Improving Care of Patients with Diabetes Using a Disease Registry

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Collaborative Team Members

Principle Investigators

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FMC Data Specialist - Alyssa Adams

Nurse Manager - Jennifer Blizzard

Nurse Manager - Angela Britton

Medical Billing Manager - Amber Johnson

Business Manager - Marie Lewis

Pharmacotherapy - Jamie Messenger

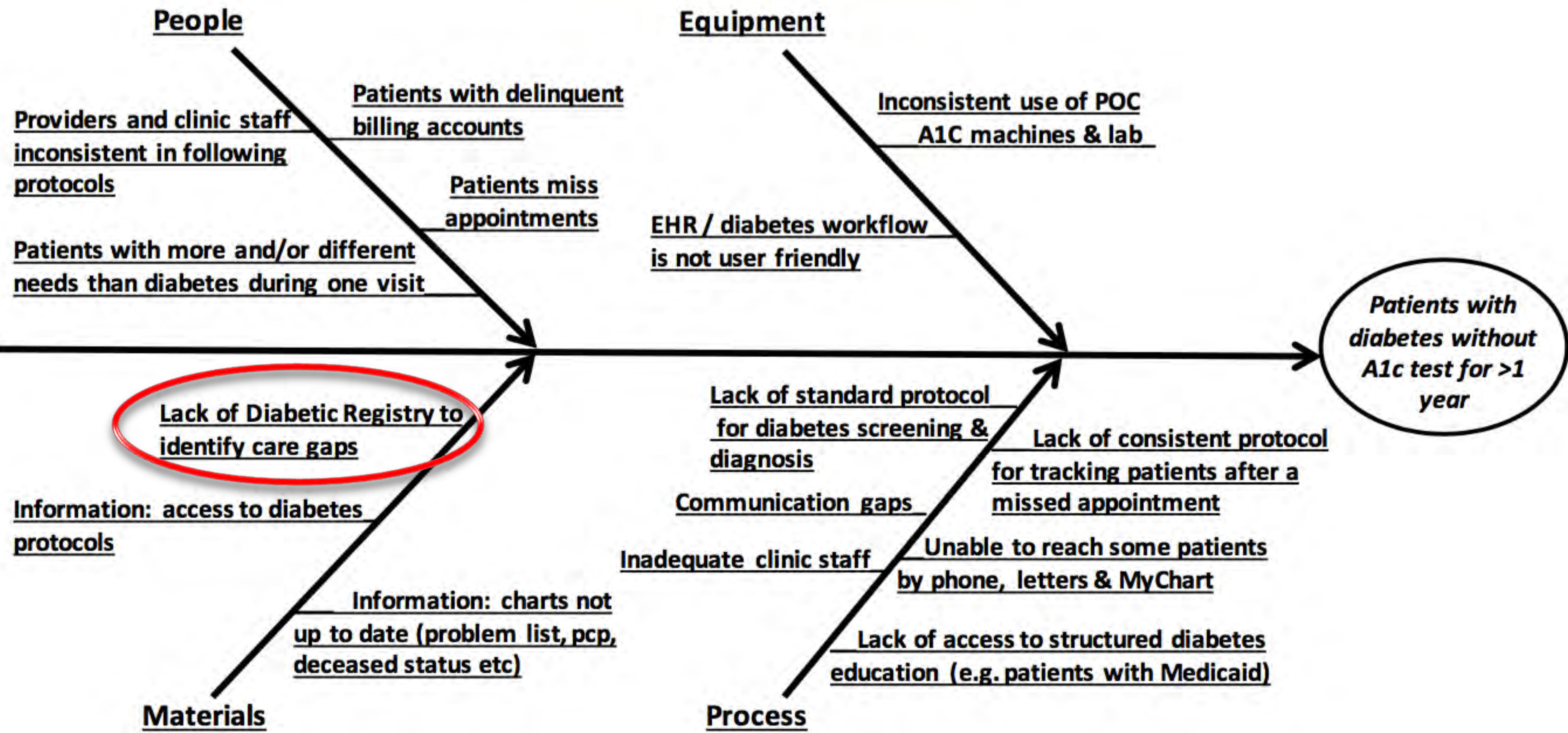
Nutritionist - Kay Craven

Social Worker - Jenna Daugherty

Consultants/Mentors: Dr Skip Cummings, Dr Donna Lake

Improving Diabetes Care

- **NCQA measures for comprehensive diabetes care:**
  - **<15% of patients with Hemoglobin A1c >9%**
  - **Annual HbA1c testing**
  - Annual Eye exam
  - Annual LD-CL screening and adequate control (<100mg/dL)
  - Medical attention for nephropathy


Fishbone (Cause & Effect)
People
Providers and clinic staff inconsistent in following protocols
Patients with delinquent billing accounts
Patients miss appointments
Patients with more and/or different needs than diabetes during one visit
Equipment
Inconsistent use of POC A1C machines & lab
EHR / diabetes workflow is not user friendly
Patients with diabetes without A1c test for >1 year
Lack of Diabetic Registry to identify care gaps
Information: access to diabetes protocols
Information: charts not up to date (problem list, pcp, deceased status etc)
Materials
Lack of standard protocol for diabetes screening & diagnosis
Lack of consistent protocol for tracking patients after a missed appointment
Communication gaps
Inadequate clinic staff
Unable to reach some patients by phone, letters & MyChart
Lack of access to structured diabetes education (e.g. patients with Medicaid)
Process

Disease Registry Tool

- Population health management
- Increase comprehensive care
- Allows efficient data collection and tracking
- Promotes use of evidence based care
- Studies have show increased healthcare outcomes

Global Aim

Improve care for patients with diabetes at ECU FMC through utilization of a disease registry

ECU FM Diabetic Registry

Created by IT services by running a report in EHR using 5 different criteria which is then exported in Excel

1. *A patient has a diabetes diagnosis code on the problem list*

2. *A patient has a diabetes diagnosis code on the encounter diagnoses within last 3 years*

3. *A patient has a diabetes diagnosis code on the invoices generated by Resolute Professional Billing claims within last 3 years*

4. *Most Recent Hemoglobin A1C > 6.4 within last 3 years*

5. *Patient is not deceased*

ECU FM Diabetic Registry

- New Diabetes registry at ECU Family Medicine Center
  - 3,146 patients total
  - 1,003 assigned as Accountable Care Organization (ACO) patients

- Now integrated into EHR as dashboard

Improving Diabetes Care

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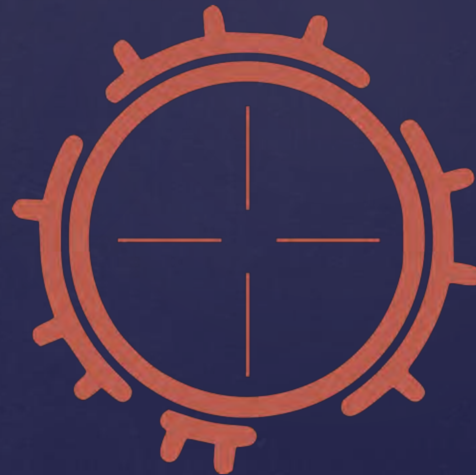
PDSA 1.1 Specific Aim

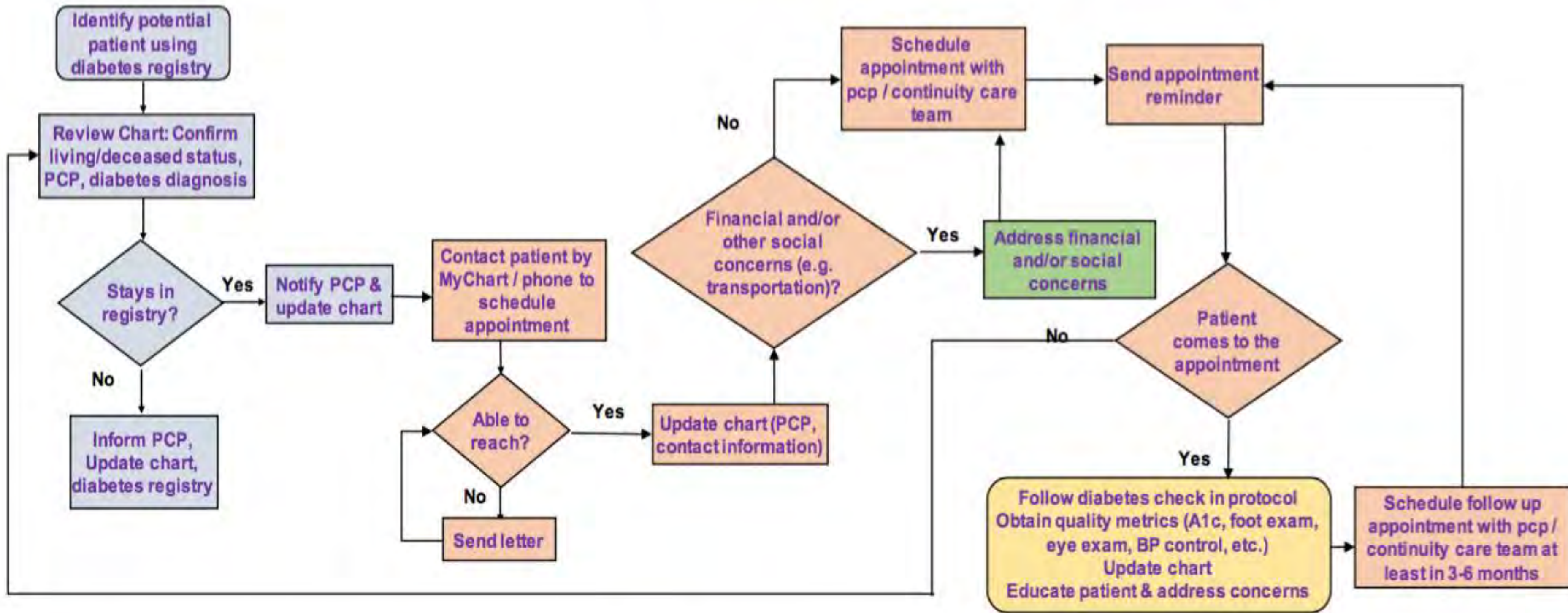
Improve the number of PURPLE MODULE ACO-patients with diabetes who have not had A1c done during the last measurement year (2016) by 85% by May 31, 2017 using a diabetes registry



Baseline Data

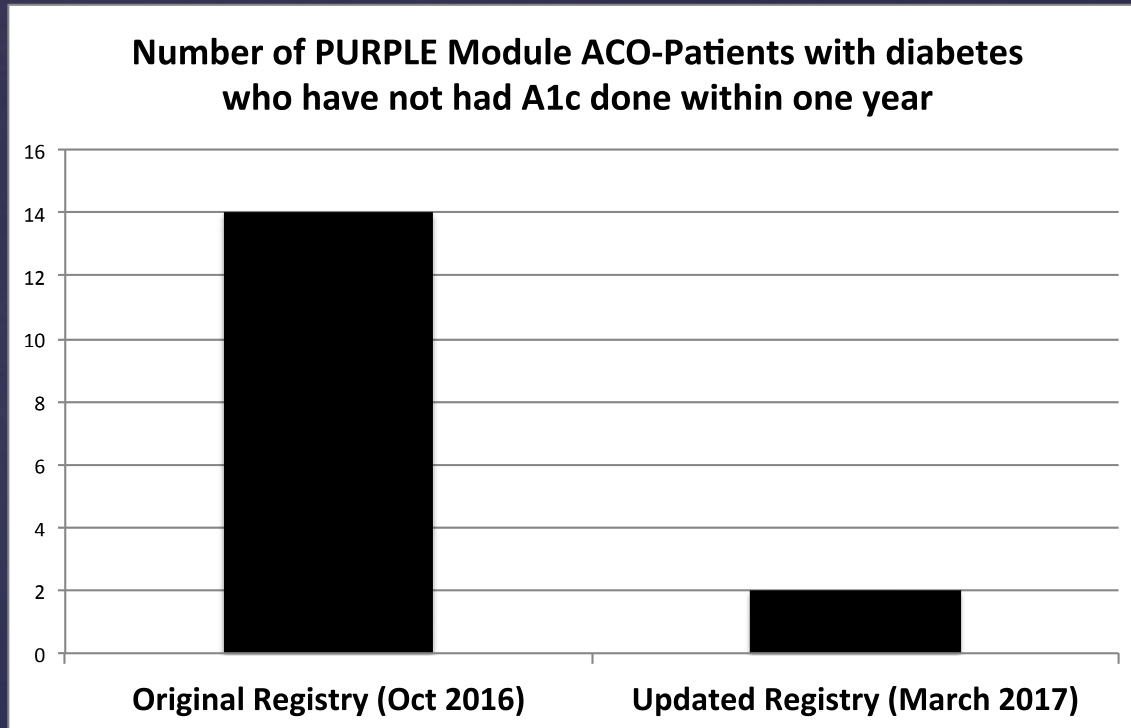
Number of PURPLE ACO-Patients with diabetes who have not had A1c done within one year

Purple	14	1.4%



Process Map
Identify potential patient using diabetes registry
Review Chart: Confirm living/deceased status, PCP, diabetes diagnosis
Stays in registry?
Yes
Notify PCP & update chart
No
Inform PCP, Update chart, diabetes registry
Contact patient by MyChart / phone to schedule appointment
Able to reach?
Yes
No
Send letter
Update chart (PCP, contact information)
Financial and/or other social concerns (e.g. transportation)?
No
Yes
Schedule appointment with pcp / continuity care team
Address financial and/or social concerns
Send appointment reminder
Patient comes to the appointment
No
Yes
Follow diabetes check in protocol
Obtain quality metrics (A1c, foot exam, eye exam, BP control, etc.)
Update chart
Educate patient & address concerns
Schedule follow up appointment with pcp / continuity care team at least in 3-6 months
Provider & data specialist
Patient Access Staff
Financial counselor & social worker
Clinician, nursing staff, & diabetes educators

PDSA Cycle 1.1

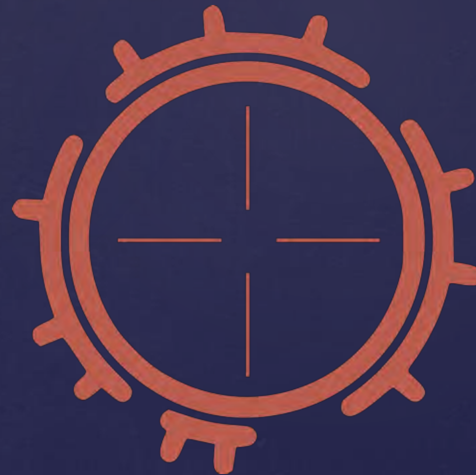


86% Improvement

Patient does not have diabetes	3
Changed PCP	4
Patient was scheduled and seen	5
Unable to reach patient	2
Total Patients	14

PDSA 1.2 Specific Aim

Improve the number of ACO-patients (all of ECU FM) with diabetes who have not had A1c done during the last measurement year (2016) by 85% by May 31, 2017 using a diabetes registry

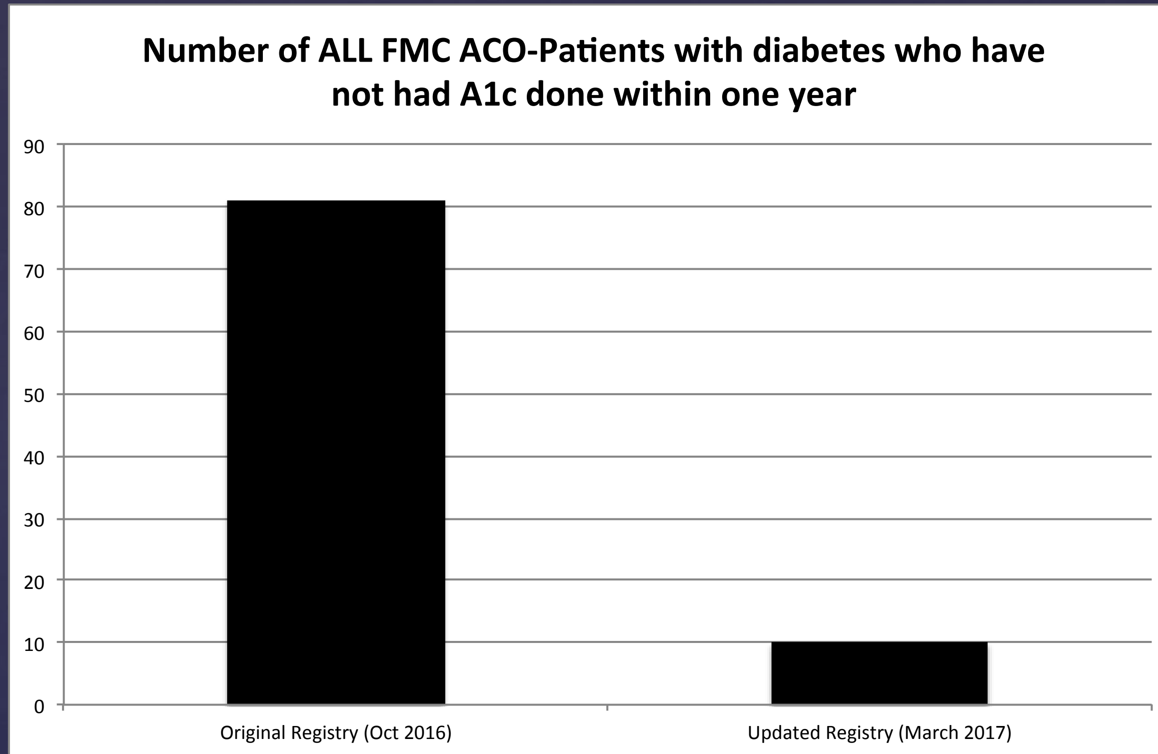


Baseline Data

Number of ALL FMC ACO-Patients with diabetes who have not had A1c done within one year

Purple	14	1.4%
Gold	17	1.7%
Buccaneer	35	3.5%
Geriatrics	4	0.4%
Pirates	11	1.1%
Total Patients	**81**	**8.1%**

PDSA Cycle 1.2



88% Improvement

Patient does not have diabetes	30
Patient Deceased	5
Changed PCP	10
Patient was scheduled and seen	26
No Show/DSP	5
Unable to reach patient	5
Total Patients	81

Improving Diabetes Care

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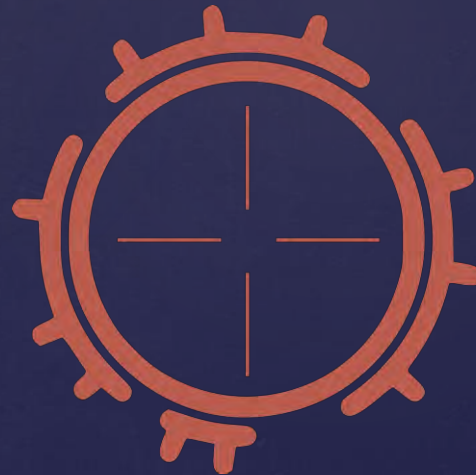
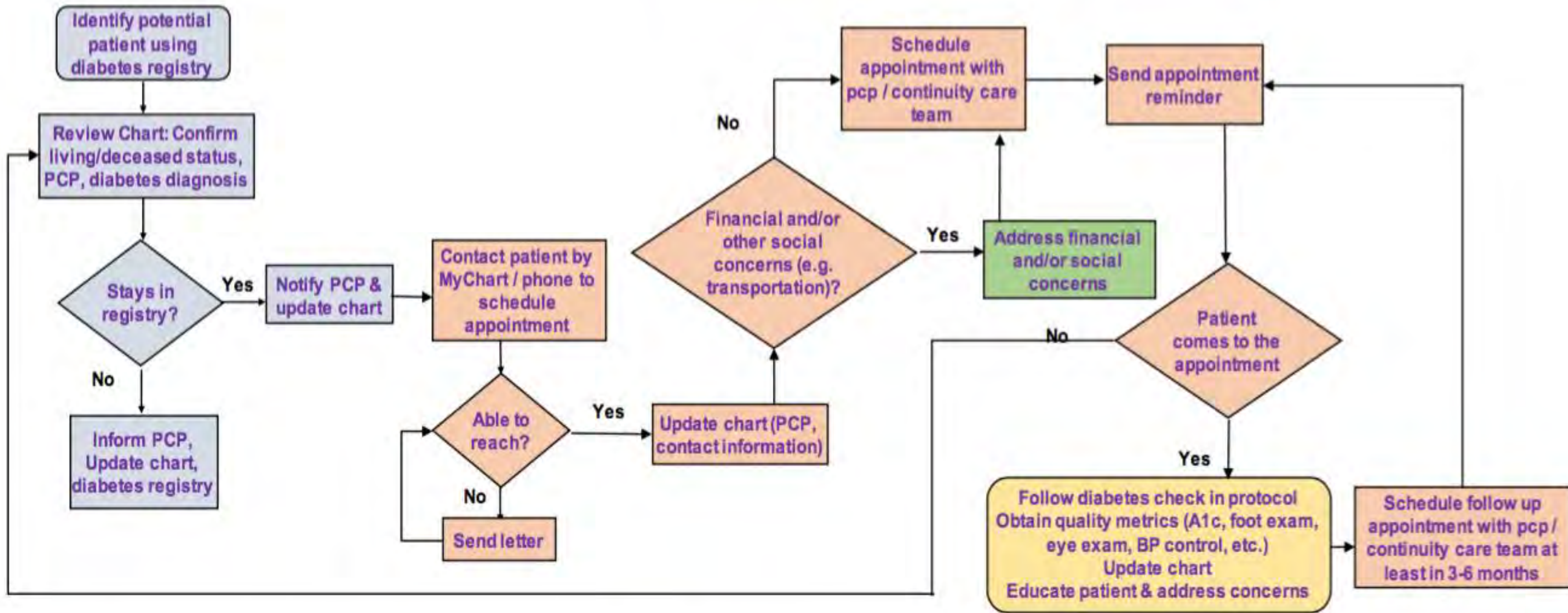
PDSA 2 Specific Aim

Reduce the number of ECU Family Medicine patients with diabetes and A1c >9% to below 20% by October 1, 2017 using a diabetes registry



Baseline Data

	Patients with A1c >9% Original Registry
Gold Module	23.0%
Pirate Module	23.0%
Purple Module	24.0%
Buccaneer Module	24.0%
Overall average	**23.5%**



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Update chart (PCP, contact information)
Financial and/or other social concerns (e.g. transportation)?
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Schedule appointment with pcp / continuity care team
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Address financial and/or social concerns
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Patient comes to the appointment
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Yes
Follow diabetes check in protocol
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Update chart
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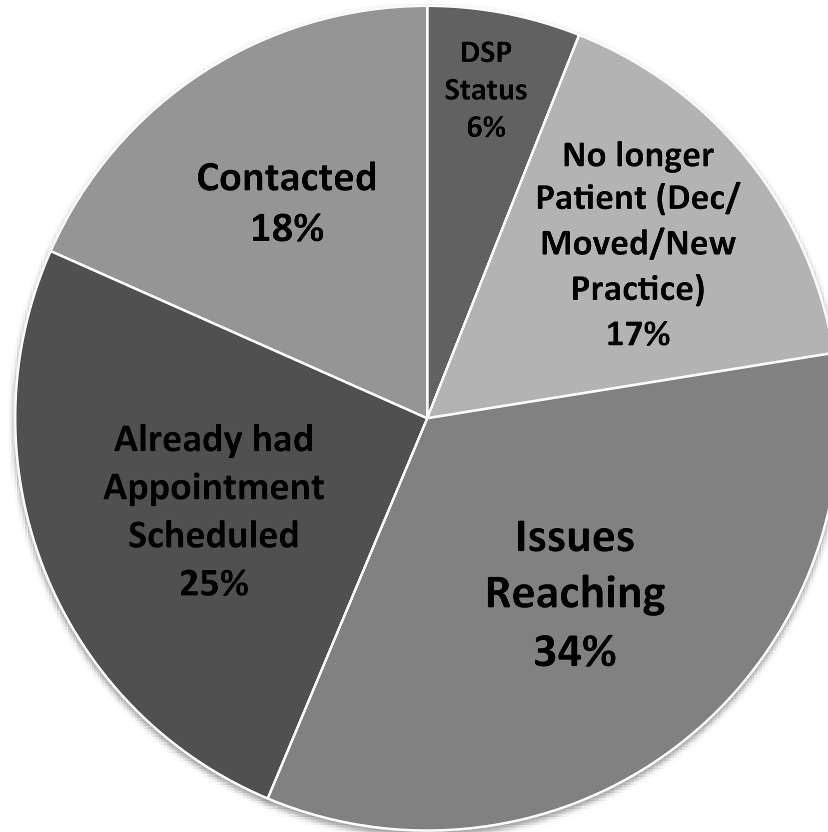
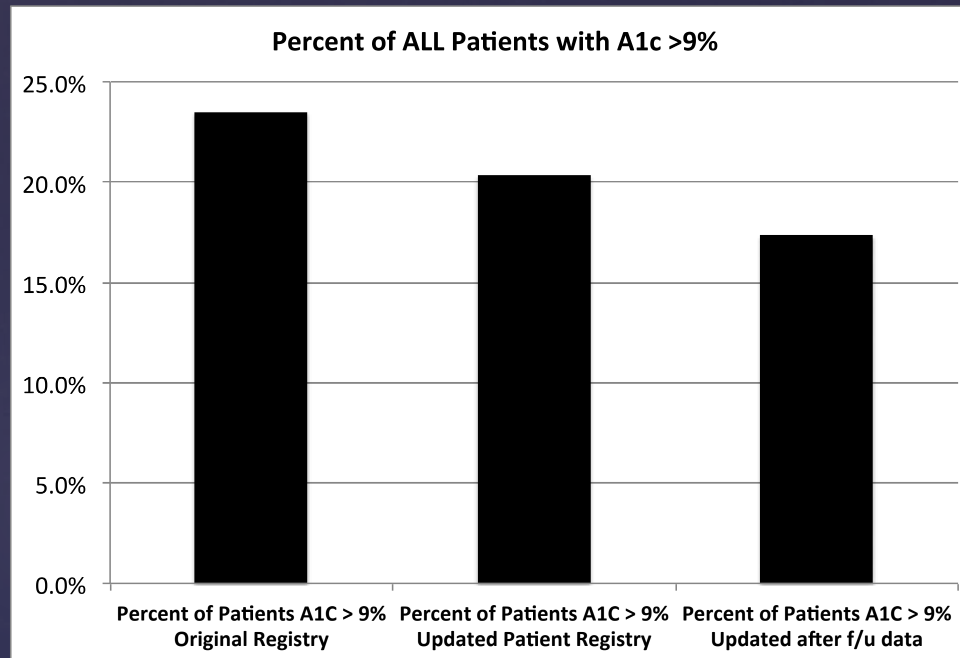
Outcomes



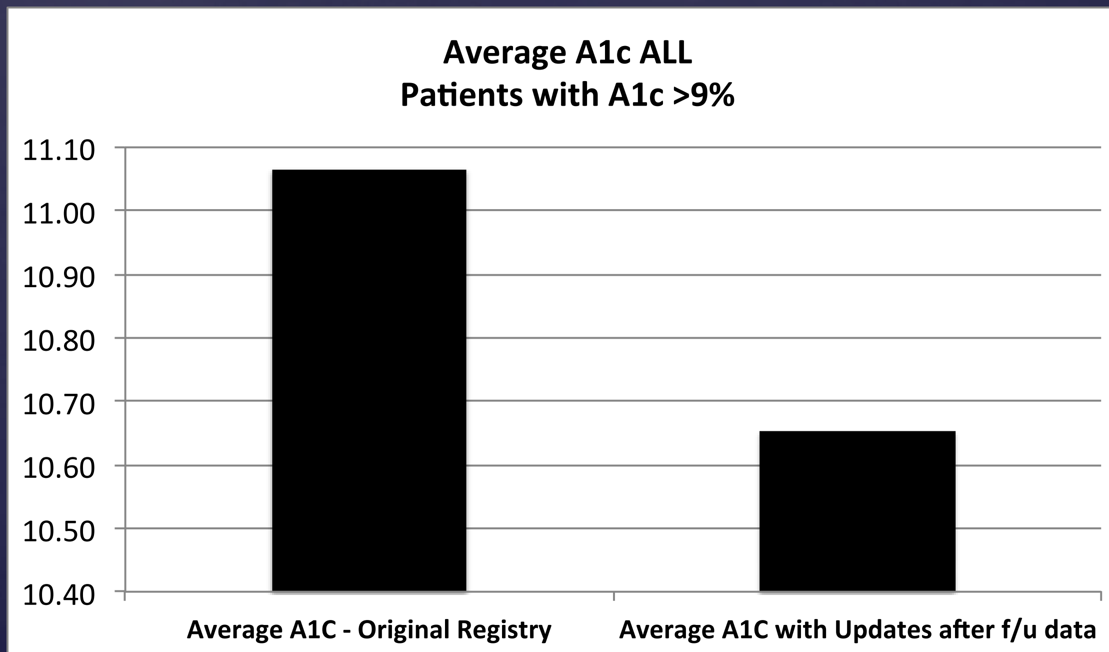
Outcomes



	Patients with A1c >9% Original Registry	**Patients with A1c >9% Updated Patient Registry**	**Patients with A1c >9% Updated after f/u data**
Gold Module	23.0%	20.4%	16.5%
Pirate Module	23.0%	19.1%	16.3%
Purple Module	24.0%	21.2%	18.7%
Buccaneer Module	24.0%	20.6%	18.0%
Overall average	**23.5%**	**20.3%**	**17.4%**

Outcomes

	Average A1c Original Registry	Average A1c with Updates after f/u data
Gold Module	11.3	10.7
Pirate Module	10.9	10.3
Purple Module	11.0	10.9
Buccaneer Module	11.1	10.8
Overall average	**11.07**	**10.65**



Outcomes

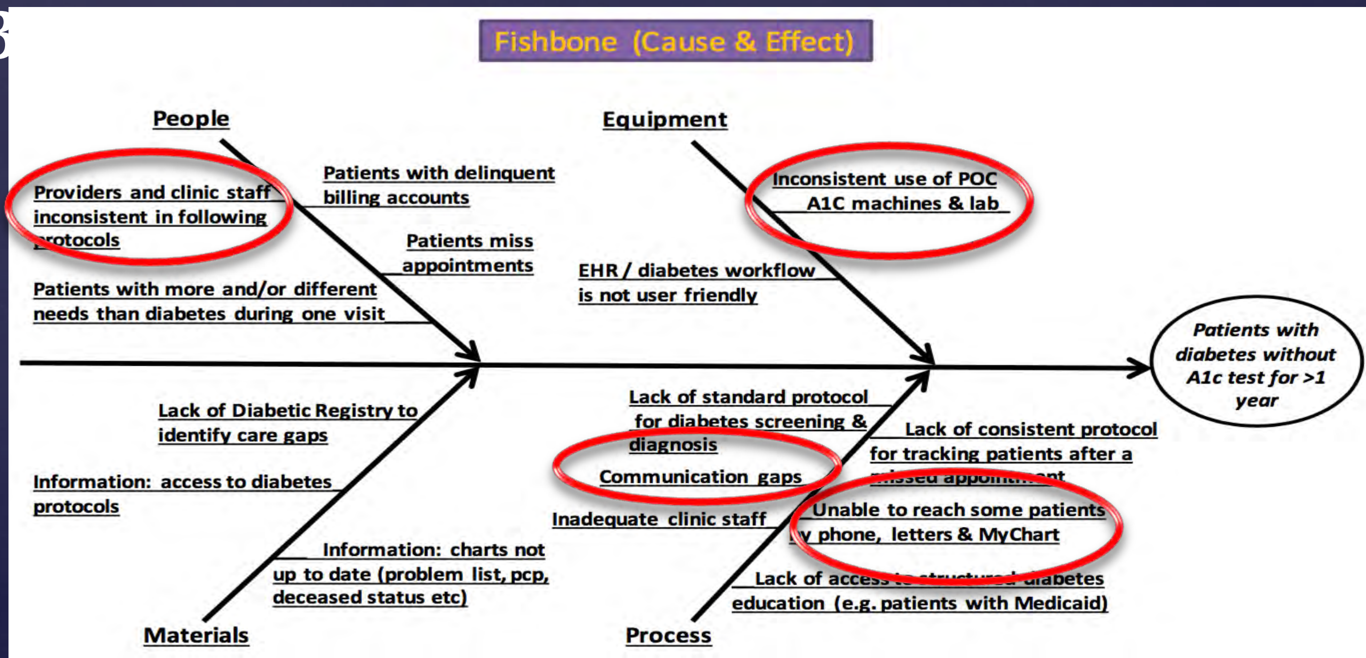
	Number Patients Contacted	Number of Patients Scheduled	Avg ΔA1c for Patients Scheduled
Gold Module	33	18	-1.22
Pirate Module	13	8	-0.44
Purple Module	22	13	-0.22
Buccaneer Module	35	16	-0.41
Overall	**103**	**55**	**-0.57**

Challenges Encountered and Lessons Learned

- Registry Flux
- Resource Allocation
- Flagging Patients for Specific Diabetes Care
- Barriers to Care

Next Steps

- Continually Updating Registry
- Exploring Barriers to Care
- Communication Options
- Specific Care Interventions – Nutrition, Pharmacology
- Review and update POC diabetes protocols (A1c, FSB



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Questions

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