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Advancing and Leveraging the Investment Value of EMRs

Advancing and Leveraging the Investment Value of EMRs – Project ALIVE

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MS. NEHA T. SINGH, PROJECT MANAGER

OCTOBER 16, 2014

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Outline

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1. Before Project ALIVE
2. Project Activities
3. After Project ALIVE
4. How can you achieve similar results?
5. Why code conditions in your EMR?
6. Are Clinicians entering data at the Point of Care?

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Learning Objectives

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Good quality EMR data can be a major enabler to supporting transitions of care and improving patient care coordination. Project ALIVE will share the knowledge obtained through:

- EMR Clinical Data Prioritization and Standardization
- Clinician Engagement, Change Management and Training
- Benefits Evaluation and Realization
- A broad engagement of over 300 primary care practitioners as it relates to the data quality within their EMRs.

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Before Project ALIVE

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Meet Katherine

- 60 years old
- CHF with multiple co-morbidities
- Rarely comes in for visits (no transportation)
- When she does come in she has plenty of concerns she wants addressed.
- A recent E.R. visit for severe pneumonia resulting in a hospital admission
- The result: long recovery time, a weaker more frail Katherine

Meet Dr. Charles Srinivas
(Katherine's Physician)

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- Roster size of 1,800 patients
- Spends as little time on his EMR as possible (to spend more time with his patients)
- One on one patient care matters to him the most
- Heard about project ALIVE and he is not interested in "standardizing data", no time!
- Does not see how "data standardization" can help him take better care of his patients, not interested in "research" or "eHealth"

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Before Project ALIVE

No standard method to locate diseases

EMR functionality based on non-standardized data is inaccurate

Clinicians learn to not trust the EMR functionality

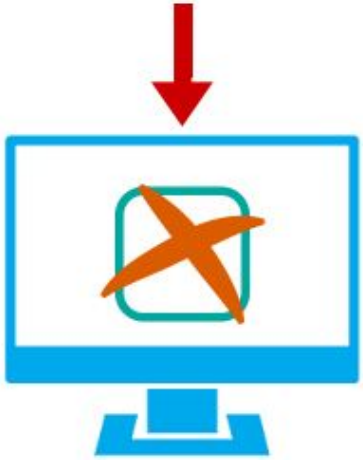
Missed opportunities for patient care

Missed billings

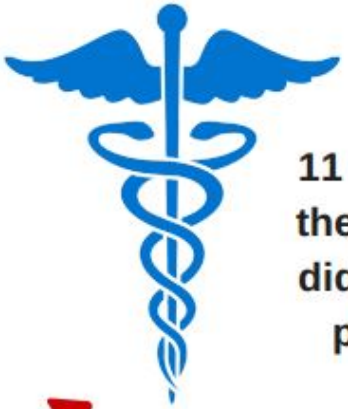
Inability to realize practice efficiencies supported by the EMR

Example of problem with unstandardized CHF data

CHF, HF, heart failure, congestive heart failure, mitral VSD, AFIB, valvular DZ, cardiomyopathy, LV, LVF, LVEF, diastolic dysfunction, L pleural effusion...



EMR functionality cannot locate all CHF patients



11 CHF patients seen in the past 12 months who did not received a flu or pneumonia vaccine.

$9,350.00 in missed billings (75 patients)

Unable to use automated EMR functionalities

Practice Level Issues (Before ALIVE)

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Difficult to match appropriate disease-specific data with Ministry reporting requirements

Missed opportunities to leverage other care team members to enhance patient care and find practice level efficiencies

Unstructured data for QIP planning

Unable to perform quality research

Missed billings and patient care opportunities

Lower referrals to and utilization of Specialty Clinics

Challenging to identify performance measure criteria for Chronic Disease Target Reporting

Missed opportunities to implement practice wide standards of care

Unable to reliably track patients with comorbid chronic conditions

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Project Activities

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Project Scope

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Stream 1 – Support the meaningful use and management of EMR data by working with 30 Primary Care practitioners to:

- Standardize a sub-set of EMR data
- Implement the use of Reporting Tool
- Implement processes focussed on sustainable data standardization

Stream 2 – Report on the current state of information management in Primary Care through:

- Broad engagement of 300 Primary Care practitioners with EMRs
- Broad engagement of 35 Primary Care practitioners without EMRs

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Project Tasks

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- Study and Apply Lessons Learned from CIHI PHC VRS, Literature Review and Environmental Scan
- Implementation of data standardization activities at 2 Primary Care Organizations with 32 Primary Care Clinicians
- Enhanced EMR functionality and reporting tools
- Broad Engagement of Primary Care with over 350 Physicians and Nurse Practitioners
- Ethics Approved Survey of 119 Clinicians and 37 administrators

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Project ALIVE Approach

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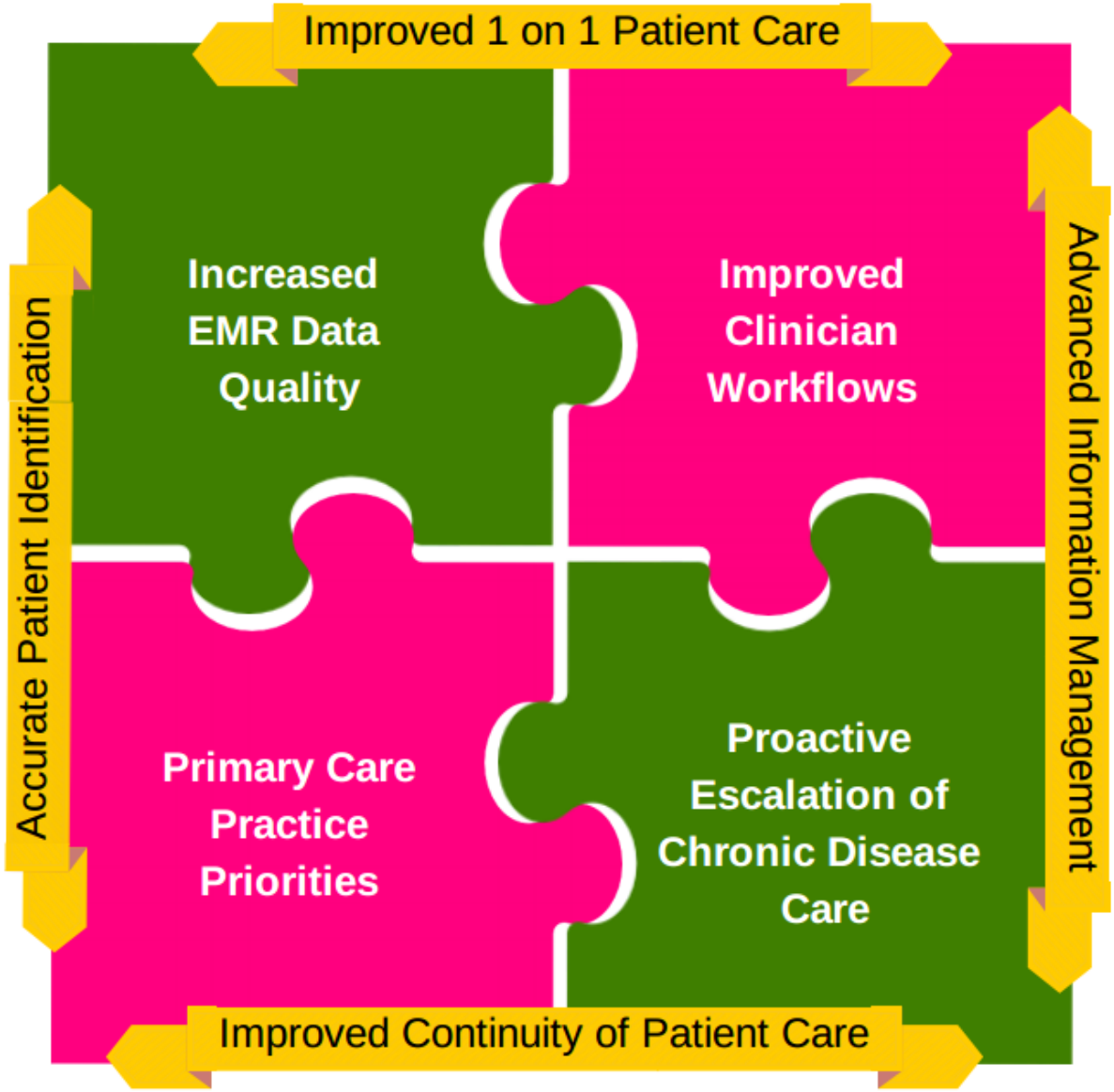

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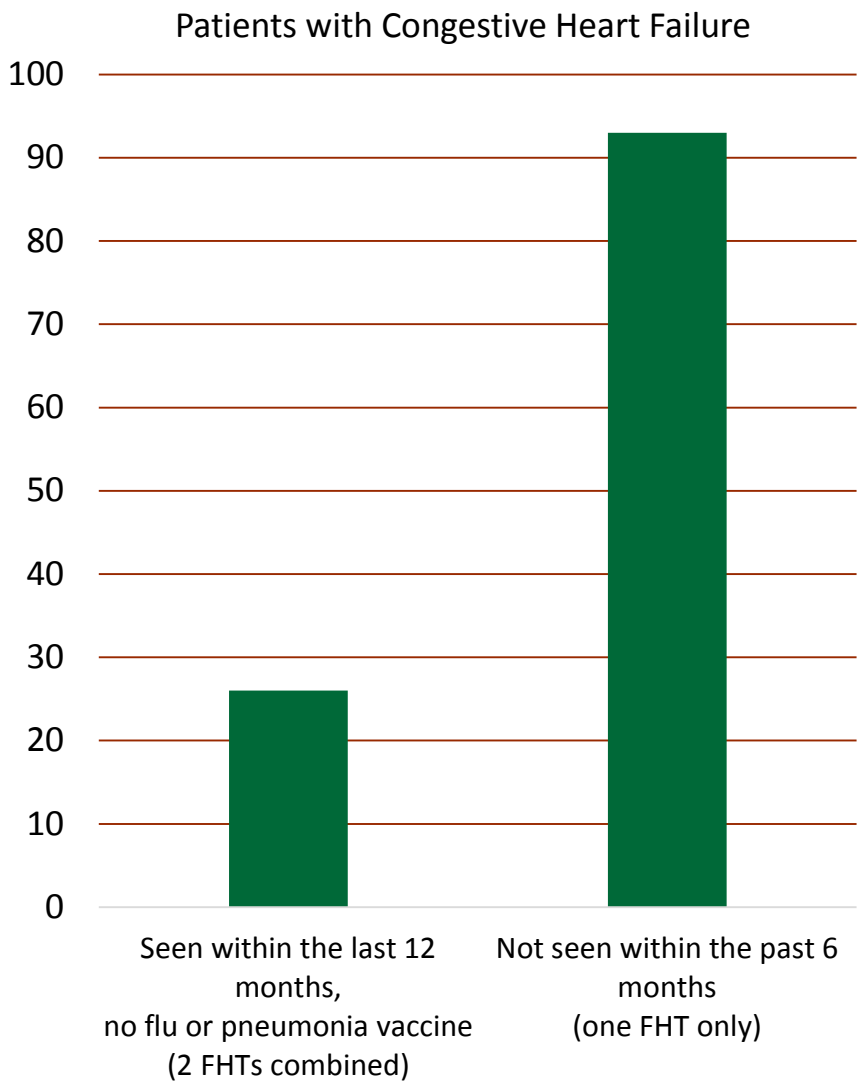
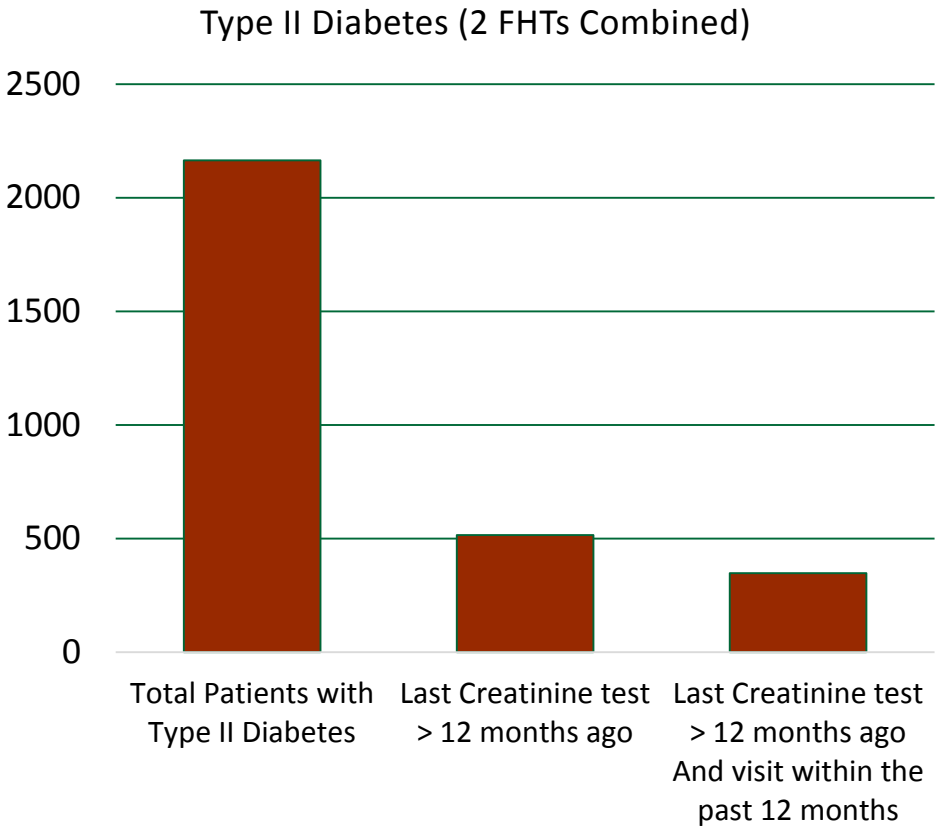
Enhanced Patient Care Opportunities

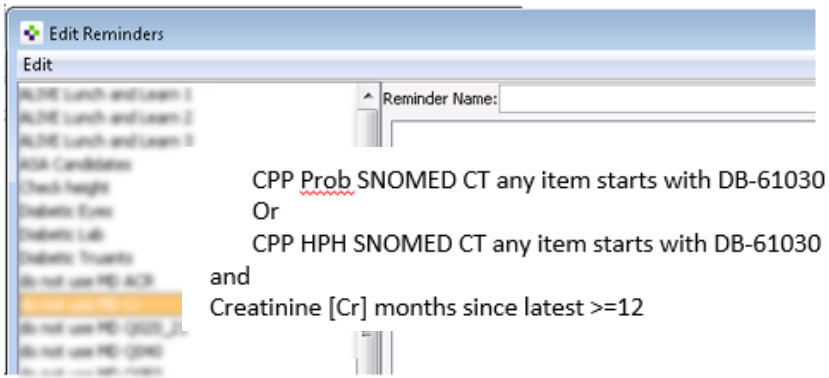


Opportunity to use your team to enhance patient care through the use of Medical Directives and standardized process flow/ EMR Information.



Examples of Patient Care Opportunities

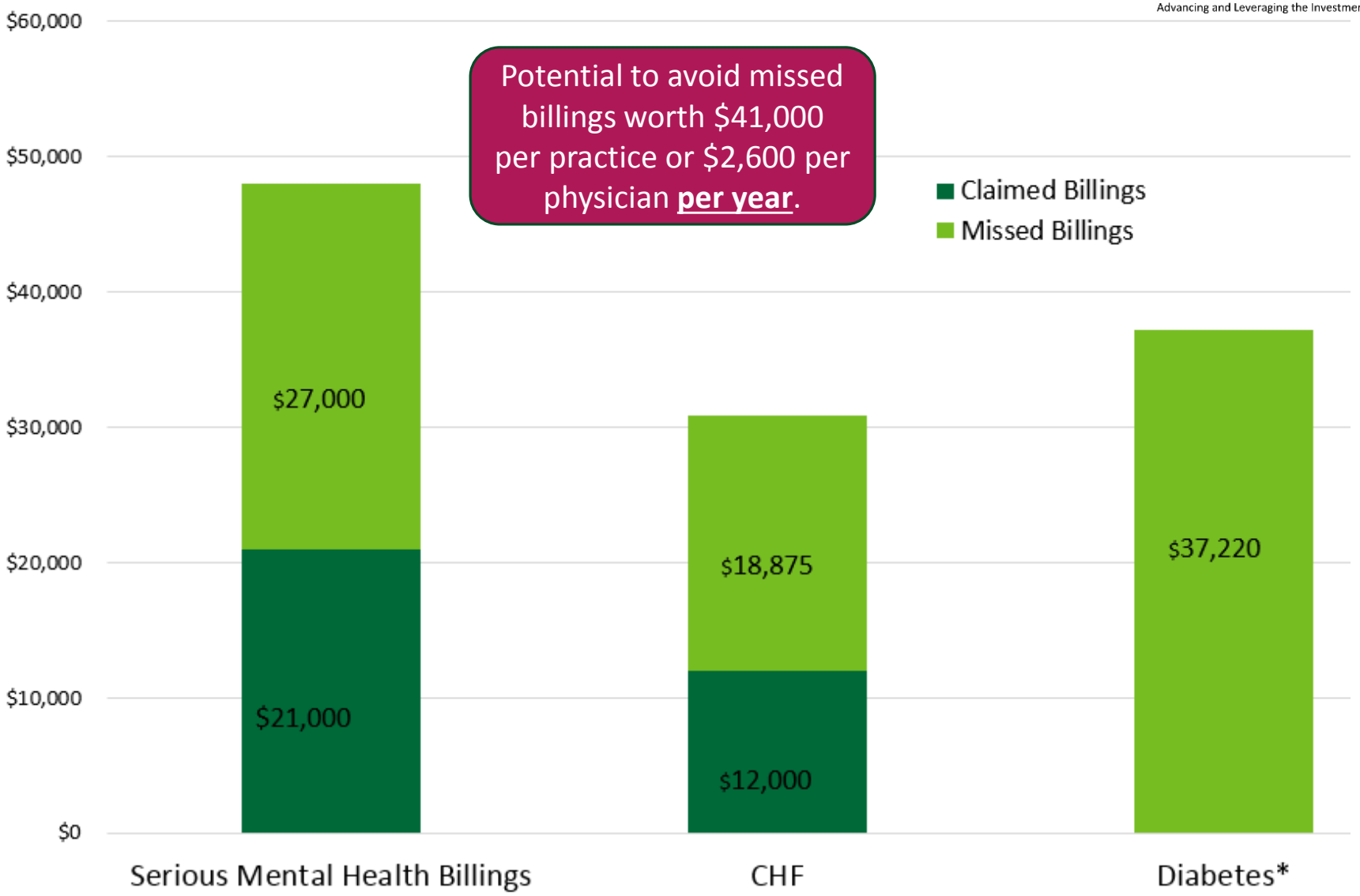
Opportunity to use your team to enhance patient care through the use of Medical Directives and standardized process flow/ EMR Information.



Better Continuity of Care for Patients

Opportunity to use your team to enhance patient care through the use of Medical Directives and standardized process flow/ EMR Information.

Increased Revenue through avoiding Missed Billings*



Increased Revenue through avoiding Missed Billings*

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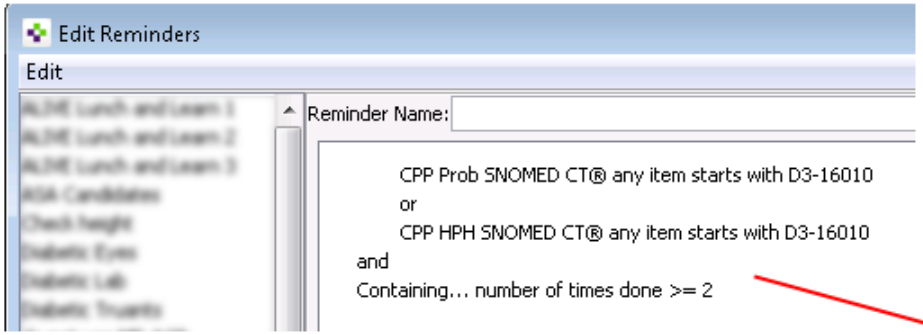
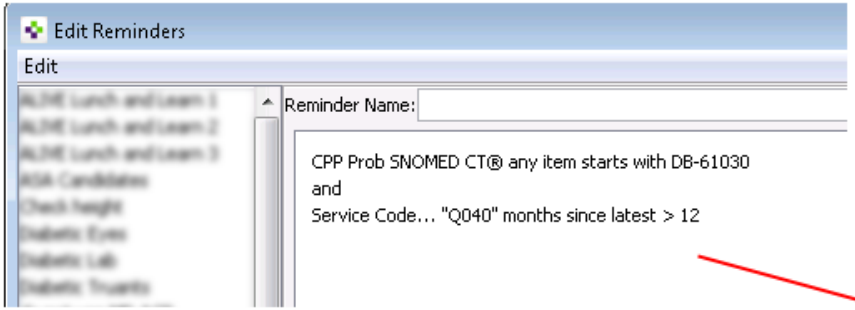
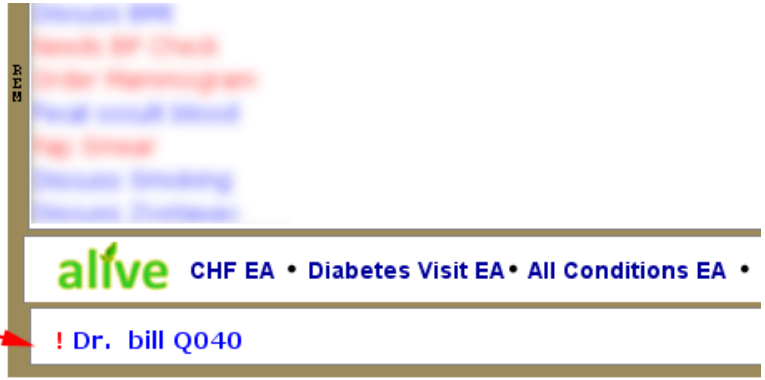
Potential to avoid missed billings worth $41,000 per practice or $2,600 per physician **per year**.







MediDash – East Wellington FHT
Better Ability to Monitor Patients

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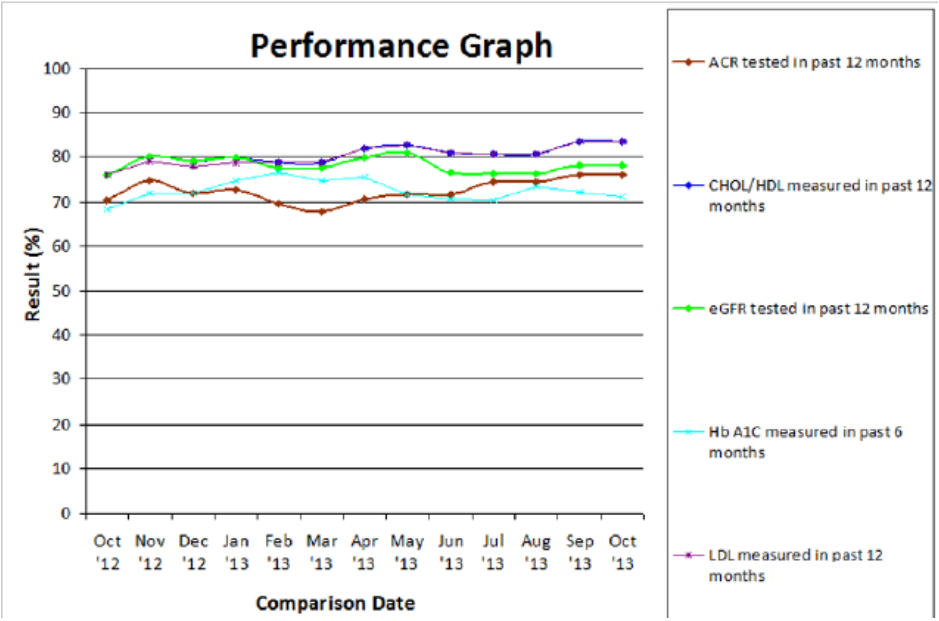
Surname	FirstName	Age	Sex	Months Since ACR Tested (1)	ACR (2)	Months Since BP Measure (3)	BP (4)	Months Since CHOL/HDL Tested (5)	CHOL /HDL (6)	Months Since eGFR Tested (7)	eGFR (8)	Months Since Hb A1C Tested (9)	Hb A1C (10)	Months Since LDL Tested (11)	LDL (12)	Months Since Diabetes Assessment (13)	Months Since Foot Exam (14)	Months Since Retino-pathy Exam (15)
********	**********	61	M	5	0.9	4	108/67	5	3.0	5	84	5	0.066	5	1.49	4	4	4
********	**********	69	F	5	3.1	1	143/64	5	3.7	5	88	2	0.069	5	1.38	10	10	10
********	**********	75	M	2	0.9	1	127/67	2	3.3	2	95	2	0.064	2	1.22	1	1	1
********	**********	58	M	10	1.0	4	111/70	1	2.9	1	98	1	0.069	1	2.24	4	4	4
********	**********	57	M	2	1.8	1	118/74	2	3.8	2	62	2	0.070	2	2.10	1	1	1
********	**********	61	F	1	2.6	2	137/80	3	4.0	1	49	3	0.081	3	1.86	2	2	2
********	**********	65	M	3	0.6	2	109/66	3	4.0	3	89	3	0.069	3	2.12	2	2	2
********	**********	71	M	3		6	149/75	3	3.9	3	69	3	0.065	3	2.33	6	6	6
********	**********	44	M	21	<2.0	7	109/75	8	3.8	8	>120	7	0.058	8	1.91	7	7	7



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Value Added Custom Reports

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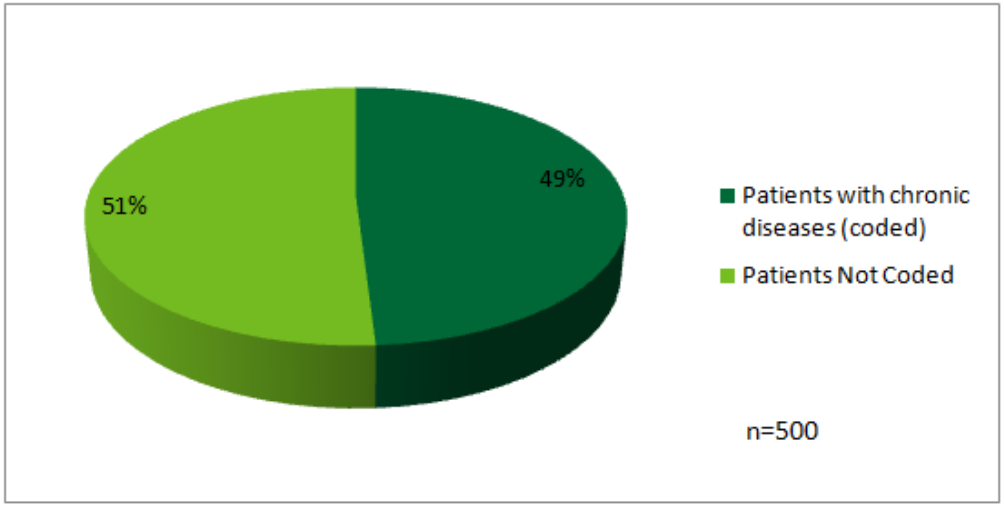
1 Chronic Diseases Profiles



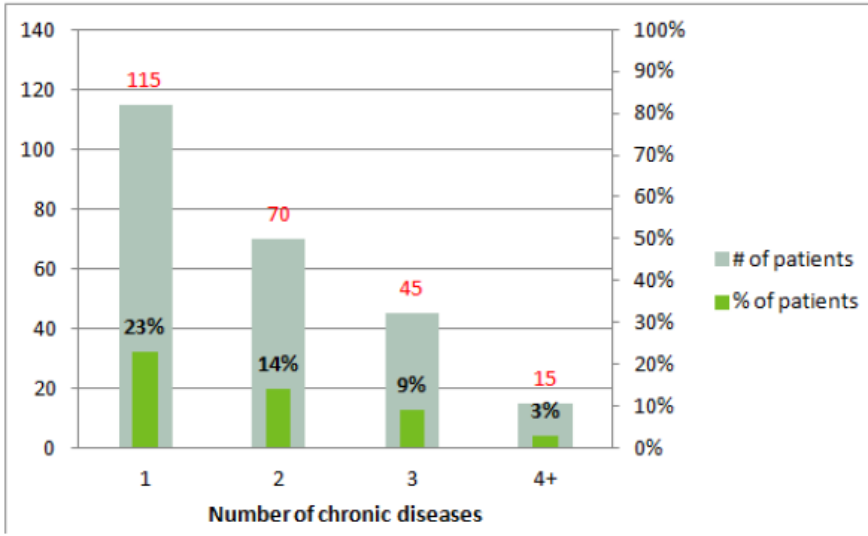


Figure 1: Percentage of enrolled patients coded vs. not coded for Dr. Sample

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Figure 2: Number of patients coded by disease for Dr. Sample

Steering Committee Membership

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Project ALIVE Steering Committee

Executive Director, eHealth Centre of Excellence (co-Chair)	Lead Physician New Vision FHT (co-Chair)	eHealth Ontario	OntarioMD	East Wellington FHT	University of Waterloo
		WWLHIN	OMA	CMHA WWD	AFHTO QIDS Program
		cSWO	CFFM FHT	Waterloo Region NP Led Clinic	Conestoga College

Project ALIVE Team

- Project Manager
- Project Team

Project Synergy Partners

National Organizations	Primary Care Providers	Community Care Providers	Educational Institutions
Provincial Organizations	Regional Organizations	Technology Organizations and Vendors	Research Organizations

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After Project ALIVE

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Meet Nurse Jenney
(Dr. Srinivas' Nurse)

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- Since Project ALIVE the practice has implemented a new medical directive empowering her to administer immunizations for patients automatically flagged by the EMR.

- The last time Katherine came in Nurse Jenney was able to offer and administer the pneumonia vaccine before Dr. Srinivas saw Katherine

- She was also notified through the EMR that Katherine was due to get her blood work checked so started the lab work for Dr. Srinivas

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Meet Katherine

- 60 years old
- CHF with multiple co-morbidities
- Rarely comes in for visits (no transportation)
- When she does come in she has plenty of concerns she wants addressed.
- Proactive management by her Care Team
- Avoided a hospitalization
- The Result: stable health

Meet (the happier) Dr. Charles Srinivas

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- Still has the same roster size 1,800 patients
- Is a more aware of his chronic disease patient population
- Is happy knowing that Nurse Jenney is now empowered to help him take better care of his patients
- Also found out that last year he missed out on $2,000 in incentive billings but through ongoing data standardization and using his EMR functionality that won't happen again
- Is happy that Katherine is doing well!

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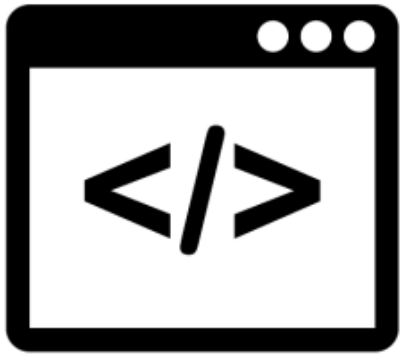
How did Project ALIVE help?



Historical and ongoing standardization and/or codification of data for diseases

EMR searches and reminders based on standard data (i.e. disease codes and disease-based standard templates)

Clinician awareness of the ability to create searches, reminders, documentation templates and workflows

Locate missing patients for preventative care

Monitor, search for and avoid missed billings

Workflow automation for all team members to improve patient care efficiencies

How did Project ALIVE help?

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Disease specific data standardization to better identify appropriate patients for ministry reporting

Leveraging EMR functionality to enhance patient care and find practice level efficiencies and maximize scopes of practice

Structured/Reliable data for QIP planning

Reliable disease specific data for research

Increased billings and better use of EMR functionality to provide higher quality patient care

Higher use of of specialty clinic type resources

Enhanced ability to use EMR to implement performance measures and reporting for Chronic Disease

Ability to implement practice wide standards of care for specific chronic conditions

Better ability to manage patients with comorbid chronic conditions

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How can you achieve similar results?

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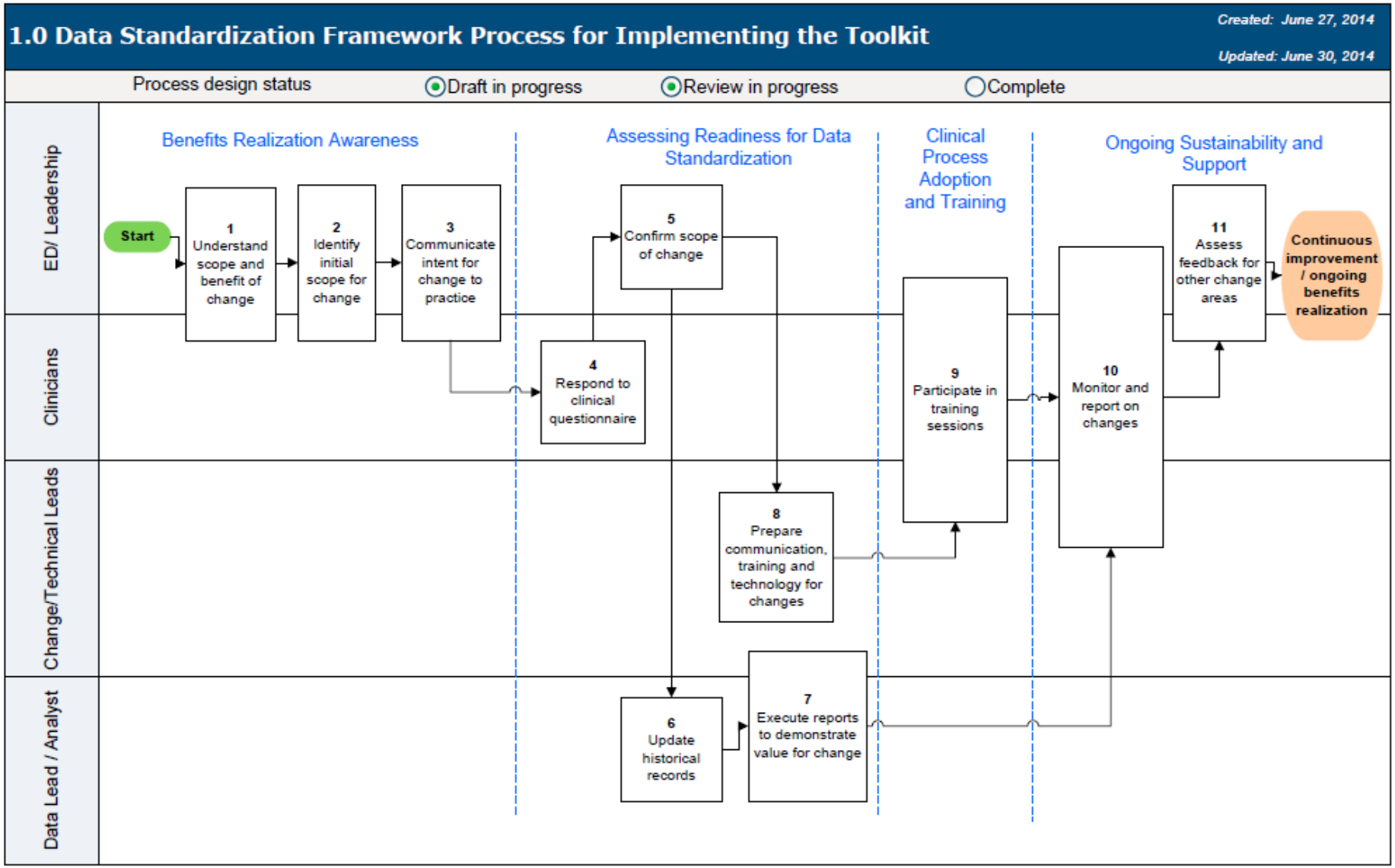
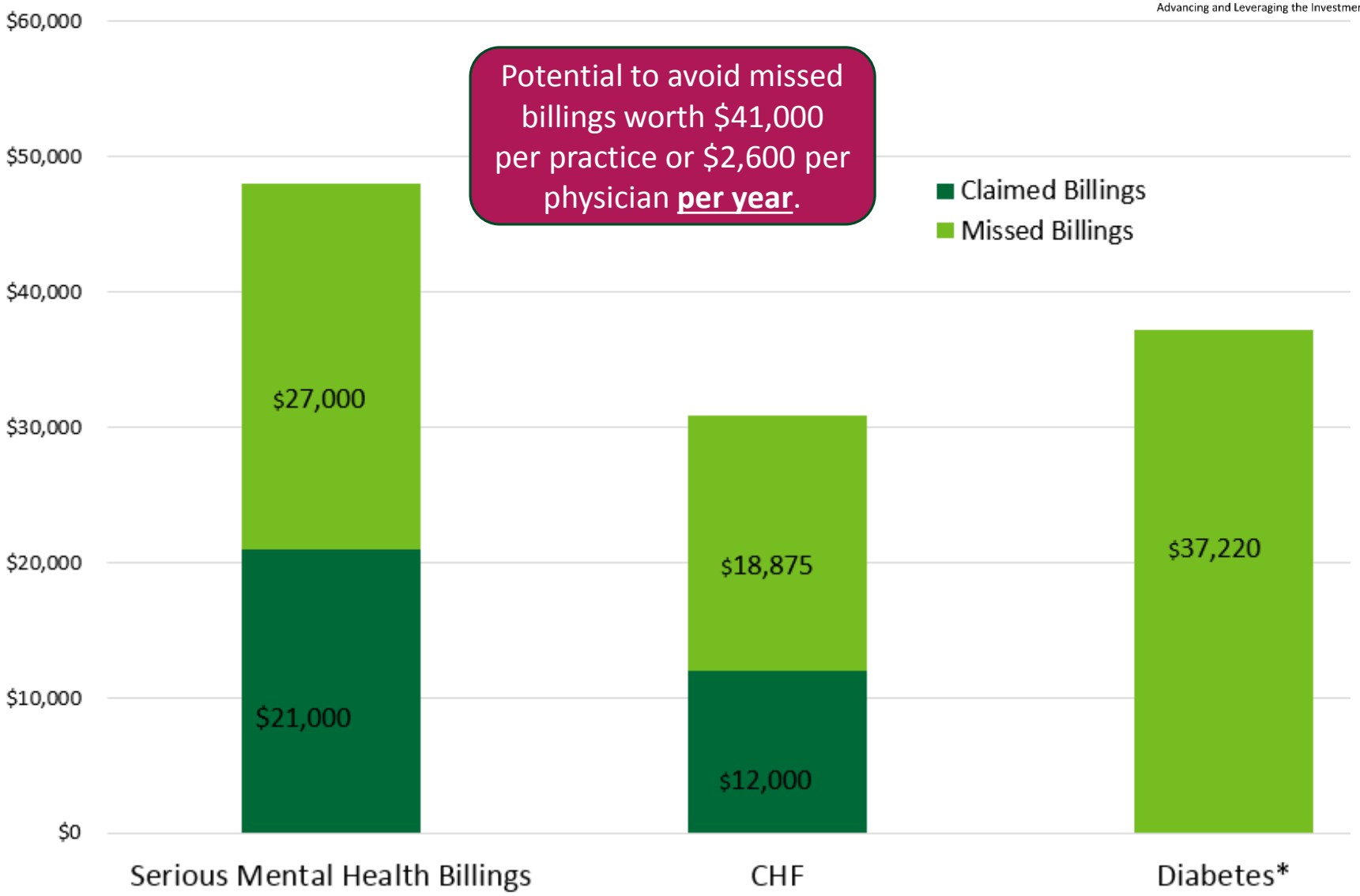
ALIVE Implementation Model



The Business Case to Kick Start Quality Improvement



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Why Code Conditions in your EMR?

THE $40,000 QUESTION

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Simpler Searches

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Un-coded search

Search Name: MD Diabetes - Type 2 Population

```
Member Status = FHO Enrolled
and
      PROB/Problem List/Problem List contains Type 2 Diabetes
      or
      PROB/Problem List/Problem List contains Diabetes Type 2
      or
      PROB/Problem List/Problem List contains DM
      or
      PROB/Problem List/Problem List contains DM2
      or
      HPH/Past Hx/History of Past Health contains Diabetes Type 2
      or
      HPH/Past Hx/History of Past Health contains Type 2 Diabetes
      or
      HPH/Past Hx/History of Past Health contains DM
      or
      HPH/Past Hx/History of Past Health contains DM2
and
HPH/Past Hx/History of Past Health does not contain gestational
and
PROB/Problem List/Problem List does not contain gestational
and
PROB/Problem List/Problem List does not contain Type 1
and
HPH/Past Hx/History of Past Health does not contain Type 1
```

VS

Coded search

Search Name: MD TypeII Search

```
CPP Prob SNOMED CT® any item starts with DB-61030
or
CPP HPH SNOMED CT® any item starts with DB-61030
```

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Faster Searches with More Accurate Results

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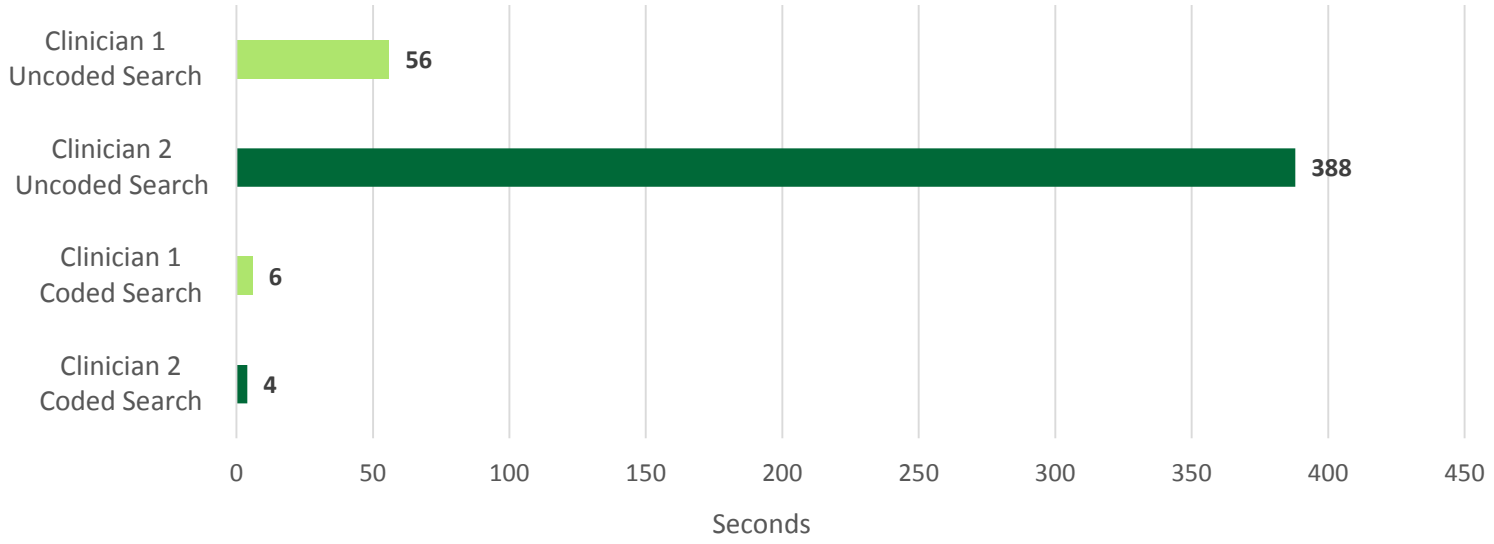
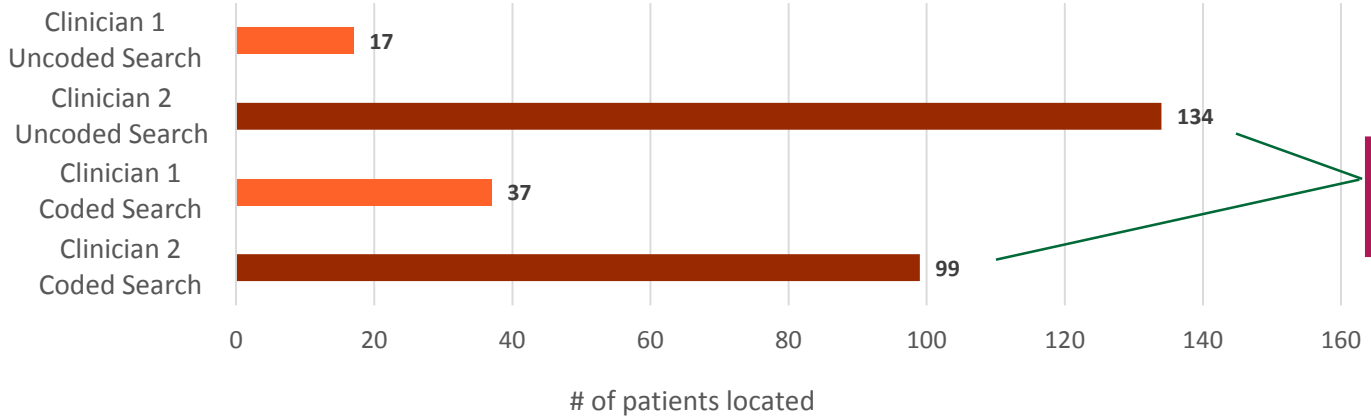
Uncoded vs Coded Search (Type II Diabetes) - Speed



Uncoded vs Coded Search (Type II Diabetes) - Accuracy



The uncoded search for Clinician 2 brought up several false positives

Patient Searches

% of patients who have the condition but were not identified in existing PSS Searches

Asthma	13.5%
Dementia	8.5%
Type 1 Diabetes	33%
Type 2 Diabetes	8.5%

Impact:

Clinicians learn not to trust the EMR functionality such as reminders and searches

Patient Searches

% of patients who did not have the condition but were incorrectly identified as having the condition

Asthma	16.4%
COPD	24.7%
Dementia	19.7%
Pre-diabetes	35.7%

Impact:

Clinicians learn not to trust the EMR functionality such as reminders and searches

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Was Project ALIVE successful at Demonstrating Value to Clinicians?

Are Clinicians Entering Data at the Point of Care?

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Compliance since July 31st 2014

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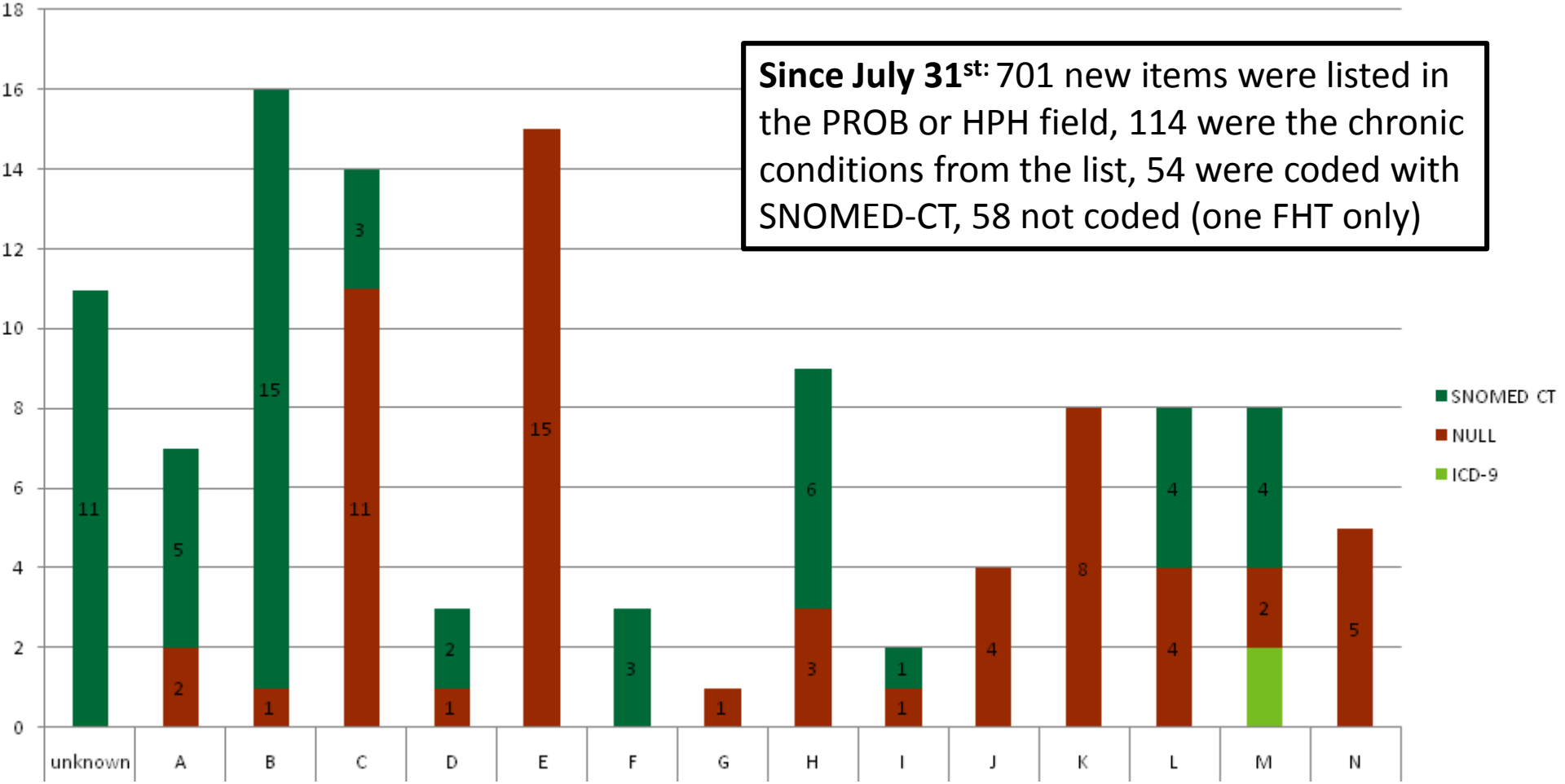
Since July 31st: 701 new items were listed in the PROB or HPH field, 114 were the chronic conditions from the list, 54 were coded with SNOMED-CT, 58 not coded (one FHT only)



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Coding Compliance-Frequency

Condition	CIHI Standard Terminology (Primary Term/Synonym)	SNOMED-CT Code	Frequency of code used
Anxiety	Generalized anxiety disorder/Anxiety	Anxiety disorder (D9-00021)	6
Asthma	Asthma	Asthma (D2-00036)	10
Congestive Heart Failure	Congestive heart failure (CHF)	CHF-Congestive heart failure (D3-16010)	
COPD	COPD- Chronic obstructive pulmonary disease	COPD-Chronic Obstructive pulmonary disease (D2-60000)	8
Dementia	Dementia	Dementia (D9-20200)	4
Depression	Depression	Depression (D9-52000)	6
Gestational Diabetes	Gestational diabetes mellitus	GDM-Gestational Diabetes mellitus (DB-61400)	1
Hypertension	Hypertension	Hypertension (D3-02000)	6
Mild cognitive Impairment	N/A	Mild cognitive disorder (D9-00080)	3
Prediabetes	Impaired glucose tolerance/prediabetes	Prediabetes (DB-61200)	1
Type 1 diabetes	Type 1 diabetes/Diabetes mellitus type 1	Type 1 Diabetes mellitus (DB-61010)	2
Type 2 diabetes	Type 2 diabetes/Diabetes mellitus type 2	Type 2 diabetes mellitus (DB-61030)	4

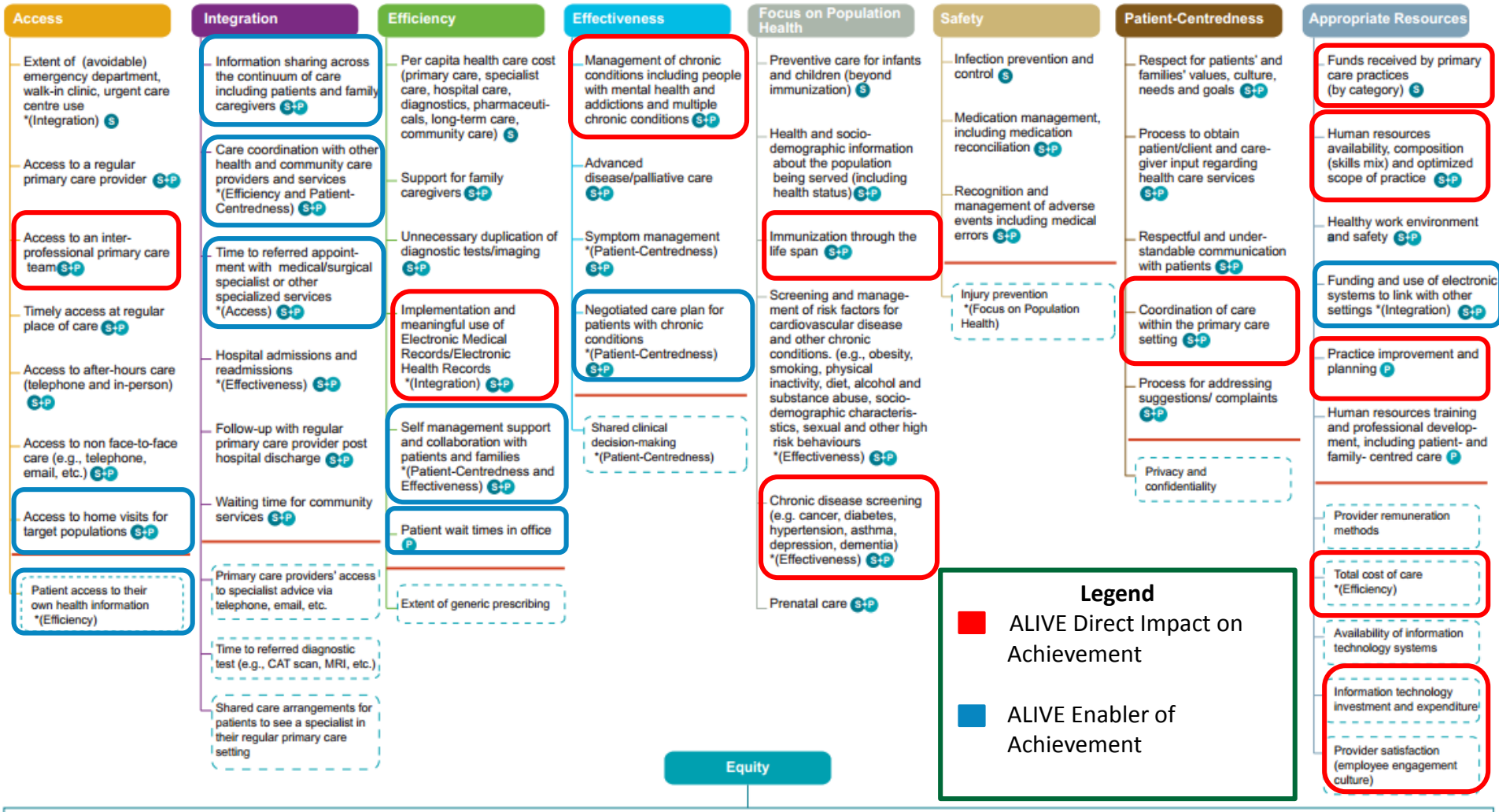
Clinician Feedback

Advancing and Leveraging the Investment Value of EMRs

- *Project ALIVE has provided me with many other benefits of EMR than just charting.*
- *Provide me with key information about billing codes that we have been missing, resulting in missed revenue, as well as strategies on how to prevent this from happening in the future.*
- *Taught me the value of properly coding for medical conditions, as it allows searches to be done easier when doing audits regarding certain conditions.*
- *Makes our workflow more efficient*
- *We will need continuing support in this regard, as habits are difficult to change overnight.*
- *Will help with the standardized assessment and treatment of common clinical conditions.*
- *EMR is critical to our day-to-day clinical practice and learning on how we can optimize the EMR, such as Project Alive has shown us, and having that information reinforced on a regular basis will be very valuable.*

Primary Care Performance Measurement Framework

(Ontario Primary Care Performance Measurement Steering Committee, June 2013)



Truly Leveraging Our Project Team

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Dr. Mohamed Alarakhia – Executive Lead

Neha Singh – Project Manager

Masood Darr – Technical Lead

Shahrin Huda – Data Analyst

Irene Lemmermeyer – Business Analyst

Lisa Bitonti-Bengert– Change Management Specialist

Ted Alexander – Research Associate

Flavien Owolabi – Research Assistant

Paula Lee – Administrative Assistant

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Comments/Questions

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