

Enhancing Diabetes Care with First Nations Communities

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Reorganizing the Approach to Diabetes
through the Application of Registries

How to Engage the FN Communities

- Has to be a partnership....
 - Commitment to authentic engagement
 - Stop talking and listen....
 - Shared respect, **trust**, accountability, and commitment to a **long-term relationship**
 - *“Researchers come in and do their ‘thing’ and leave and we are no better off than when they came in”*
 - Acknowledgement of the inherent rights of the FN
 - Once you take the time to understand things, it can make supporting care much easier
- **Goals**
 - Commitment to address the **priorities and needs of the FN communities...outcomes have to be of value to the FN communities...**

Identifying DM in First Nations Communities

- Screening or Identifying DM patients – RADAR Experience

Largely patient driven

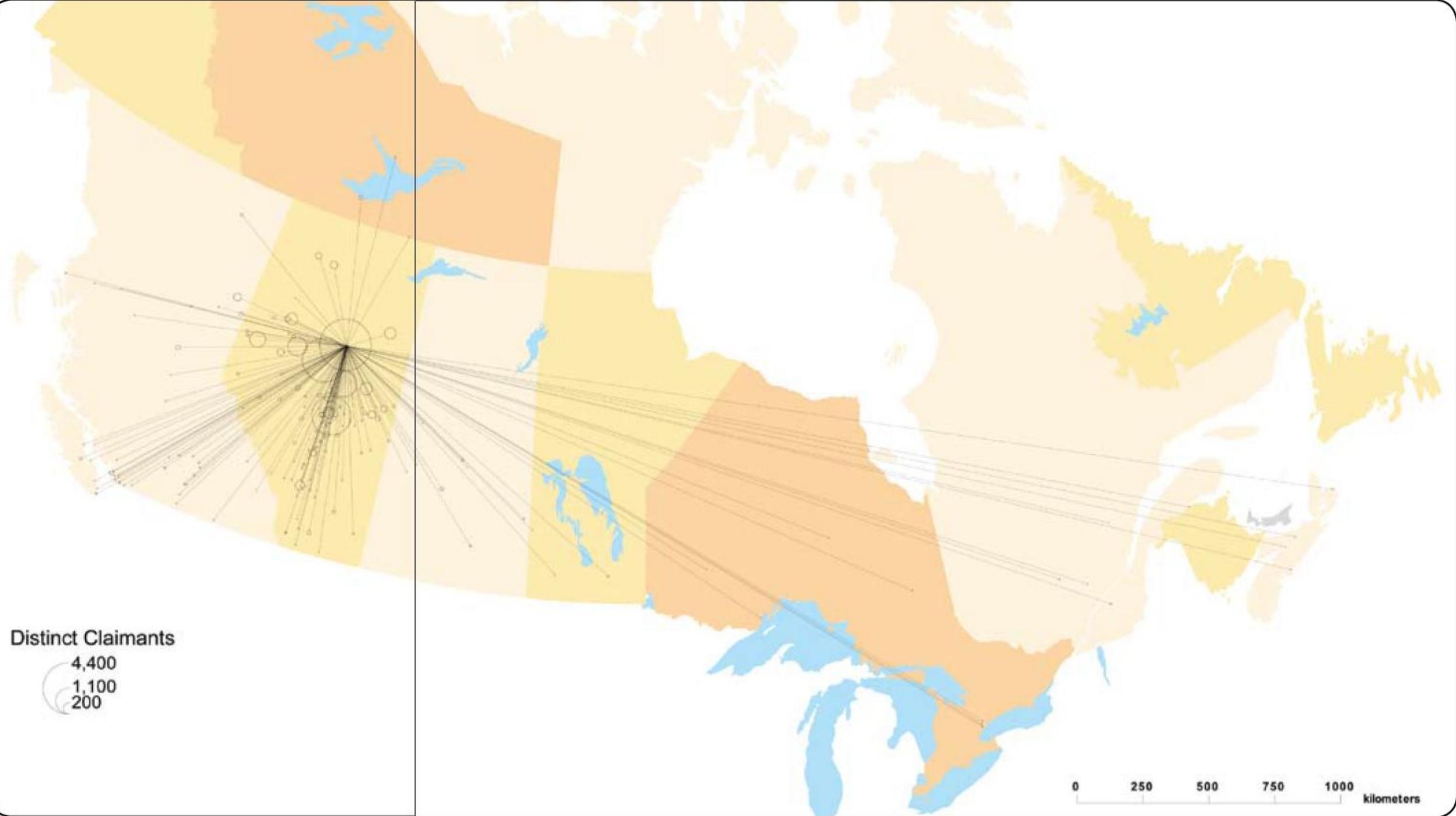
- Patient presents with initial S&S/complications to health centers
 - Patient referred to MD's
- Patient re-presents at health center
 - CHW rely on Netcare, EMR, NIHB sources and 'ticklers'
 - Lack of access, timeliness and accuracy of information,
- Patient attends screening days/events/health fairs (e.g. diabetes walks)

All of this problematic as we know

- FN patients might not access health care due to:
 - Historical trauma leading to mistrust of the health care system
 - Delay care, less likely to access care across the continuum from prevention, diagnosis and treatment.¹
- No capacity for CHW to take on additional screening roles
- No resources (point of care, transportation); how to manage those newly diagnosed
- Geographic access (within and outside of the reserve)



Distinct Claimants
4,400
1,100
200



0 250 500 750 1000 kilometers

Identifying DM in First Nations Communities

- Need to be More Proactive
 - Screen all adults with 1 or more risk factors presenting to the health system
 - Outreach (i.e. not home care) – need to find those not accessing healthcare
 - Identify high risk patients using current information systems (Netcare, EMR's, NIHB, AH)
 - Screening at ALL community events
 - Not just diabetes days/ walks but flu clinics, social gatherings in communities, etc.
 - “Culturally appropriate” education campaigns within communities on importance of screening
 - Community members and HCW



Foundation – Information Systems

- Currently, few, if any, FN communities have the necessary infrastructure, expertise, or resources to employ the 5R's as part of a quality improvement strategy.
- Requires systems to support organized, proactive, multicomponent approach to healthcare delivery
- Step 1 - All communities need Netcare and EMRs
 - Need to ensure TRUST/PRIVACY in information sharing
 - Two-way information sharing within and outside of the communities
- Step 2 - Information systems must go beyond simple EMR's
 - Establish high quality, robust data systems
 - Ability to identify high risk patients
 - Track patients with diabetes
 - Share information seamlessly with the multiple care providers.
 - Establish measureable goals to identify and close gaps in health outcomes
 - Ability to remind HCQ to review and recall client's according to established quality of care processes





Reorganizing the Approach to Diabetes
through the Application of Registries



What is RADAR

- **Part 1**

- Custom Integrated electronic patient registry and medical record system (CARE)
 - Not two stand alone system that ‘talk to each other’ but a truly integrated system
- Enables identification, tracking, monitoring, and synthesis of medical information in standardized formats in real time
 - Alerts, reminders, suggestions for standards of care
 - Analysis of population data for epidemiological assessments, quality measures, and outcomes.

- **Part 2**

- Care Coordinator
 - Located centrally and will provide remote assistance and guidance to improve diabetes care for FN on reserve
 - Idea of scalable infrastructure.....



Our Partners to Date:



Piikani



Saddle Lake



Bigstone Health



Cold Lake



Tsuut'ina Nation



Stoney First Nations



Screen Shots from the Prototype Application
CARE to be Used in Project RADAR

Reorganizing the **A**pproach to **D**iabetes through **A**pplication of **R**egistries



Chronic Condition Registry and Relevant Medical History



Browser: <https://caretest.okahealth.com/> CARE

Sal Test - 1971/12/12 (M)

Chronic Condition Categories

Autoimmune Conditions
 Diabetes - Type 2
 Infections
 Physical Disabilities

Cancer
 Diabetes - Unspecified
 Long-term ASA Therapy
 Pulmonary Conditions

Cardiovascular Conditions
 Endocrine Conditions
 Mental Health Conditions
 Renal Conditions

Diabetes - At High Risk For
 Hematologic Conditions
 MRSA
 Splenic Dysfunction

Diabetes - Gestational
 Hepatic Conditions
 MSK - Rheumatologic Conditions
 Substance Abuse or Addiction

Diabetes - Type 1
 Immunosuppression
 Neurologic Conditions

Diabetes Diagnosed On: 2013/12/08 Last Updated: 2012/12/08

Medical History

Complications

+ New - Delete

Date of Complication	Complication	Comment	Created By	Modified On	Modified By
2014/03/07	Amputation		gli	2014/03/07	gli
2013/12/09	Hypoglycemia		gli	2013/12/09	gli
2013/05/17	Dialysis	test	gli	2014/04/05	gli
2013/04/16	Cerebrovascular Disease	sfstst	ssamanani	2013/04/27	ssamanani
2013/02/13	Amputation	fdafadsfL BKA - UofA HospitalL BKA - UofA...	ssamanani	2014/04/21	gli
2013/01/15	Dialysis	L BKA - UofA HospitalL BKA - UofA HospitalL BKA - ...	ssamanani	2014/04/21	gli
2011/01/07	Amputation	L BKA - UofA Hospital L BKA - UofA HospitalL BKA...	ssamanani	2014/04/21	gli

Immunization Relevant Categories

Family History

100%



Medications

Browser: <https://caretest.okakihealth.com/> CARE

File Edit View Favorites Tools Help

Sal Test - 1971/12/12 (M)

New Save Refresh Find Schedule Task CCT Service Event Monthly Report CCCS Monthly Report Give Immunization Reports CHIP Exit About Help

Patient | Tasks | Assessment | eSDRT | CCCS | Immunizations | Reports | Applications | Logout | Information

ARE
Community Assessment
Response, and Empowerment

Personal Info. | Health Profile | Medications | Tasks | Chronic Condition Tracking | HC Forms | Chart Notes | eSDRT History | CCCS History

Prescription History
 + New View/Edit Print Discontinue Manage Favourites

Grouped by: Duration

Status	Type	Drug Details	Start Date	End Date	Prescriber	Duration
Ongoing						
Active	List	rat root ORAL DOSE: 1 G Every other day SUPPLY: 10 G	2014/03/23		Medicine Man	Ongoing
Active	List	ADVIL CAPLETS - 200 MG TABLET ORAL DOSE: 3 AMP Once 2 Refill(s)	2014/03/12		tesler	Ongoing
Active	List	TYLENOL ARTHRITIS PAIN - 400 MG TABLET (EXTENDED-RELEASE) ORAL DOSE: 2 AMP MWF SUPPLY: 2 Box(es) 2 Refill(s)	2014/03/12		tesler	Ongoing
Active	Prescribe	CIPROFLOXACIN (CIPROFLOXACIN HYDROCHLORIDE) 0.3 % SOLUTION OPHTHALMIC DOSE: 5 Capsule(s) Once SUPPLY: 6 Bottle(s)	2013/12/09		Owen Li	Ongoing
Active	Prescribe	Community 1 ORAL DOSE: 1 Tablet(s) BID PRN SUPPLY: 60 Tablet(s)	2013/10/19		Sal Samanani	Ongoing
Active	List	METFORMIN - 500 MG TABLET ORAL DOSE: 1 Tablet(s) TID	2013/10/19		Sal Test GP	Ongoing
Active	Prescribe	ADVIL CAPLETS - 200 MG TABLET INTRAVITREAL DOSE: 5 AMP T Th PRN SUPPLY: 5 Bottle(s)	2013/10/02		Gwen Li	Ongoing
Active	Prescribe	ASPIRIN COATED FOR DELAYED RELEASE EXTRA STRENGTH - 500 MG TABLET (DELAYED-RELEASE) IRRIGATION DOSE: 8 AMP MWF SUPPLY: 2 Box(es)	2013/10/02		Gwen Li	Ongoing
Active	Prescribe	ASPIRIN - 325 MG TABLET IRRIGATION DOSE: 6 AMP MWF SUPPLY: 4 Box(es)	2013/10/02		Gwen Li	Ongoing
Active	Prescribe	VITAMIN A PROPIONATE, VITAMIN D3 (CHOLECALCIFEROL), VITAMIN E (D-ALPHA TOCOPHEROL) 100000 UNIT, 10000 UNIT, 300 UNIT SOLUTION INTRAMUSCULAR DOSE: 6 AMP T Th SUPPLY: 2 Bottle(s)	2013/10/02		Gwen Li	Ongoing
Active	Prescribe	VITAMIN A PROPIONATE, VITAMIN D3 (CHOLECALCIFEROL), VITAMIN E (D-ALPHA TOCOPHEROL) 100000 UNIT, 10000 UNIT, 300 UNIT SOLUTION INTRAMUSCULAR DOSE: 5 AMP Once SUPPLY: 2 Capsule(s)	2013/10/02		Gwen Li	Ongoing
Active	Prescribe	ADVIL CAPLETS - 200 MG TABLET INTRAVITREAL DOSE: 5 AMP T Th PRN SUPPLY: 2 Bottle(s)	2013/10/02		Gwen Li	Ongoing
Active	Prescribe	ADVIL CAPLETS - 200 MG TABLET INTRAVITREAL DOSE: 5 AMP T Th PRN SUPPLY: 2 Bottle(s)	2013/10/02		Owen Li	Ongoing

100%



New Diabetes Foot Assessment

https://caretest.okakihealth.com/ CARE

File Edit View Favorites Tools Help

Sal3 Test - 1980/02/04 (F)

New Save Refresh Find Schedule Task CCT Service Event Monthly Report OCCS Event Monthly Report Glue Immunization Reports CHIP Exit About Help

ACHORD Community Assessment Response, and Empowerment

New Foot Assessment

Ulcers:

Vascular exams:

Dorsalis pedis pulses:

Posterior tibial pulses:

Ankle Brachial index:

Protective sense:

Achilles tendon reflexes:

Pinprick sense:

Vibration sense:

Monofilament Test (select areas that are abnormal)

Right Foot Bottom *Right Foot Top* *Left Foot Top* *Left Foot Bottom*

Delete Ok Cancel

100%



Past Due and Upcoming Tasks for Client Population

Browser: <https://caretest.okakihealth.com/> CARE

File Edit View Favorites Tools Help

Sally2 Test - 1980/02/05 (F)

New Save Refresh Find
Schedule Task
CCT
Service Event
Monthly Report
CCCS Event
Monthly Report
Give Immunization
Reports
CHIP
Exit
About
Help

Patient
Tasks
Assessment
eSDRT
CCCS
Immunizations
Reports
Applications
Logout
Information

Person
Health
Medic
Ta
Chronic Cond
HC F
Chart
eSDRT
CCCS

Home and Community Care Admission Status and Ser
 Admission Discharge Services Between:

Admission Date	Primary Reason	Client Type
2013/05/01	A-2 - Diabetes	E - Maintenance
2013/04/08	A-2 - Diabetes	A - Acute
2013/04/01	A-2 - Diabetes	A - Acute

Date Provider Service Provided Service Ca

Results Returned: 103

Export Load Patient

Grouped by: Task Type

PHN	Surname	Given Name	DOB	Age Value	Task Type	Comment	Due Date	Event Created B
Blood pressure check Count: 9								
Book appointment Count: 5								
Education or support group Count: 7								
Eye exams Count: 15								
Foot care Count: 11								
BC12121212	Test-plath	Sylvia	2013/04/04	Y: 1 M:0 D:28	Foot care		2014/04/05	ovides
MB8787787878	Test	Celestis	1985/08/25	Y: 28 M:8 D:7	Foot care	Bler	2014/01/31	hmclood
MB123456789	Test-a-let	Johnny	2008/06/17	Y: 5 M:10 D:15	Foot care		2013/12/16	hmclood
EK324203510	Test	Sal	1971/12/12	Y: 42 M:4 D:28	Foot care	test	2013/11/27	bochingwa
AB324203510	Test	Sal3	1980/02/04	Y: 34 M:2 D:28	Foot care		2013/07/12	gi
OT865456213	Testpatientlink	Sam	1984/12/09	Y: 29 M:4 D:23	Foot care		2013/07/08	saamanani
MB786349766	Billy	Casemangnt	2012/11/25	Y: 1 M:5 D:7	Foot care		2013/02/10	bochingwa
OT87854565	Test	Aminac	1975/02/11	Y: 38 M:2 D:21	Foot care		2013/02/05	bochingwa
OT987456321	T-Est	Twin A	2012/12/27	Y: 1 M:4 D:5	Foot care		2013/02/04	wlam

100%



Chronic Condition Registry (e.g. All Diabetics with Amputation)



Browser: <https://caretest.okakihealth.com/>

Page Title: Sally2 Test - 1980/02/05 (F)

Navigation: New, Save, Refresh, Find, Schedule Task, CCT, Service Event, Monthly Report, CCCS Event, Monthly Report, Give Immunization, Reports, CHIP, Exit, About, Help

Populations

Population Criteria

Condition: Diabetes - Type 1, Diabetes - Type 2, Diabetes - Unspecified
 Complication: Amputation
 Admitted Homecare Client
 DOB between: YYYY/MM/DD and YYYY/MM/DD

Search Reset

Results Returned: 5

Export Load Patient

Drag a column header and drop it here to group by that column

Last Name	First Name	PHN	Gender	DOB	Age Value	Phone (B) #	Phone (H) #	Phone (M) #	HC
Test	Baby	OT55554444	Female	2013/00/13	Y: 0 M: 7 D: 10				
Test	Dill	MB567567	Male	1980/02/04	Y: 34 M: 2 D: 28	5096095906	6679009899	7980766670	C -
Test	Farees	BC666	Male	2012/06/02	Y: 1 M: 11 D: 0				
Test	Sal	SK324203510	Male	1971/12/12	Y: 42 M: 4 D: 20	6666666666	3424242424	4033333333	C -
Test	Sal3	AB324203510	Female	1980/02/04	Y: 34 M: 2 D: 28	4444444444	5555555555	8888888888	A -

Home and Community Care Admission Status and Ser

Admission Discharge Services Between:

Admission Date	Primary Reason	Client Type
2013/05/01	A-2 - Diabetes	E - Maintenance
2013/04/08	A-2 - Diabetes	A - Acute
2013/04/01	A-2 - Diabetes	A - Acute

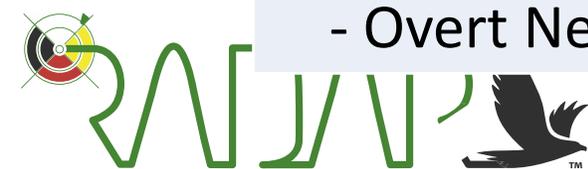
100%



Early Results

Characteristics	Communities (n=409)
	Mean (SD) or n (%)
Age	59 (13) [range 20-90]
Sex - Male	63 (58)
BMI	34.5 (8.8) (33% only have data) -

Processes of care	Communities (n=409)	
	Mean (SD) or n (%)	Percent (%) without assessment
A1c	8.0 (2.2)	5
SBP	118 (18)	81
DBP	66 (10)	81
LDL	2.11 (0.95)	21
HDL	1.03 (0.27)	15
eGFR	102 (25)	19
ACR	209 (51)	49
- Normal	109 (52)	
- Microalbuminurea	67 (32)	
- Overt Nephro	33 (16)	



Baseline

Processes of care	Communities (n=409)	
	Mean (SD) or n (%)	Percent (%) without assessment
Eye Examination	164 (40)	60
Foot Examination	119 (29)	71
Influenza Vaccine	217 (53)	47
CC Tasks (Referrals, Labs, Counselling, Education, etc.)	~600 completed to date; 125 foot care referrals; 75 retinal referrals, 200 labs ordered	





ACHORD
Alliance for Canadian Health
Outcomes Research in Diabetes



Implementation of RADAR - Success and Challenges

Challenges

- A lot of effort to get communities off the ground!
 - Technology, health care providers are uncomfortable with using the CARE program.
 - Transition from paper charts to EMR use
- New role for nurse and CC ...more reliance on CC to prioritize care in the community; CC does not provide front line patient care.
- Coordination is difficult - personal/ community events: sick, vacation, death in community, etc.
- Adjusting to Staff Turnover
 - 4 Health Directors; 6 Head Nurses; and numerous other support staff....

Successes

- All now on EMR
- All have access to Netcare for First Nation communities – Would not have happened with RADAR
- Health Care directors who are now committed to improve DM care for their communities.
 - Identification/resources to assign a Designated Diabetes Nurse in the communities
- Relationship created/ strengthened with MD and PCNs in nearby community to provide optimal care to patients

