

PAST, PRESENT & FUTURE OF PHARMACY PRACTICE: Highlights of the Value of Team- Base Care



**Starlin Haydon-Greatting, MS-MPH, BSP Pharm,
CDM, FAPhA, FADCES**

SHG Clinical Consulting/IPhA-PSMP

Director of Clinical Programs & Population Health

Springfield, Illinois



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 - Please refer to learning goals and objectives
 - Learners must attend the full activity and complete the evaluation in order to claim continuing education credit/hours
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ceinfo@vcuhealth.org



2023 Center for Pharmacy Practice Innovation (CPPI) Seminar

2023 Center for Pharmacy Practice Innovation (CPPI) Seminar - 6/26/2023

Speaker(s): Starlin Haydon-Greatting, MS, MPH

Topic: CPPI invites various health care professionals from around the country and globe to speak on issues relating to innovation in the health care space.

Objective(s):

Location: NA

Specialties: Cardiovascular Disease, Endocrinology, Diabetes and Metabolism, Family Practice, General Practice, Nutrition, Pharmacist, Public Health, Academic/Research, Dietitians, Pharmacy Technician, Cardiology

Faculty Disclosures:

Starlin Haydon-Greatting, MS, MPH (Nothing to disclose - 05/22/2023)

[Download Handout](#)

Purpose or Objectives: At the conclusion of this activity, the participant will be able to:

Date/Time: 6/26/2023 12:00:00 PM

Location: NA

Accreditation:



In support of improving patient care, VCU Health Continuing Education is jointly accredited by the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE), and the American Nurses Credentialing Center (ANCC), to provide continuing education for the healthcare team.

Credit Designation(s):



This activity provides 1.00 contact hours of continuing education credit. ACPE Universal Activity Number (UAN): Pharmacist: JA4008237-0000-23-006-L04-P Technician: JA4008237-0000-23-006-L04-T

NOTE FOR PHARMACISTS: Upon closing of the online evaluation, VCU Health Continuing Education will upload the pharmacy-related continuing education information to CPE Monitor within 60 days. Per ACPE rules, VCU Health Continuing Education does not have access nor the ability to upload credits requested after the evaluation closes. It is the responsibility of the pharmacist or pharmacy technician to provide the correct information [NABP ePID and DOB (in MMDD format)] in order to receive credit for participating in a continuing education activity.

Disclosure of Commercial Support:



We acknowledge that no commercial or in-kind support was provided for this activity.

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The following planners, moderators or speakers have the following financial relationship(s) with commercial interests to disclose:

Name of individual	Individual's role in activity	Name of Ineligible Company(s) / Nature of Relationship(s)
Teresa M Salgado, MPharm, PhD	Activity Director	Grant or research support-Boehringer Ingelheim - 10/31/2022
Starlin Haydon-Greatting, MS, MPH, BSPharm, CDM, FAPhA, FADCES	Faculty	Nothing to disclose - 05/22/2023
Evan Sisson, Pharm.D., MSHA, BCACP, CDE, FAADE	Planning Committee	Nothing to disclose - 10/30/2022
Sydney Weber, BA	Planning Committee	Nothing to disclose - 10/27/2022



Objectives:



1. Review changes in healthcare delivery that likely impact pharmacy practice.



2. Describe current trends in contemporary pharmacy practice as they relate to inter-professional collaboration.



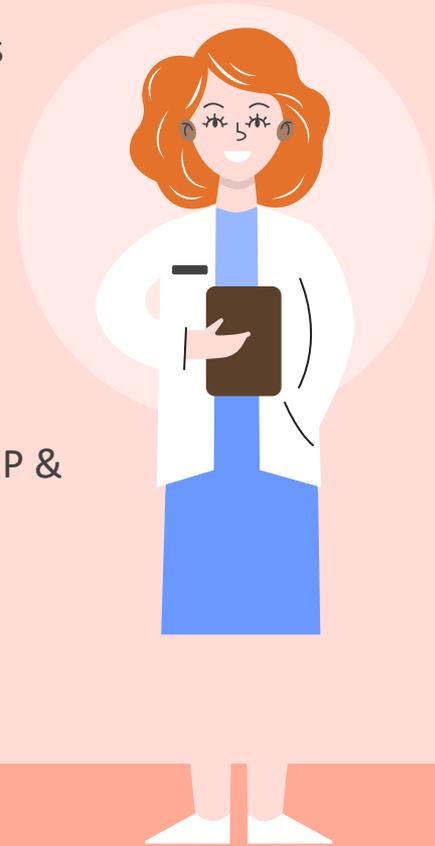
3. Discuss practice innovations designed to improve health outcomes.

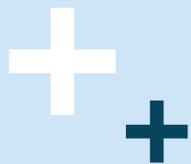


4. Discuss role delineation for pharmacists on the inter-professional healthcare team.

INTRODUCTION

- Through SHG Clinical Consulting, serves as the Illinois Pharmacists Association's (IPhA) Director of Clinical Programs and Population Health, to establish ambulatory care chronic disease & comprehensive medication management programs to improve person centered care & medication optimization.
- Serves as the IPhA Patient Self-Management Programs-Pharmacy Network Coordinator, programs for diabetes, pre-diabetes, cardiovascular health, respiratory health, women's health, HIV PEP & PrEP, and future pharmacy engagement programs.
- Sees patients in the pharmacist-based chronic care management program for self-insured employers in pre-diabetes, diabetes, cardiovascular health, asthma, & behavioral health.





My JOURNEY



1981

**IHS
Residency**
Alaska Native
Health System



1982
-89

**Clinical
Coordinator**
Marion Memorial
So-IL &
MMC -Springfield



1990

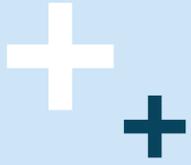
**HC & Public
Pollicy**
Fellowship w/
APhA; ASHP;
ASCP:AMCP



1990
-
2005

**Medicaid
50:50**
Director of QA &
Utilization Review
(DUR)





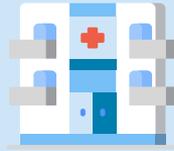
My JOURNEY



2005

**APhA-Asheville
Projects**

Asheville, NC



2006-
2009

DTCC

Diabetes Ten City
Challenge



2010

**TCOYH+
PQA-NQF**

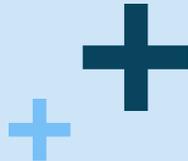
F



2011

**IDPH-CDC
BPS-AmCare**

D



Pharmacist & Person Centered Care

IPhA-PSMP

10 Self-insured
Employers 2500 lives

CPESN

Community Pharmacy
Enhanced Service
Network

2005

2010

2016

2018

2020

DTCC

APhA Foundation's
Diabetes Ten City
Challenge

TCOYH

Taking Control of
Your Health
City of Chicago

MyHealthRx

HabitNu DPP &
DSMES

Question 1

Of the following changes in health care delivery which one has the **MOST** significant impact on pharmacists' practices?

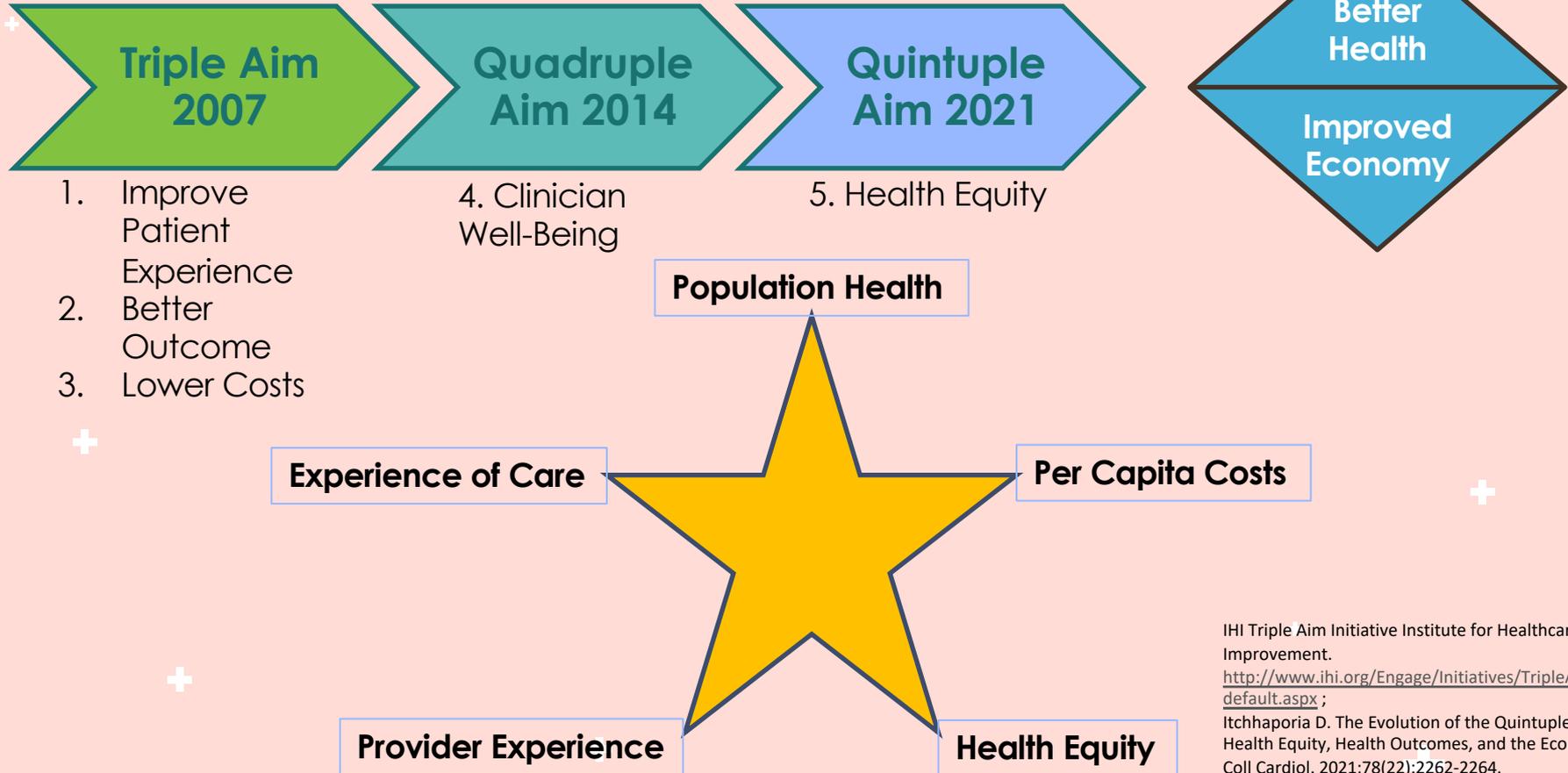
- A) Integration of pharmacists in inter-professional care teams
- B) Adoption of electronic prescribing systems
- C) Introduction of value-based reimbursement models
- D) Implementation of medication therapy management programs

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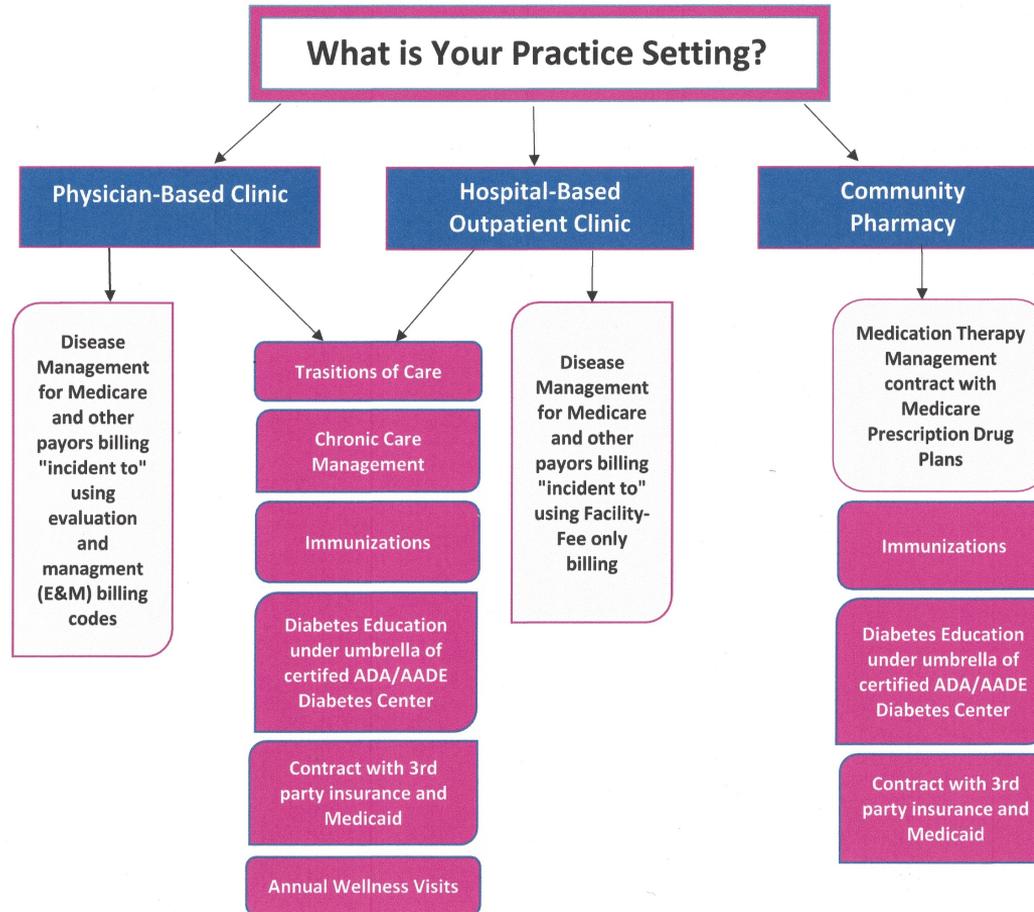
- A) Integration of pharmacists in inter-professional care teams
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- D) Implementation of medication therapy management programs

Quintuple Aim of Healthcare

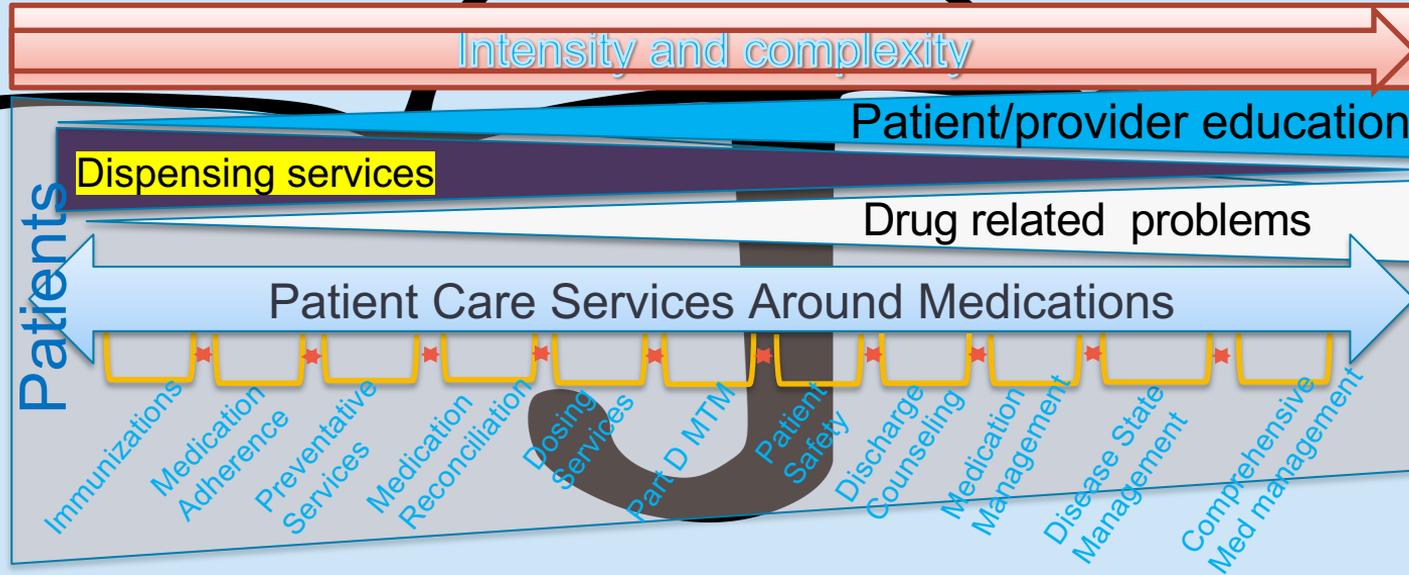


IHI Triple Aim Initiative Institute for Healthcare Improvement.
<http://www.ihl.org/Engage/Initiatives/TripleAim/Pages/default.aspx> ;
Itchhaporia D. The Evolution of the Quintuple Aim: Health Equity, Health Outcomes, and the Economy. J Am Coll Cardiol. 2021;78(22):2262-2264.
doi:10.1016/j.jacc.2021.10.018 Accessed 6-1-23

Billing Opportunities for Ambulatory Care Services Provided by Pharmacists



Optimize Medications



Question 2

Which statement best describes a **current** trend in contemporary pharmacy practice related to inter-professional collaboration?

- A) Decreasing role of pharmacists in healthcare teams due to automation
- B) Limited recognition and involvement of pharmacists' expertise in patient care discussions
- C) Increasing integration of pharmacists in collaborative healthcare teams, leveraging their medication expertise
- D) Minimal communication between pharmacists and other healthcare professionals

Question 2

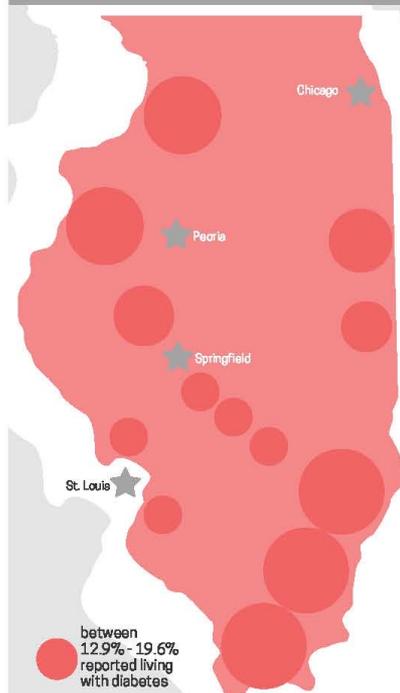
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Diabetes Burden Report

State of Illinois 2021

Geographic Differences: Rural vs. Urban Disparities



Rural counties predominately make-up rates higher than the state's average (10.5%) of self-reported diabetes.

These increased rates are attributed to **less diabetes-related health care services** and access to **diabetes self-management education (DSME)** programs than urban populations. Some disparities identified include:

3.1% less received **foot exam**

2.0%

more had a **foot sore** that took more than four weeks to heal

3.3% less received a **dilated eye exam**

3.8%

more had **diabetic retinopathy**

MyHealthRx



Empowering patients to take control of their health since 2005.

IPhA-PSMP 2.0 Control Tower

IPhA-PSMP
2.0

Planning & Optimizing

DSME/S/IMZ/POC
DPP T/ACUT
Strategies
MTM + CMM



50+Pharmacies
I-CPEN

Billing & Cost-sharing

LOGISTICS &
Ongoing
Training

HabitNu™
Virtual Platforms
DPP/DSME/plus
Remote Pt
Monitoring-RPM

CQA,
Administrative
Reporting,,
Marketing &
Sales

Clinical-Adv-
Practice
Pharmacist
Network/Pool

✓ CHRONIC DISEASE & MEDICATION MANAGEMENT

- ✓ Pre-Diabetes DPP/Lifestyle-Weight Management
- ✓ Diabetes, Cardiovascular Diseases: BP, Cholesterol
- ✓ Comprehensive Medication Management (CMM)
- ✓ Medication Therapy Management (MTM-part D)
- ✓ Chronic Care, Transition Care, Annual Wellness

✓ DSME/S/T Diabetes Self-Management, DPP & CVD Management

- ✓ Self-Insured Employers (Reynolds, Pactiv+)
- ✓ 1815 Grant Pilots [DPP; DSME; DPP+DSME]
 - ✓ Hope to add 50 pharmacies
 - ✓ Clinical Pharmacist Network-PSMP

✓ ACUTE CARE SERVICES & Management

- ✓ Hormonal Contraceptives
- ✓ HIV PEP & PrEP

✓ Immunization & ID Services:

- ✓ Covid-19, Flu, Pneumonia, Shingles, Hep-B
- ✓ COVID & IMZ Tracking & Treatments

✓ Point of Care Testing (POCT)

- ✓ Covid; Strep; Flu; etc.
- ✓ Others: i.e., Opioids??
- ✓ Pharmacogenomics??



Empowering patients to take control of their health since 2005.

Question 3

What is the **greatest** advanced clinical pharmacists' practice innovation designed to improve health outcomes?

- A) Implementation of medication synchronization programs
- B) Conducting medication reconciliation at hospital admission
- C) Offering patient education on medication adherence
- D) Performing comprehensive medication reviews and therapeutic optimization

Question 3

What is the **greatest** advanced clinical pharmacists' practice innovation designed to improve health outcomes?

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- D) **Performing comprehensive medication reviews and therapeutic optimization**

DIABETES + EDUCATION & DM

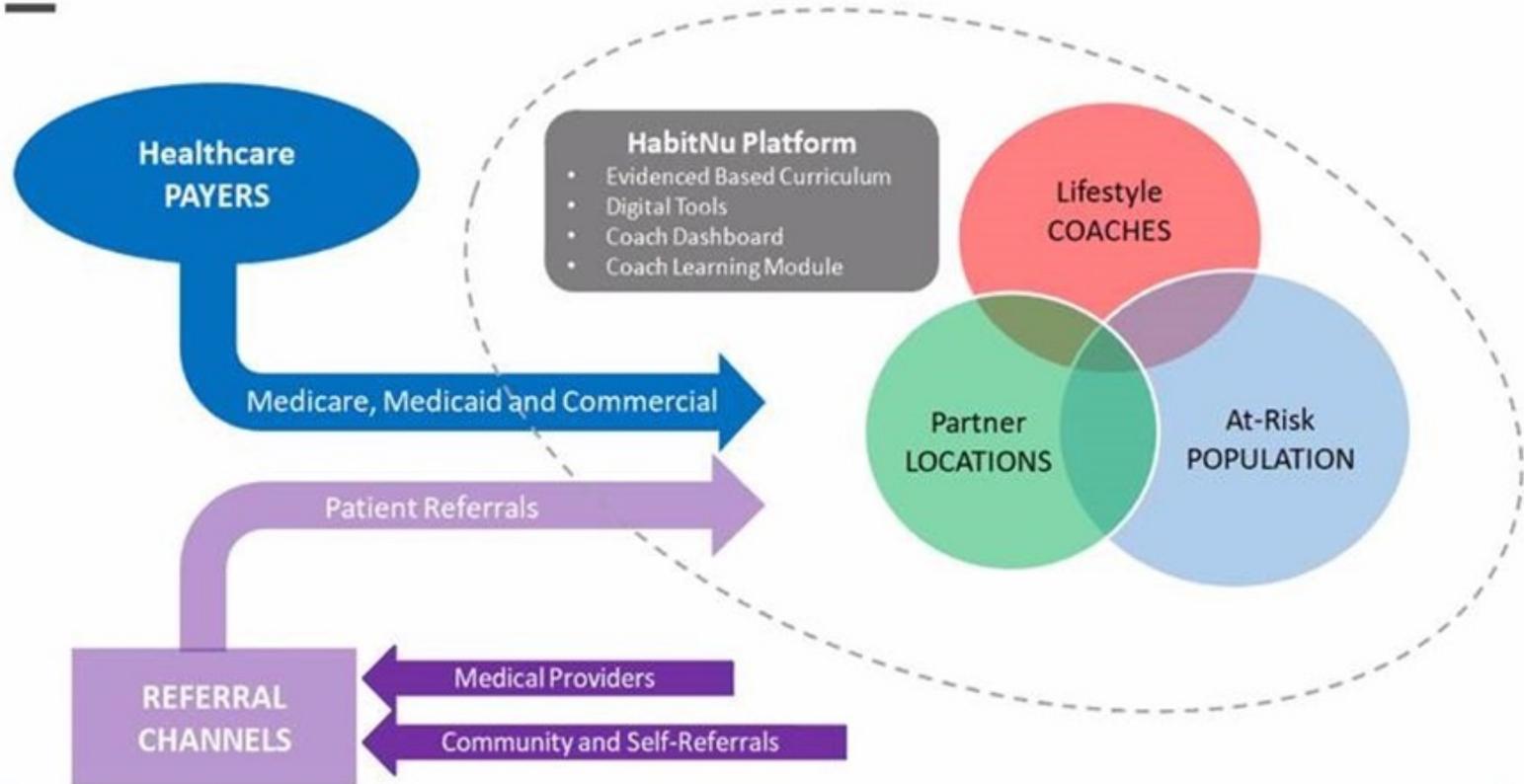
Prevention

DSME/S; DSMT; DPP; MDPP

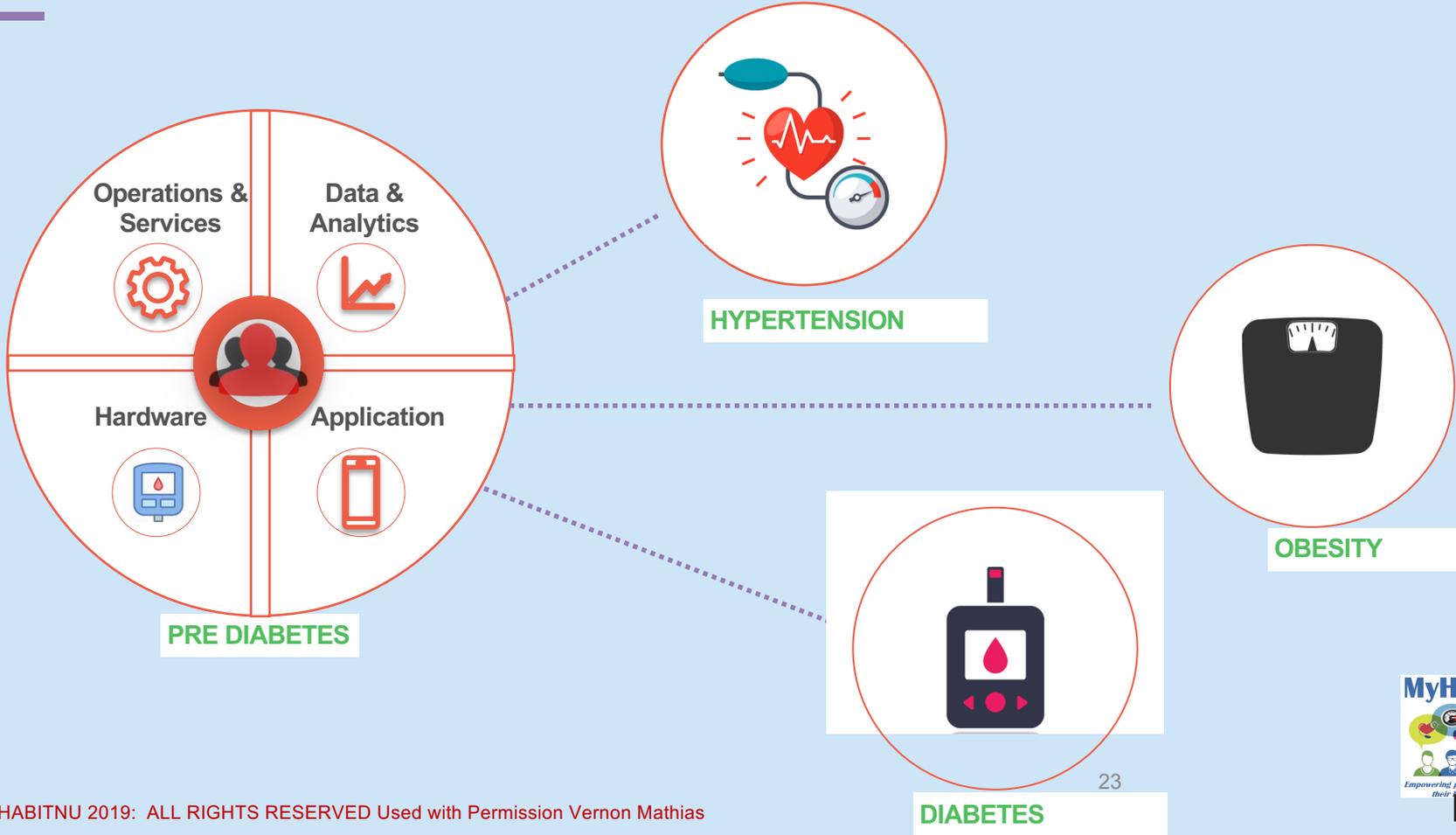


IPHA-PSMP PARTNERS WITH HABITNU™

HABITNU PARTNER NETWORK IS ALIGNED TO SCALE ACCESS AND SUSTAIN DELIVERY



HABITNU™ AS A LICENSING PLATFORM FOR CHRONIC CONDITIONS



Economic Impact and Healthcare Utilization Outcomes of Diabetes Self-Management Education and Support Interventions for Persons with Diabetes: A Systematic Review and Recommendations for Future Research

Whitehouse CR, Haydon-Greatting S, Srivastava SB, Brady VJ, Blanchette JE, Smith T, Yehl KE, Kauwetuitama AI, Litchman ML, Bzowyckyj AS. Economic Impact and Health Care Utilization Outcomes of Diabetes Self-Management Education and Support Interventions for Persons With Diabetes: A Systematic Review and Recommendations for Future Research. *Sci Diabetes Self Manag Care*. 2021 Dec;47(6):457-481. doi: 10.1177/26350106211047565. Epub 2021 Nov 3. PMID: 34727806. <https://www.diabeteseducator.org/research/value-of-diabetes-education>

Economic Outcomes & Healthcare Utilization of DSMES Interventions: A Systematic Review

STUDY POPULATION

Participants	PWD including type 1 diabetes, type 2 diabetes, and gestational diabetes, or caregivers of PWD
Intervention	Diabetes education, intervention, counseling, and/or training. The intention of the intervention must describe inclusion of one or more of the ADCES7™
Comparison	Compare to individuals who were not exposed to the intervention
Outcome measure(s)	Economic evaluation studies that include the following outcomes: cost effectiveness of DSME and/or healthcare utilization including hospitalizations, emergency department, medical and prescription benefits and total healthcare costs

Observed Economic and Healthcare Utilization Outcomes

6 studies were appraised as “Strong Positive”

5 studies (6 manuscripts) were appraised as “Suggestive Positive”

1 study was appraised as “Strong Negative”

9 studies were appraised as “Uncertain”

DSMES interventions may positively impact economic and/or healthcare utilization outcomes. Existing literature shows wide variability in DSMES delivery, methodology, economic outcomes and healthcare utilization. This review highlights an evidence gap and future full health economic evaluations are warranted.

The Science of Diabetes Self-Management and Care. Your article “Economic Impact and Health Care Utilization Outcomes of Diabetes Self-Management Education and Support Interventions for Persons With Diabetes: A Systematic Review and Recommendations for Future Research” is now published and your complimentary e-copy is available at <https://journals.sagepub.com/eprint/A5DKGTWBMXA3BJFRHKY9/full>

Background

2007: total estimated cost of diagnosed diabetes in the US = **\$174 billion**

- \$116 billion in direct medical costs
- \$54 billion in reduced productivity

2012: total estimated cost of diagnosed diabetes in the US = **\$245 billion**

- \$176 billion in direct medical costs
- \$69 billion in reduced productivity

2017: total estimated cost of diagnosed diabetes in the US = **\$327 billion**

- \$237 billion in direct medical costs
- \$90 billion in reduced productivity

Background: Prior Systematic Reviews

2009: costs and benefits associated with diabetes education¹

- More than half of the studies associated diabetes education (and disease management) with:
 - decreased costs
 - cost savings
 - cost-effectiveness
 - positive return on investment
- remainder reporting either neutral results or increased costs

2017: economic evaluation of chronic disease self-management for people with diabetes (international)²

- Education programs may be cost-effective, but details of the core educational components of each intervention are not identified

2020: cost-effectiveness of interventions (not limited to education) used to prevent and manage diabetes (122 studies, international)³

- DSMES programs meet the “very cost-effective” category;
- However, educational components of interventions missing.
- Included studies that utilized predictive modeling to evaluate economic outcomes.

Specific Aim

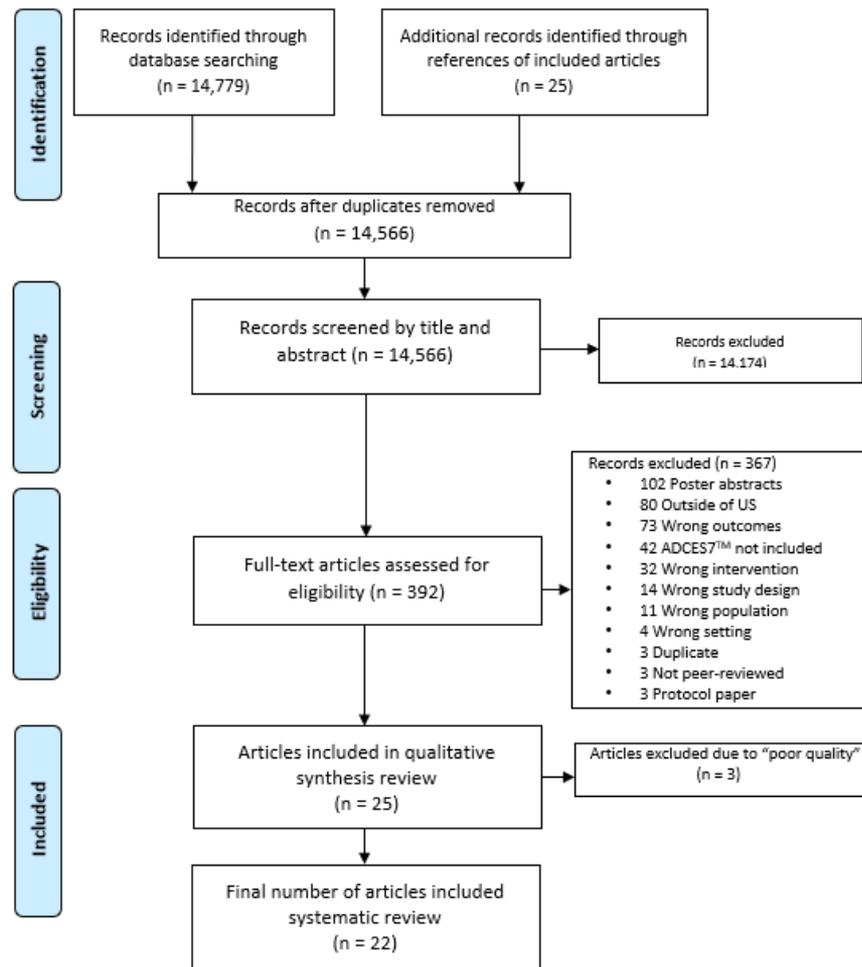
- Identify and describe studies that report on the observed economic impact and healthcare utilization of interventions that included DSMES in the United States

Methods

Inclusion Criteria	
Study designs	Randomized controlled trials; quasi-experimental studies; cohort, case-control, and cross-sectional studies
Participants	Adult persons with diabetes, including type 1 diabetes, type 2 diabetes, and gestational diabetes, or caregivers of persons with diabetes
Intervention	Diabetes education, intervention, counseling, and/or training; the intention of the intervention must describe inclusion of 1 or more of the ADCE57
Comparison	Compare to individuals who were not exposed to the intervention
Outcome measure(s)	Full economic evaluation studies or partial economic studies that include the following outcomes: cost-effectiveness of diabetes education, including incremental ratios of costs per unit of benefit, return on investment, and cost-benefit ratio, and/or health care utilization, including hospitalizations, emergency department, medical and prescription benefits, and total health care costs if indicated.
Exclusion criteria	
Study design	Qualitative studies, case reports, model-based evaluations, abstracts only, reviews, commentaries, editorials, newsletters, research protocols, intervention studies that did not implement an experimental or case-control design, and studies conducted
Location	Outside of the US and/or its territories

Results

- PRISMA Flow Diagram
- Final sample included 22 studies



Results

ADCES7™ Components Utilized in DSMES Interventions

- 15 studies included all components of ADCES7™

Author, year	Healthy Coping	Healthy Eating	Being Active	Monitoring	Taking Medications	Problem Solving	Reducing Risks
Randomized Controlled Trials							
Hamid, 2014	✓	✓	✓	✓	✓	✓	✓
Huang, 2019	✓	✓	✓	✓	✓	✓	✓
Kraemer, 2012					✓		
Lorig, 2008	✓	✓	✓	✓	✓	✓	✓
Lorig, 2009	✓	✓	✓	✓	✓	✓	✓
Taveira, 2011	✓	✓	✓	✓	✓	✓	✓
Wolf, 2007		✓	✓				
Wu, 2018		✓	✓	✓	✓		✓
Quasi-Experimental Studies							
Burton, 2016*	✓	✓	✓	✓	✓	✓	✓
Fera, 2009	✓	✓	✓	✓	✓	✓	✓
McLendon, 2019*	✓	✓	✓	✓	✓	✓	✓
Monte, 2009		✓		✓	✓		
Moran, 2011							✓
Rodriguez de Bittner, 2017	✓	✓	✓	✓	✓	✓	✓
Wertz, 2012				✓	✓		✓
Wilhide, 2008	✓	✓	✓	✓	✓	✓	✓
Case-Control							
Turner, 2018*	✓	✓	✓	✓	✓	✓	✓
Cohort Studies							
Berg, 2009				✓	✓		
Dalal, 2014*	✓	✓	✓	✓	✓	✓	✓
Duncan, 2009*	✓	✓	✓	✓	✓	✓	✓
Gilmer, 2007*	✓	✓	✓	✓	✓	✓	✓
Ko, 2016	✓	✓	✓	✓	✓	✓	✓

Results

Observed Economic and Healthcare Utilization Outcomes

- 7 studies were appraised as “Strong Positive”

Author, Publication year, Location; [Study Years]		Inpatient Utilization	ED Utilization	Other Costs/Utilization	Total Costs	Overall Appraisal	
INTERVENTIONS DESCRIBING UTILIZATION OF ALL 7 ELEMENTS OF THE ADCES7™ SELF-CARE BEHAVIORS							
McLendon, 2019, Georgia [2016 – 2017]		↓* (inpatient hospitalizations)	↓* (ED visits)	NR	NR	Strong Positive	
Rodriguez de Bittner, 2017, Maryland & Virginia [Jul 2006 - May 2012]		NS (hospital admissions & ED visits)		NS (pharmacy costs)	NS (total annual health care costs)	Strong Positive	
				↓* (medical costs)			
Turner, 2018, National [Oct 2013 - Oct 2014]		↓* (inpatient utilization)	↓* (ED utilization)	↓* (outpatient utilization)	↓* (all-cause medical costs)	Strong Positive	
		NS (inpatient medical costs)	NS (ED visits)	↓* (outpatient medical costs)			
				↓* (pharmacy costs)			
Duncan, 2009, National [2005 – 2007]		↓* (inpatient costs)	NR	↑* (outpatient costs)	↓* (“total costs”)	Strong Positive	
				↑* (pharmacy costs)			
		Medicare Cohort	↓* (Inpatient costs)	NR	NS (outpatient costs)	↓* (“total costs”)	Strong Positive
					NS (pharmacy costs)		
INTERVENTIONS DESCRIBING UTILIZATION OF LESS THAN 7 ELEMENTS OF THE ADCES7™ SELF-CARE BEHAVIORS							
Wolf, 2007, Virginia [2001 – 2003]		↓* (hospitalization rate)	NS (ED costs)	NS (outpatient costs)	↓* (total health care costs, including intervention costs)	Strong Positive	
		NS (inpatient costs)		NS (pharmacy costs)			
				↓* (medical care costs)			
Berg, 2009, Puerto Rico [Sept 2002 - Dec 2003] (adjusted to Dec 2003 USD)		NS (inpatient admissions)	NS (ED visits)	↓* (monthly medical costs)	↓* (“monthly total costs”)	Strong Positive	
		NS (30-day readmissions)		NS (monthly pharmacy costs)			

Results

Observed Economic and Healthcare Utilization Outcomes

- 6 studies were appraised as “Suggestive Positive”

Author, Publication year, Location; [Study Years]		Inpatient Utilization	ED Utilization	Other Costs/Utilization	Total Costs	Overall Appraisal
INTERVENTIONS DESCRIBING UTILIZATION OF ALL 7 ELEMENTS OF THE ADCES7™ SELF-CARE BEHAVIORS						
Hamid, 2014, American Samoa Huang, 2019, American Samoa [Feb 2009 - Jun 2011] (all costs 2012 USD)		NS (hospital utilization)	NS (ED utilization)	NS (outpatient utilization)	NS (“total costs”, including direct intervention costs, direct medical costs, and indirect patient time)	Suggestive Positive
Lorig, 2008, California [2002 – 2005]	6 months	NS (hospital days)	NS (ED Visits)	NS (physician visits)	NR	Suggestive Positive
	18 months ^b	NS (hospital days)	↓* (ED visits)	NS (physician visits)		Suggestive Positive
Fera, 2009, National ^d [Jan 2006 - Dec 2007] (data adjusted to 2008 USD)		NR	NR	NS (medical claims)	NS (total health care costs)	Suggestive Positive
				NS (medication claims)		
INTERVENTIONS DESCRIBING UTILIZATION OF LESS THAN 7 ELEMENTS OF THE ADCES7™ SELF-CARE BEHAVIORS						
Monte, 2009, New York [2006 – 2007] (All costs in 2008 USD)	0-6 months	NS (hospital visits, GM)	NS (ED visits, GM)	NS (prescription costs)	NS (total costs of medical care, GM & total combined costs)	Suggestive Positive
	6-12 months	NS (hospital visits, GM)	NS (ED visits, GM)	NS (prescription costs)	NS (total costs of medical care, GM & total combined costs)	
Wertz, 2012, Ohio [Jan 2008 - Dec 2009]		NS (Inpatient costs)	NS (ED costs)	NS (office visit costs)	NS (total costs, excluding cost of coaching program)	Suggestive Positive
				↑* (pharmacy claims)		

Results

Observed Economic and Healthcare Utilization Outcomes

- 1 study was appraised as “Strong Negative”

Author, Publication year, Location; [Study Years]	Inpatient Utilization	ED Utilization	Other Costs/Utilization	Total Costs	Overall Appraisal
INTERVENTIONS DESCRIBING UTILIZATION OF ALL 7 ELEMENTS OF THE ADCES7™ SELF-CARE BEHAVIORS					
Gilmer, 2007, California Control: [Jan 1999 - June 2000] Intervention: [Jul 2000 - Dec 2002] (all costs in 2002 USD)	NS (Hospital & ED expenditures)		NS (outpatient costs)	↑* (“total costs”, including cost of program)	Strong Negative
			↑* (pharmacy costs)		

- 10 studies were appraised as “Uncertain”

Results

STUDY CHARACTERISTICS

- **Study design**

- 8 quasi-experimental studies
- 7 RCTs
- 5 cohort studies
- 1 case-control study

- **Patient population**

- T2DM (n = 11)
- T1DM or T2DM (n = 5)
- Not defined (n = 5)

- **Study setting**



32%



23%



23%

- **Intervention varied by**

- Education mode
- Education delivery
- Facilitator(s)

- 14 studies included all components of ADCES7™

Results

Observed Economic and Healthcare Utilization Outcomes

- Of the 14 interventions that incorporated all 7 elements of the ADCES7, 7 studies (50.0%) showed a positive association with DSMES
- Five of the 7 studies with a positive association (71.4%) were classified as strong positive
- 9 studies were classified as “Uncertain” association

So, what
does this
study tell
us?

- Highlights DSMES interventions may positively impact economic outcomes and/or healthcare utilization
- Shows tremendous variability in DSMES delivery, methodology, economic outcomes, and healthcare utilization
- This review emphasizes the importance of conducting comprehensive health economic evaluations
- Future studies should identify important components for educational interventions including how each component of the ADCES7™ is addressed and Team-based care

Issues/Barriers for Pharmacists in Value-based Care

- **Payment** – FFS model still predominates – lack of payment sources hinders adding pharmacists to the **team-based model**
- **Quality metrics:**
 - **Application** – reward vs penalize performance; e.g., DIR fees (direct and indirect renumeration fees) that tie quality metrics to product reimbursement
 - **Attribution** -how pharmacists' contributions to meeting quality metrics are attributed in a practice/organization
 - **Meaningful** – what metrics best measure pharmacists' patient care
- **Virtual teams** – communication (EHR), access to information
- **Roles and responsibilities** – deploying pharmacists' expertise in the most effective and efficient manner
- **Risk-based models and contracting** – what's appropriate?

Lessons Learned (n=1)

- Integrated, team-based care is an effective approach for complex patients - how to effectively implement among the patient's community of providers?
- Patients & their caregivers are often the ones coordinating their care, including medication use, but lack the expertise to do so...uncompensated care?
- Better transparency is needed related to healthcare costs & quality in order to inform healthcare decision-making
- Pharmacists can impact quality metrics, in various roles, while working as a member of the health care team.
- Value-based health care, if implemented effectively & efficiently across **ALL** stakeholders, shows promise for improving healthcare in the U.S.

Question 4

Which of the following **best** describes the role delineation for pharmacists on the inter-professional healthcare team?

- A) Providing occasional consultation on non-medication related matters
- B) Limited involvement in patient care decision-making
- C) Collaborating with other healthcare professionals to optimize medication therapy
- D) Focusing exclusively on administrative and dispensing tasks within the pharmacy

Question 4

Which of the following **best** describes the role delineation for pharmacists on the inter-professional healthcare team?

- A) Providing occasional consultation on non-medication related matters
- B) Limited involvement in patient care decision-making
- C) **Collaborating with other healthcare professionals to optimize medication therapy**
- D) Focusing exclusively on administrative and dispensing tasks within the pharmacy

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**Images were created through the Microsoft PowerPoint Software, except when noted.

THANK YOU

Q & A

EMAIL: sh.greatting@comcast.net

Linked in: [linkeein.com/in/starlinhaydonggreatting](https://www.linkedin.com/in/starlinhaydonggreatting)

Facebook: [@Starlin Haydon-Greatting](#)

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Instagram: [@sgreatting](#)