PCC Lunch and Learn

THURSDAY, October 7, 2021 | 2:00 PM - 3:00 PM ET

Lunch and Learn Co-chairs and Presenters

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primary care
collaborative

Effect of Glucose Monitoring on Patient and Provider Outcomes in Non-Insulin Treated Diabetes

Katrina Donahue, MD, MPH
Professor, UNC –Chapel Hill Department of Family Medicine
October 7, 2021

COI Disclosures

Dr. Donahue: PI of the MONITOR trial, funded by PCORI

Objective

- Review and Interpret findings from the MONITOR SMBG trial

Background

- Guidelines are inconsistent regarding the role of glucose self monitoring (SMBG) in adult patients with non-insulin treated type 2 diabetes

- Recommendations from health care providers vary widely

- Numerous stakeholders have an interest in this debate

SMBG
(Self Monitoring of Blood Glucose)

- Widely practiced in patients with diabetes since 1980s
- Benefits well-established in Type 1 diabetes and Type 2 diabetes on insulin
- Glycemic Benefits are minimal at best
- May improve self-efficacy
- Potential Obstacles - invasive, cost, depressive symptoms

Project Overview

Assess impact of 3 SMBG testing approaches over 1 year

- 450 patients with non-insulin treated T2DM
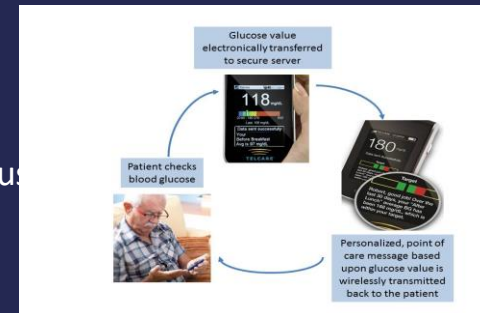- 15 primary care practice sites

Group 1: No SMBG Testing

Group 2: Once daily SMBG Testing with standard patient feedback

- Glucose values reported on monitor

Group 3: Once daily SMBG Testing with enhanced patient feedback

- Glucose values reported on monitor plus a tailored feedback message delivered to the patient through the monitor

Study Population

- Primary care patients, Age 30 and over, Type 2 diabetes, not on insulin, A1c 6.5%-9.5%, English speaking, Non pregnant

Outcomes

Primary: Change in A1c, Health Related Quality of life from baseline to 52 weeks

Secondary:
- Diabetes Related Quality of Life (DSC-R, PAID, DES-SF)
- Diabetes Self-Care (SDSCA)
- Diabetes Treatment Satisfaction (DTS)
- Patient-Provider Communication (CAT)
- Health Care Utilization (Inpatient, Outpatient and ED visits via EMR and self-report
- Treatment Modification (change in DM meds)
- Hypoglycemia frequency (self report, EHR)

Baseline Characteristics

	No Testing n=152	Testing, No Messaging n=150	Testing, with Messaging n=148
Age, mean	60.9	59.9	60.7
Sex, male, %	48.7	44.7	44.6

Race, %
  Black
  White
  Other
	
	27.6
	68.4
	3.9
		
		36.7
		59.3
		4.0
			
			34.5
			58.1
			7.4

Ethnicity, Non-Latino Hispanic, %	97.4	98.7	98.6
BMI, mean	33.8	34.1	35
Years with diabetes, mean	7.7	8.3	8.6
Current use of SMBG testing, %	75.0	72.0	78.4

Primary Outcomes: No difference in A1c at 1 yr

A1c Outcomes by Randomization Group					
	Randomization group				
	No testing	Testing No Messaging	Testing with Messaging	Overall Pvalue	Contrast Pvalue
	Means				
Hemoglobin A1c					
Baseline	7.52	7.55	7.61		
1 yr Follow-up	7.55	7.49	7.51		
Change	0.04	-0.05	-0.10	0.740	0.483

No difference in Quality of Life at 1 year

Secondary Outcomes

- No significant differences for
  - ➤ Problem Areas In Diabetes (PAID)
  - ➤ Diabetes Symptoms Checklist (DSC)
  - ➤ Diabetes Empowerment Scale (DES-SF)
  - ➤ Diabetes Treatment Satisfaction
- Communication Assessment Tool
- Summary of Diabetes Self-Care Activities was significant (but related to the blood sugar testing in arms)

Adverse Events: NO study related events

Limitations

- Test of continuing monitoring rather than initiating monitoring
- Not all patients adhered to the group assigned; however no difference in ITT and per-protocol analyses
- Patients belonged to one health care system
- Findings do not apply to patients on insulin

Conclusions

- Over the course of one year, there were no clinically or statistically significant differences in glycemic control or quality of life between patients with non insulin treated DM who perform SMBG compared to those who do not perform SMBG.

- The addition of tailored feedback provided through messaging via a glucometer did not provide any advantage in glycemic control.

THE CENTER FOR

PROFESSIONALISM & VALUE
In Health Care

Primary Care Journal Club:
"Higher Primary Care Physician Continuity is Associated with Lower Costs & Hospitalizations"

Background

Continuity has been described as

"an implicit contract between physician and patient in which the physician assumes ongoing responsibility for the patient." [Haggerty et al, 2003]

Continuity provides the unwritten understanding, including the

"knowledge, trust, respect [that] have developed between the patient and provider over time allowing for better interaction and communication."

Barbara Starfield: A Powerful Legacy
4 Cs to explain the salutary effects of Primary Care

Care that is - 1st Contact, Comprehensive, Coordinated
& *Continuous*

There is now good evidence, from a variety of studies at national, state, regional, local, and individual levels that good primary care is associated with better health outcomes (on average), lower costs (robustly and consistently), and greater equity in health

More Comprehensive Care Among Family Physicians is Associated with Lower Costs and Fewer Hospitalizations

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Previously …

ABSTRACT

PURPOSE Comprehensiveness is lauded as 1 of the 5 core virtues of primary care, but its relationship with outcomes is unclear. We measured associations between variations in comprehensiveness of practice among family physicians and healthcare utilization and costs for their Medicare beneficiaries.

METHODS We merged data from 2011 Medicare Part A and B claims files for a complex random sample of family physicians engaged in direct patient care, including 100% of their claimed care of Medicare beneficiaries, with data reported by the same physicians during their participation in Maintenance of Certification for Family Physicians (MC-FP) between the years 2007 and 2011. We created a measure of comprehensiveness from mandatory self-reported survey items as part of MC-FP examination registration. We compared this measure to another derived from Medicare's Berenson-Eggers Type of Service (BETOS) codes. We then examined the association between the 2 measures of comprehensiveness and hospitalizations, Part B payments, and combined Part A and B payments.

RESULTS Our full family physician sample consists of 3,652 physicians providing the plurality of care to 555,165 Medicare beneficiaries. Of these, 1,133 recertified between 2007 and 2011 and cared for 185,044 beneficiaries. There was a modest correlation (0.30) between the BETOS and self-reported comprehensiveness measures. After adjusting for beneficiary and physician characteristics, increasing comprehensiveness was associated with lower total Medicare Part A and B costs and Part B costs alone, but not with hospitalizations; the association with spend-

Continuity: Research Gap filled by this paper

- Unlike Comprehensiveness, Continuity had a variety of measurable research definitions

- Most measures were of individual continuity with a single physician, not physician-level

- Little had been done to operationalize continuity in a measurement paradigm or to link continuity with measurable outcomes.

Advancing our Understanding of the Relationship between Continuity Measures & Outcomes

NEW DIMENSIONS

- Age & Health:
  - *Children, 18-65, Healthier*
- Payor Groups:
  - *Commercial, Public*
- Clinician Groups:
  - *Gen Int Med, Peds, Others*
- Levels of Organization:
  - *Team, Practice, System*
- Outcomes:
  - *Preventive, Diagnosis, Clinical*

NEW SOURCES OF DATA

- PRIME Registry – Electronic Health Record Extraction
- All Payor Claims Data (APCD) – Virginia
- Longitudinal Claims Data (Medicare VRDC)
- Qualitative/Mixed Methods
  - TEPs, Practice Interviews

ABFM Quality Measure Development
Measuring What Matters In Primary Care

Crowd-sourcing and a Starfield Summit (www.starfieldsummit.com) revealed:

- Clinicians and patients think that a lot of the same things are important
- Patients want more personalized attention
- Clinicians don't feel that what they do that is important is recognized or supported
- Employers/payers focus on cost & employee experience
- A large portion of what clinicians & patients think is important is missing from current measures
- All groups consider systemic support & integration important

Person Centered Primary Care Performance Measure

Rebecca S. Etz, PhD, Stephen J. Zyzanski, PhD, Martha M. Gonzalez, Sarah R. Reves, MSN, FNP-C, Jonathan P. O'Neal, Kurt C. Stange, MD, PhD,A New Comprehensive Measure of High-Value Aspects of Primary Care, Ann Fam Med 2019;17:221-230. https://doi.org/10.1370/afm.2393.

Continuity of Care Performance Measure

Andrew Bazemore, MD, MPH, Stephen Petterson, PhD, Lars E. Peterson, MD, PhD, Richard Bruno, MD, MPH, Yoonkyung Chung, PhD, Robert L. Phillips Jr, MD, MSPH, Higher Primary Care Physician Continuity is Associated With Lower Costs and Hospitalizations, Ann Fam Med 2018;16:492-497. https://doi.org/10.1370/afm.2308.

Low-Value Care Performance Measure

Tyler W. Barreto, Yoonkyung Chung, Peter Wingrove, Richard A. Young, Stephen Petterson, Andrew Bazemore and Winston Liaw, Primary Care Physician Characteristics Associated with Low Value Care Spending, JABFM March 2019, 32 (2) 218-225; DOI: https://doi.org/10.3122/jabfm.2019.02.180111

Comprehensiveness Performance Measure

Bazemore A, Petterson S, Peterson LE, Phillips RL. More comprehensive care among family physicians is associated with lower costs and fewer hospitalizations. The Ann Fam Med. 2015; 13(3):206-213. http://www.annfammed.org/content/13/3/206.full

The vision – MTM using Claims Data

We can produce Continuity, Comprehensiveness, Total Cost of Care, and Low Value Care from claims data for primary care physicians

We can feed this back to individual clinicians
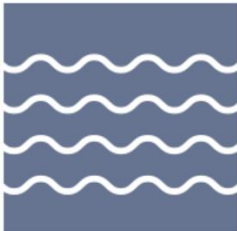
We can feed this back to training programs

We can feed this back to health systems

Relevance to PCC & Stakeholders: Shared Principles for Primary Care

Source: https://www.pcpcc.org/about/shared-principles

Questions?

www.professionalismandvalue.org

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