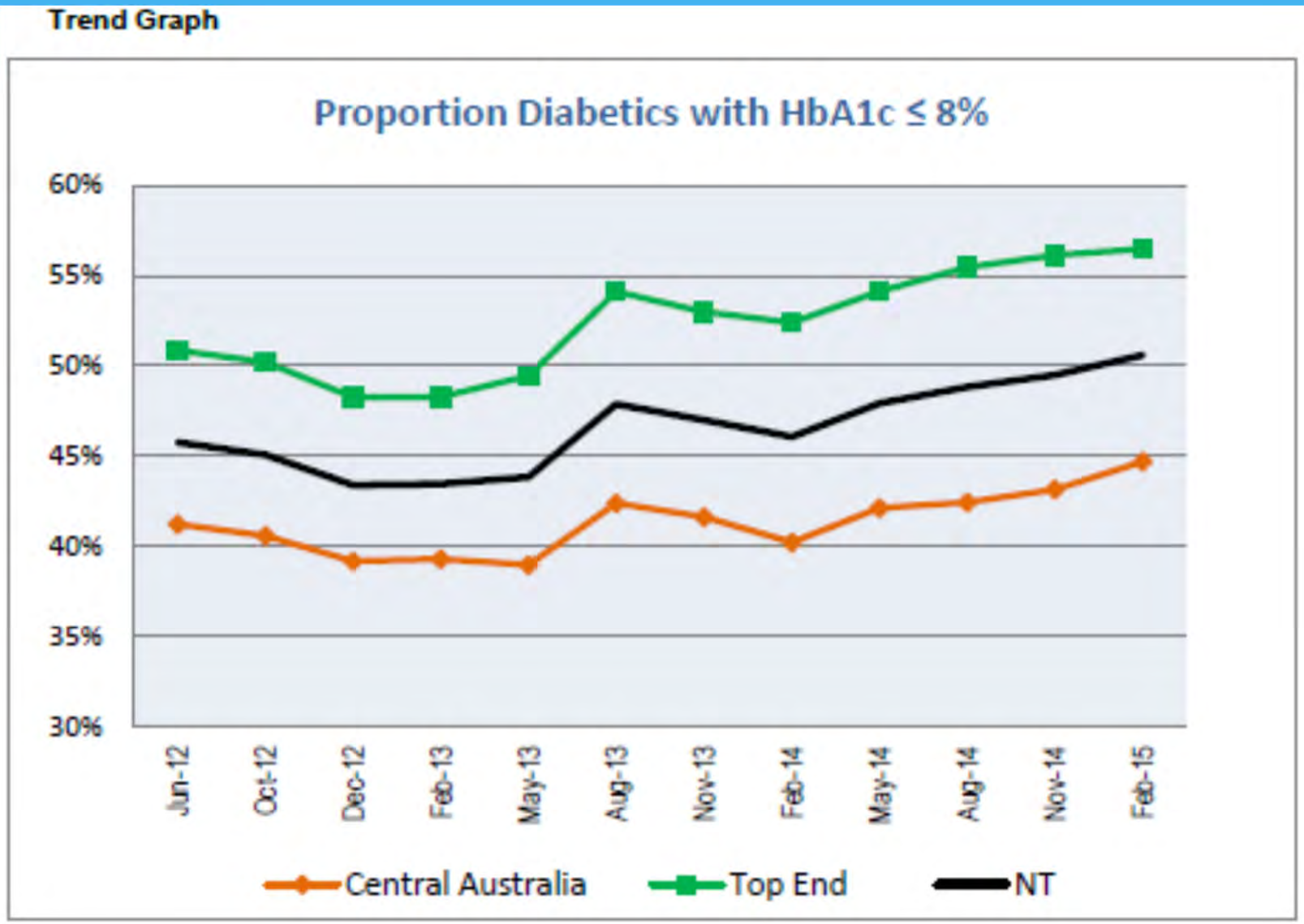
**Trend Graph**



# Population outcomes



# Population outcomes



# Identified benefits of the CCMM

**Improvements in chronic condition care through improved:**

* **Coordination**
* **Integration**
* **Delivery**
* **Documentation**
* **Evaluation**
* **Feedback**

# Next steps

* Extension of functional reporting to children < 5Y program
* More formal involvement of Aboriginal controlled services
* Full scale Health Information Exchange?
  * Private GPs
  * Pharmacists
  * Community services
  * Predictive analytics
* Develop technical assistance services: service delivery reform, CQI

# Lessons

* KISS principle
* Reports need to be ‘actionable’ to engage busy frontline providers
* ‘Creative commons’ enabled by good quality data
* Non-financial incentives

# Thank You

* **Questions**
* **Discussion**

# Research question

- How have health care organisations extended upon the ‘medical home’ to proactively identify and address the needs of vulnerable populations?

(What capabilities and functions have been developed to achieve better health outcomes for vulnerable populations?)

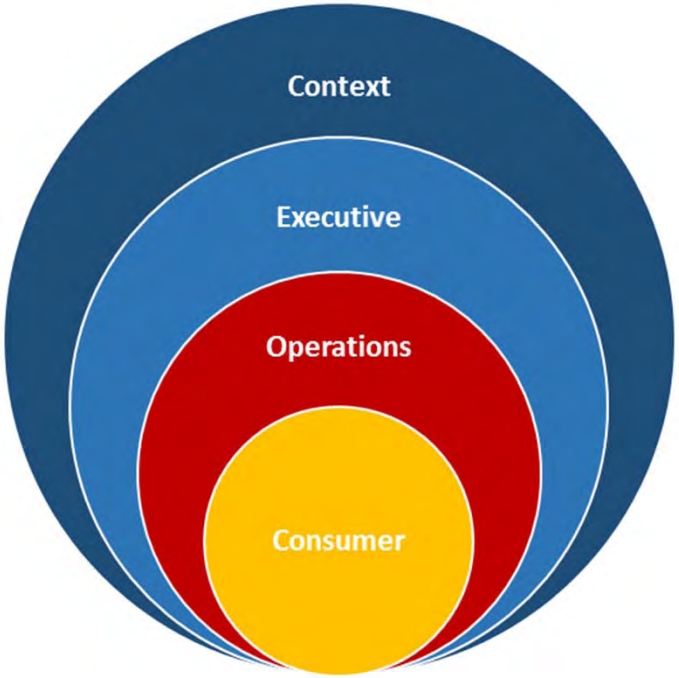
# Definitions

- **Vulnerable: "those who are made vulnerable by their financial circumstances or place of residence, health, age, personal characteristics, functional or developmental status, ability to communicate effectively, and presence of chronic illness or disability," (AHRQ)**

- **Organisation:** Community stakeholders and administrative functions of the health system inclusive of a primary care practice.

- **Needs:** Capabilities and functionings necessary to maximize their potential for wellbeing and social participation

# Methods




- Case studies of up to 4 sites
- Triangulate sources of data
  - Documentary scan
  - Interviews
  - Observations during site visits
- Multi-level analysis
  - Governance/leadership/financing/incentives
  - Service delivery
  - Consumer experiences

# Case definition

- Health care organization that in addition to implementing a ‘medical home’ model of care, has had documented success in achieving the triple aim for vulnerable clients.

# Case study sites

- North Carolina
- Oregon
- Vermont
- Alaska

# Interview Respondents

| Site | Exec | Staff | PCP | Funder | Other | Patients | Total |
|---|---|---|---|---|---|---|---|
| CCNC | 21 | 15 | 1 | 1 | 2 | 2 | 42 |
| Vermont | 14 | 14 | 2 | 1 | - | 2 | 33 |
| Oregon | 1 | | | | | | 1 |
| SCF | 1 | | | 1 | | | 2 |
| Total | | | | | | | 78 |

# Preliminary Results

- Issues of convergence
- Notable innovations that I found interesting

# Needs assessment

- All organisations had undergone their own version of ‘getting closer’ to the determinants of health
  - Deep listening
  - Community advisory structures
  - Evolving case management

# Population management

- Most services targeting ‘’high risk” or “high utilizer” groups
- Medicaid beneficiaries have some population program development – eg child health checks
- VT (and to some extent SCF) adopting a population wide strategy

# Leadership (Governance)

- Devolved decision making to regional medical neighborhoods
  - Shared objectives
  - Regional flexibility in implementation
- Stronger participation by stakeholders and community on governing boards
- Commitment to organizational learning

# Financing/incentives

- All have implemented alternatives to straight FFS with a view to increasing blend over time
  - PMPM
  - Fixed Budget
  - Salaried
  - Capitation with P4P to force integration (OR)
  - Multi-payer commitment (VT)

- Provider incentives predominantly non-financial

# Teams & Staffing

- Expansion of team roles and functions
  - Behavioural health/mental health
  - Substance/addictions
  - Community workers & peers (OR)
- Co-location & Warm handoffs
- Closing the loop
- Case Management and Population management

# Technical Assistance

- Service redesign (PCMH)
- Quality improvement
- Population management
- Learning collaboratives

# Data

- Data quality an issue (claims)
- Needs assessment
- Quality improvement
- Population management
  - Transitions in care
  - High utilizer population
- Predictive analytics (NC)
  - HIE, Impactable patients, Pharmacy eHome

# Integration of Care

- Tough work ~ Group therapy for executives
- Professionalism of providers allows for 'parallel play' – rapid service delivery reform
- Slow integration of new team roles– needing to demonstrate their worth to providers. State of change applies to practitioners too.

# Client experiences

- Social Services Paradox

- Receiving care by skilled practitioners
  - Non-judgemental
  - Discouraging dependence
  - Encouraging new skills and capabilities

# Patient vignette 1

- 69 F bipolar disorder with psychotic features
  - Hypertension, valve replacement
  - Irritable bowel syndrome
  - No social supports, living in a trailer park with her cat
  - ED attendances every other week

Not a picture of the actual patient

# Patient vignette 2

- 58 M veteran, divorced no family
- Severe peripheral vascular disease
- Poor vision
- Poor living skills
- Admissions 6/12 with foot ulcer
- Complication C-Diff – ICU admit
- Depression

Not a picture of the actual patient

# Community linkages & Stakeholders

- Purposeful engagement with a variety of entities at a regional level
  - Service delivery
  - Governance

- Articulated role for community development

# Barriers

- Information sharing – HIPAA CFR42
- Politics and policies
- Service fragmentation
- Inertia – soft transitions
- Service limits – social determinants
- Data/EHR limits

# Reflections

- Innovations require investment in time space and a north star commitment
- Leadership is important but also an intangible ingredient
- Some indication of the fourth aim being met

# Discussion

- All organisations demonstrate increased integration of population health into primary care. Strongest in VT, AK with OR & NC pursuing a ‘high utilizer’ target population

- Fair correlation with a priori logic model in terms of capabilities and functionings that have been developed.