

A presentation slide titled "COFFEE BREAKS 2019: EFFECTIVENESS AND ECONOMIC EVIDENCE OF SELF-MEASURED BLOOD PRESSURE MONITORING INTERVENTIONS". The slide features a white coffee cup with black coffee on the right side. The text is in a clean, sans-serif font. Below the title, it says "CENTERS FOR DISEASE CONTROL AND PREVENTION". The presenter's name and affiliation are listed: "Sharada Shantharam, MPH | Applied Research and Translation Team" and "September 10, 2019". At the bottom, there are logos for the "NATIONAL CENTER FOR CHRONIC DISEASE PREVENTION AND HEALTH PROMOTION" and the "DIVISION FOR HEART DISEASE AND STROKE PREVENTION", along with the CDC logo. The slide has a dark blue background with a subtle pattern of clouds and a horizontal bar with colored segments at the bottom.

COFFEE BREAKS 2019:
EFFECTIVENESS AND ECONOMIC EVIDENCE
OF SELF-MEASURED BLOOD PRESSURE
MONITORING INTERVENTIONS

CENTERS FOR DISEASE CONTROL AND PREVENTION

Sharada Shantharam, MPH | Applied Research and Translation Team
September 10, 2019

NATIONAL CENTER FOR CHRONIC DISEASE PREVENTION AND HEALTH PROMOTION

DIVISION FOR HEART DISEASE AND STROKE PREVENTION



MODERATOR:

Welcome to today's Coffee Break presented by the Applied Research and Evaluation (ARE) Branch in the Division for Heart Disease and Stroke Prevention at the Centers for Disease Control and Prevention.

We are fortunate to have **Sharada Shantharam** as today's presenter. Sharada is a Health Scientist with IHRC, Inc. supporting our division. She sits on the **Applied Research and Translation Team** (ART) within CDC's Division for Heart Disease and Stroke Prevention.

My name is **Lauren Taylor** and I am today's moderator. I am also on the ART team within the **ARE Branch**.

BEFORE WE BEGIN...

- All phones have been placed in SILENT mode.
- Any issues or questions?
 - Use Q & A box on your screen
 - Email AREBheartinfo@cdc.gov



MODERATOR:

Before we begin we have a few housekeeping items.

All participants have been muted. However, to improve audio quality please mute your phones and microphones.

If you are having issues with audio or seeing the presentation, please message us using the chat box or send us an email at AREBheartinfo@cdc.gov

If you have questions during the presentation, please enter it on the chat box on your screen. We will address your questions at the end of the session.

Since this is a training series on applied research and evaluation, we hope you will complete the poll at the end of the presentation and provide us with your feedback.

DISCLAIMER

The information presented here is for training purposes and reflects the views of the presenters. It does not necessarily represent the official position of the Centers for Disease Control and Prevention.

MODERATOR:

The information presented here is for training purposes and reflects the views of the presenters. It does not necessarily represent the official position of the Centers for Disease Control and Prevention.

So, without further delay. Let's get started. **Sharada**, the floor is yours.

AGENDA

- Background on Self-Measure Blood Pressure (SMBP) Monitoring
- Current literature (Community Preventive Services Task Force)
- Systematic Review on the Cost of Implementing SMBP
- Next Steps
- Questions



Thank you, **Lauren!** So, for today's presentation we'll be really focusing on self-measured blood pressure monitoring, or SMBP. The Community Preventive Services Task Force conducted two systematic reviews on the health impact and cost-effectiveness of SMBP and so I'll be sharing those results. And I'll also share some preliminary results around the cost of **implementing** SMBP. And then we'll round off the presentation with the next steps and any questions folks may have.

BACKGROUND

- About 78 million US adults have high blood pressure (defined at a blood pressure $\geq 140/\geq 90$ mm Hg), half of which (48.5%) have their condition under control^{1,2}
- 46,000 deaths might be averted each year if 70% of hypertensive patients younger than 80 years were treated³
- Small reductions in blood pressure can reduce risk for stroke, heart failure, and heart attack⁴



References available on Slide 29

So, as you know, high blood pressure, or hypertension, is one of the leading risk factors for heart disease. And it's also a modifiable risk factor. Close to 78 million US adults have high blood pressure. **Only about half**, about 39 million, have it under control. This isn't a small problem. Heart disease is the number one cause of death in the country and hypertension is one of the leading risk factors for heart disease.

We've seen in research that even small reductions in blood pressure levels can dramatically reduce the risk for heart disease. If 70% of hypertensive patients were treated according to the current clinical guidelines, **46,000 deaths** could be averted. And a 10pt reduction in systolic blood pressure or 5pt in diastolic blood pressure translates to 22% risk reduction for coronary heart disease and **41%** for stroke.

SELF-MEASURED BLOOD PRESSURE MONITORING (SMBP)

- SMBP involves having patients use **personal blood pressure measurement devices** to monitor blood pressure over time and to share their readings with health care providers.
 - Typically at home
 - Readings are shared during clinic visits, via telephone, or electronically
- Patient measurements inform treatment decisions to improve blood pressure control
- Often combined with lifestyle and medication counseling, self-management education, and team-based care



So, getting to the topic of today's presentation, SMBP is one of the interventions the CDC supports to address hypertension.

SMBP is essentially the use of a personal blood pressure measurement device by a patient to monitor and help manage their blood pressure. These are usually small devices like portable cuffs that the patients can use by themselves, with a little training, in the comfort of their own home. It's a great way to empower patients to get more involved. They can share their readings with their providers electronically or during regular office visits.

The idea is for the measurements to help inform providers of which treatment decisions and protocols to follow. And oftentimes, SMBP may be combined with the additional support:

- One-on-one patient counseling
- Educational sessions
- Access to electronic or web-based tools

It can also be used in conjunction with team-based care models to support a collaborative approach that providers can take to patient care.



THE COMMUNITY PREVENTIVE SERVICES
TASK FORCE (CPSTF)

So, I wanted to give a quick overview of the Community Preventive Services Task Force.

WHO IS THE CPSTF?

“An independent, nonfederal panel of public health and prevention experts whose members represent a broad range of research, practice, and policy expertise in community preventive services, public health, health promotion, and disease prevention.”

The Guide to Community Preventive Services is a collection of evidence-based findings of the CPSTF, systematic reviews, and health promotion and disease prevention resources



<https://www.thecommunityguide.org/>

The Community Preventive Services Task Force is an independent, nonfederal panel of public health and prevention experts whose members are appointed by the director of CDC. The Task Force provides information for a wide range of decision makers on programs, services, and other interventions aimed at improving population health.

The **Guide** to Community Preventive Services, also referred to as The Community Guide, is made up of evidence-based findings from the Task Force, and the systematic reviews on which those findings are based. The Community Guide is a resource to help you select interventions to improve health and prevent disease in your state, community, business, healthcare setting, or school.

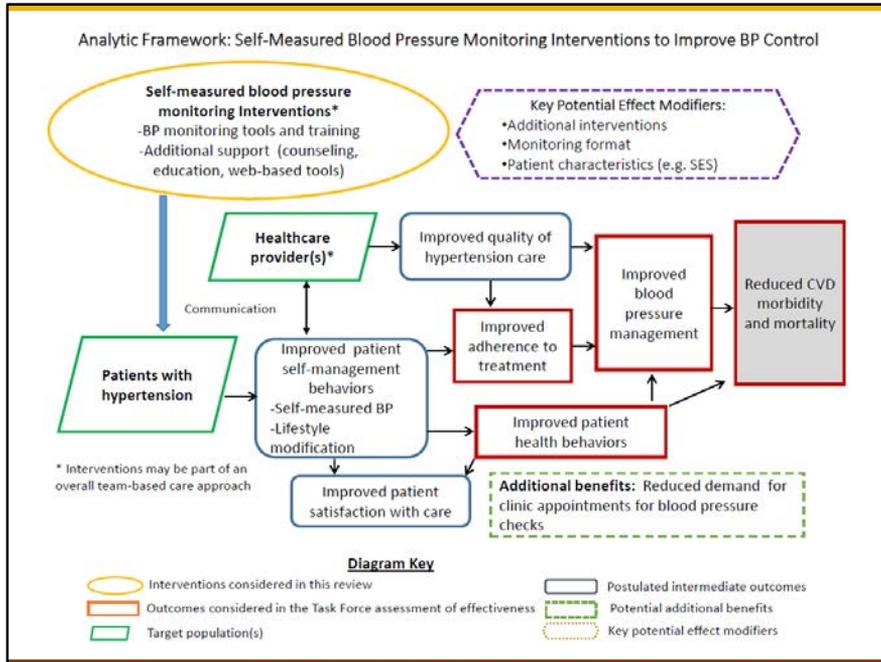
And while they do conduct their own systematic reviews, the Community Guide will also review and consider published research that may be adapted with some modifications for their consideration.

CONSIDERATION OF EXISTING LITERATURE

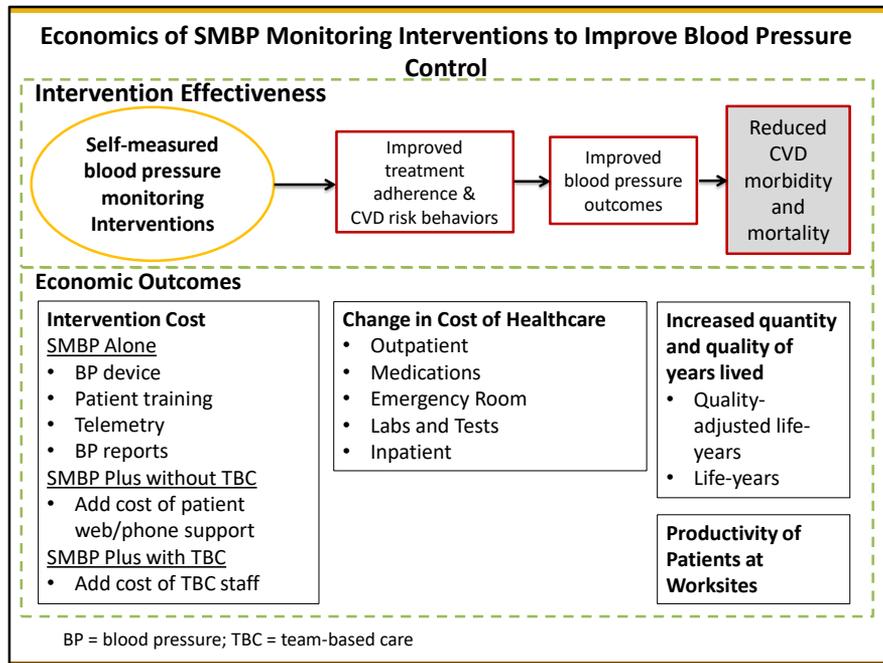
- Searched Cochrane Library, Health Evidence, PubMed (NLM), and GoogleScholar for reviews published Jan. 2009-2015
 - “self-measured blood pressure monitoring” & “self monitoring blood pressure”
- Uhlig K, Patel K, Ip S, et al. Self-measured blood pressure monitoring in the management of hypertension. *Annals of Internal Medicine* 2013, 159(3): 185-194
- Primary Outcomes
 - Blood pressure levels at goal
 - Reductions in systolic and diastolic blood pressure
 - Change in medication adherence

AHRQ report: Uhlig K, Balk EM, Patel K, et al. Self-Measured Blood Pressure Monitoring: Comparative Effectiveness. Comparative Effectiveness Review No. 45. AHRQ Publication No. 12-EHC002-EF. Rockville, MD: Agency for Healthcare Research and Quality. January 2012

As they were scoping their work for SMBP, they started by searching multiple databases for literature published between January 2009-2015. One paper by Uhlig and colleagues published in 2013 for the Agency for Healthcare Research and Quality focused on the proportion of patients with blood pressure levels at goal, reductions in systolic and diastolic blood pressure, and medication adherence. The Task Force used this report as a basis for their research.



I won't go into the details of this slide because it's a lot to take in, but essentially this is the analytic framework for the effectiveness review, which drew on the Uhlig paper, considered intervention impacts on several key outcomes of effectiveness.



In addition to effectiveness, the Task Force also conducts cost-effectiveness reviews of those interventions that they recommend. And so, this is a flow chart depicting transitions in health status from the effectiveness analytic framework on the top and with associated economic concepts of resource use and economic benefits below.

Again, I won't go through all the details, but the economic outcomes included the cost of the intervention itself, changes in health care costs, and long-term benefits. Ultimately, the researchers considered whether the interventions are cost-saving and/or cost-effective.

SUMMARY OF BLOOD PRESSURE OUTCOMES*

Outcome	SMBP Alone	SMBP with Additional Support
Proportion of patients with BP at goal	Median: +6.9 pct pts <ul style="list-style-type: none"> • IQI: 3.7 to 22.0 pct pts • 13 study arms 	Median: 5.3 pct pts <ul style="list-style-type: none"> • IQI: -0.5 to 12.0 pct pts • 18 study arms
Change in mean SBP	Median: -3.2 mmHg <ul style="list-style-type: none"> • IQI: -7.5 to -0.05 mmHg • 18 study arms 	Median: -4.6 mmHg <ul style="list-style-type: none"> • IQI: -8.7 to -2.1 mmHg • 26 study arms
Change in mean DBP	Median: -1.3 mmHg <ul style="list-style-type: none"> • IQI: -3.4 to 0.25 mmHg • 21 study arms 	Median: -2.3 mmHg <ul style="list-style-type: none"> • IQI: -3.9 to -0.83 mmHg • 28 study arms
Medication Adherence	<ul style="list-style-type: none"> • 1 favorable[†] • 3 favorable • 2 unfavorable • 6 studies 	<ul style="list-style-type: none"> • 2 favorable[†] • 5 favorable • 7 studies

[†]statistically significant; BP = blood pressure; SBP = systolic blood pressure; DBP = diastolic blood pressure; pct = percentage; IQI = interquartile range

*Overall summary estimates are reported on this slide

Here are the results from the effectiveness review when compared to usual care. For both SMBP alone and SMBP with additional support, there was an increase in the proportion of patients with blood pressure at goal and reductions in average systolic and diastolic blood pressure levels.

With medication adherence, the strength of the evidence was low. The findings were inconsistent, although a few studies showed better medication adherence when SMBP was involved.

Summary of Translated Cost per QALY Saved

	SMBP Alone	SMBP with Additional Support	SMBP within TBC
Number of Estimates	3	4	6
Number of Studies	3	4	4
Cost-effective estimates	0	4	3
Not cost-effective estimates	3 ^a	0	3 ^b
Total Cost per QALY Saved	Mean: Method 1 ^c \$100K	Median (IQI): Method 1 ^c \$2.8K (\$525 to \$5.1K)	Median (IQI): Method 1 ^c \$10.9K (\$4.2K to \$108K)
	Method 2 ^d \$144K	Method 2 ^d \$4K (\$756 to \$7.4K)	Method 2 ^d \$15.7K (\$6.1K to \$157K)

^a2 studies reported increase in SBP; ^b2 estimates were not cost-effective because they had zero effect on SBP; ^cMethod 1, Based on McEwan 2005; ^dMethod 2, Based on Mason 2005
TBC, Team-based care; K, in thousands ('000s).

This slide summarizes the cost-effectiveness results for the 3 types of SMBP interventions: 1) SMBP Alone, 2) SMBP with additional support, and 3) SMBP within a team-based care model.

For SMBP alone, one study indicated the intervention was **not** cost-effective based on a \$50,000 threshold. Two studies had actually indicated an increase in systolic blood pressure and are therefore considered **not** cost-effective.

For SMBP with additional support, 4 estimates were all below the \$50,000 threshold.

In the case of SMBP within team-based care interventions, 3 estimates from 1 study indicated the intervention was **not** cost-effective and 3 estimates from 3 studies indicated the intervention **was** cost-effective. So, there was some mixed evidence here.

OVERALL CPSTF CONCLUSIONS

Outcome	SMBP Alone	SMBP with AS	SMBP within TBC
BP Control	Moderate	High	-
Change in mean SBP	Moderate	High	-
Change in mean DBP	Moderate	High	-
Medication Adherence	Low	Low	-
Health care costs	Cost saving	Mixed results	Cost increasing
Cost per QALY	Mixed results	Cost-effective	Mixed results
Total costs*	Cost saving	Cost increasing	Cost increasing

*cost of the intervention, including its effects on healthcare; BP = blood pressure; SBP = systolic blood pressure; DBP = diastolic blood pressure; QALY = Quality of Adjusted Life Years

The CPSTF recommended:

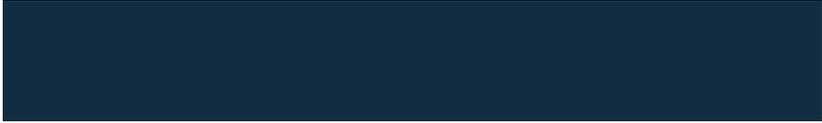
- SMBP monitoring with additional support based on **strong** evidence
- SMBP monitoring alone based on **sufficient** evidence

Overall, the Task Force found meaningful impact for blood pressure control and reducing blood pressure for both SMBP alone and with additional support. They found minimal impact in terms of medication adherence. Ultimately, the Task Force recommended SMBP with additional support based on **strong** evidence of effectiveness and SMBP alone based on **sufficient** evidence of effectiveness. As well SMBP alone is cost saving & SMBP with additional support or within a team-based care model are cost-effective.

If you're curious about the more detailed findings from the reviews, you can visit the Community Guide's website for more information.

**SMBP MONITORING INTERVENTIONS FOR
IMPROVED BLOOD PRESSURE CONTROL**
COST OF IMPLEMENTATION

WITH ADDITIONAL SUPPORT OR WITHIN TEAM-BASED CARE





So, now we've seen the benefits of SMBP. But what does it take to implement SMBP?

WHY IMPLEMENTATION COSTS?



Well, there is quite a lot of variation across programs (e.g., patient characteristics, healthcare personnel, information technology, and so on), which of course is to be expected.

Also, protocol and study design papers are rarely available and when they are provided, the kinds of information reported varies.

The Community Guide reviews did not capture or analyze this level of detail.

PURPOSE OF OUR IMPLEMENTATION COST REVIEW

- Objective: descriptive analysis of intervention characteristics
- Research questions:
 1. What are the different resources involved in SMBP interventions (i.e., personnel, technology, setting)?
 2. What types of investments could be made for SMBP interventions?

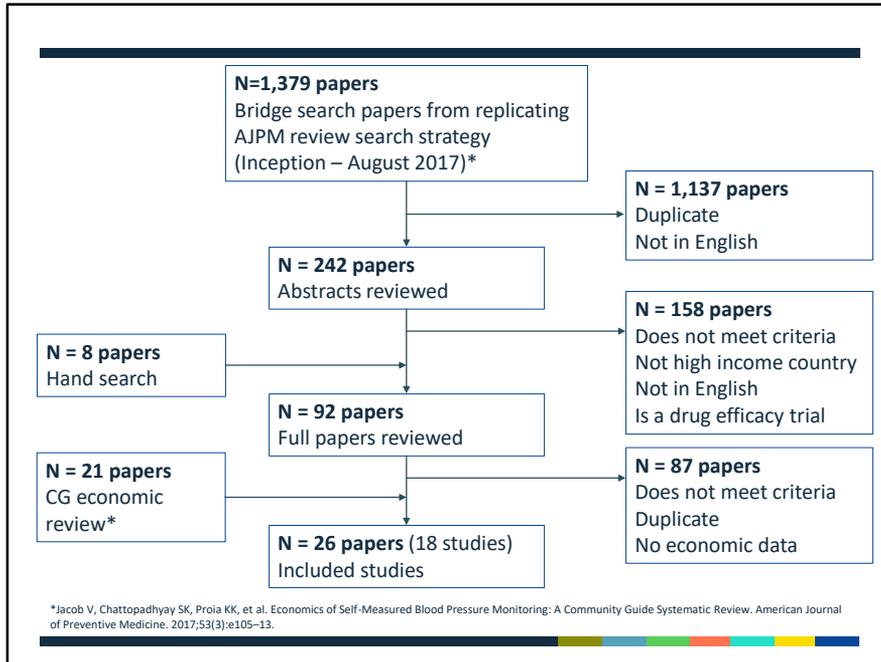
And so, to address this gap, we set out to understand what are the types of resources and costs are associated with SMBP interventions.

Our objective was to describe the intervention characteristics along with the effectiveness and economics of SMBP interventions.

And we had 2 questions:

1. What are the different resources involved in SMBP interventions (i.e., personnel, technology, setting)?
2. What types of investments could be made for SMBP interventions?

We searched for studies and abstracted information that met our definition for SMBP & also reported blood pressure change and costs.



As a part of our search strategy, we incorporated the evidence from the cost-effectiveness review into our analysis. We did conduct another search using their same search strategy to collect the latest evidence until August 2017. In the end, we found 18 studies.

NOTE: there were multiple papers published on the same study, but in assessing the weight of evidence, only studies were counted, not papers.

DATA ABSTRACTION



We've seen in the literature that not all studies report costs the same way. Some may combine administrative and medical costs, some may include overhead, while some simply focus on the material and supply costs.

There was a lot of variability, so in trying to understand the different types of costs, we categorized the costs into 5 "buckets:"

1. Labor costs and patient time, which can include the compensations for the providers and technicians, costs associated with bioinformatics, patient time, or patient and provider trainings
2. Technology or equipment costs, which can include how much the blood pressure cuffs cost, web and server hosting, mobile phones, SIM cards, or telemedicine devices
3. Material and supply costs, which can include patient education materials, training materials, or office supplies
4. Implementation costs, which can include startup costs, protocol development, or developing education and training materials
5. Other costs that don't really fit in the other buckets, such as contracted or subscription services, inpatient/outpatient care, or prescriptions.

PRELIMINARY RESULTS

SUPPORT TYPES

Characteristic	# of Studies Reporting (%)*
Additional support	
Self-management or lifestyle counseling & education	13 (72.2)
Medication counseling & education	13 (72.2)
Home visits	5 (27.8)
Case management	2 (11.1)
Team-based care	
Physicians	4 (27.8)
Nurses	2 (11.1)

*Studies could fall under more than one category.

N=18

In terms of support types, most interventions with additional support included self-management, lifestyle, or medication counseling & education. Some studies included home visits and case management.

Of the few studies that focused on team-based care, physicians and nurses were reported as a part of the care team. Team-based care is really meant to include multiple disciplines, such as community health workers or pharmacists. But more than that, it's about collaborative care and the different providers working together to determine a patient's treatment plan. We found that while the studies included these other professions, there wasn't a lot of the collaboration happening. More often than not, there was only one point of contact (e.g., pharmacist sending medication change requests to the primary care physician for approval). This is an area where we might want some more research.

PRELIMINARY RESULTS

TECHNOLOGY

Characteristic	# of Studies Reporting (%)*
Home monitoring blood pressure device	15 (83.3)
Telehealth/Telemedicine	15 (83.3)
Internet-based platform	13 (72.2)
Interactive phone system	4 (22.2)
Smartphone	3 (16.7)

*Studies could fall under more than one category.

N=18

In terms of the technology that was used in these interventions, telehealth-based interventions and those that included home monitoring blood pressure devices were the most reported.

And as you'll note at the bottom of most of these slides, most of the studies fell into multiple categories. It's not uncommon for these telehealth-based interventions to have an Internet or smartphone component as a part of the intervention.

PRELIMINARY RESULTS

INTERVENTION COSTS



Characteristic	# of Studies Reporting (%)*
Labor Costs and Patient Time	
Nurse	9 (50.0)
Physician	8 (44.4)
Pharmacist	4 (22.2)
Patient time	2 (11.1)
Other	5 (27.8)
Technology/Equipment Costs	
Home blood pressure cuffs	9 (50.0)
Telemedicine devices	8 (44.4)
Web and/or server hosting	6 (33.3)
Mobile phone	3 (16.7)

*Studies could fall under more than one category.

So, in terms of labor costs and patient time, nurses and physicians were the most commonly reported providers in the 18 studies. While these providers were included in the interventions, they were not a part of a team-based care model. More often they were included in the additional support interventions (counseling & education).

Other labor categories reported included:

- Personnel: community health workers, nutritionists, data analysts, program managers, health program specialists, quality consultants, university faculty/staff, and research assistants
- Clerical work, time costs for relatives, leisure time lost, and healthcare personnel costs during consultation visits

In terms of technology costs, we saw that these types of technology-based interventions were very common among the included studies and so it stands to reason that the costs associated with them were reported.

PRELIMINARY RESULTS

INTERVENTION COSTS, CON'T.



Characteristic	# of Studies Reporting (%)*
Materials/Supplies Costs	
Office supplies, printing, mailing	3 (16.7)
Patient education materials	3 (16.7)
Provider training materials	2 (11.1)
Patient training materials	1 (5.6)
Implementation Costs	
Education and training materials development	2 (11.1)
Startup costs	2 (11.1)
Protocol development	1 (5.6)

*Studies could fall under more than one category.

Costs reported related to materials and supplies mostly came in the form of office supplies and patient education materials.

So, while labor & equipment were covered heavily, you can see, not many studies reported costs within these two categories. This is where we started to note the break down, if you will, in the ways the studies reported their costs. Very few ventured beyond the technology costs for the more “mundane” parts or resources needed for an intervention. But I would also point out that these categories and characteristics are somewhat subjective.

PRELIMINARY RESULTS

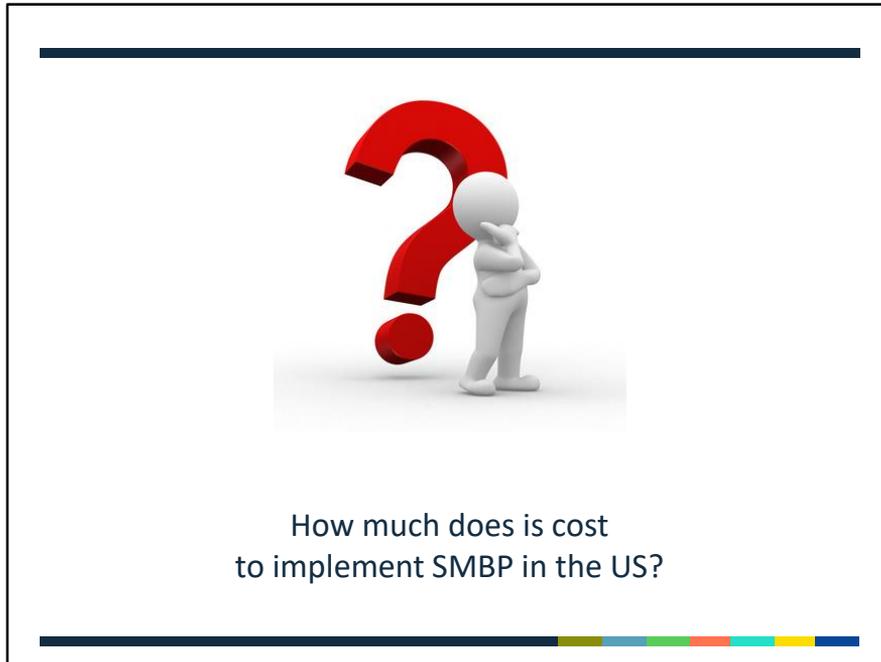
INTERVENTION COSTS, CON'T.



Characteristic	# of Studies Reporting (%)*
Other Costs	
Prescriptions/Drugs	6 (33.3)
Outpatient care	5 (27.8)
Inpatient care	4 (22.2)
Contracted services	3 (16.7)

*Studies could fall under more than one category.

Other costs mostly consisted of prescriptions and outpatient care. One study didn't provide a cost per patient; it only reported costs related to compensation in the form of gift cards.



So, we've looked at what resources might be needed for SMBP. But I have a quick question for everyone: what do you think it costs, in dollars per patient, to implement SMBP in the US? I have a multiple choice poll question that should show up shortly.

How much do you think it costs to implement SMBP?

- \$40.20 per patient
- \$909 per patient
- \$223 per patient
- \$1,275 per patient

Ok, let's see what we're getting here...

Well, you might be surprised to find out that you're all correct!!

PRELIMINARY RESULTS

COST PER PATIENT & FUNDING

- Studies in the United States (n=12):
 - Intervention cost per patient: \$32.50-\$1,275 USD
 - Medical costs per patient: \$1,590-13,494 USD
- International studies (n=6):
 - Countries included Denmark, Norway, United Kingdom, and Argentina
- Funding mainly came from grants

We found the cost per patient in the US ranged from around \$32-1,275. and the medical costs ranged from \$1,590-13,494 per patient. Obviously, these are quite large windows – a lot of which is due to the intervention length (3-48 months), the personnel involved, the technology, or the scope of the intervention.

As these are still the preliminary results, we haven't converted the international costs to US dollars, but we did find evidence in Denmark, Norway, the UK, and Argentina.

And in terms of funding sources, this mostly came from grants from NIH, CMS, and the Veterans Administration.

STRENGTHS AND LIMITATIONS

- Strengths
 - A network of care
 - Building relationships between providers and patients
- Limitations
 - Cost per patient comparison
 - Lack of consistency with reported costs

Strengths

- From the perspective of health care organizations, implementing SMBP with AS or TBC can be beneficial as it engages health care professionals to create a network of care.
- In addition to the clinical and economic benefits, could also increase patient trust and satisfaction with their health care providers.

Limitations

- One general limitation we found was the inability to do “cost per patient” comparison.
 - This was largely due to what constituted for the different types of support and the variation in what was reported. Some studies distinguished between intervention specific costs and medical costs (inpatient/outpatient care), and some only provided intervention costs (home BP machine, costs of mailing, etc.).
 - As we continue to analyze the qualitative context to the data, we hope to gain more understanding materials and resources are needed to implement SMBP.
- As well, there was a lack of consistency with how the studies categorized their costs. Some researchers might have counted the provider and patient training materials under the implementation cost category with material development. Some might have considered the office supplies under startup costs.

- However, we hope that as we continue with our analyses, we might be able to shed some light on these areas and provide public health practitioners with meaningful and useful information.

DISCUSSION

- Heart disease is the leading cause of death in the United States and costs over \$200 million in medical costs
- Hypertension, preventable and modifiable risk factor, can be controlled through SMBP
- Implementing SMBP can require more resources than just money (e.g., technology, labor, etc.)
- More information is needed to understand the weight of using SMBP

And so in summary:

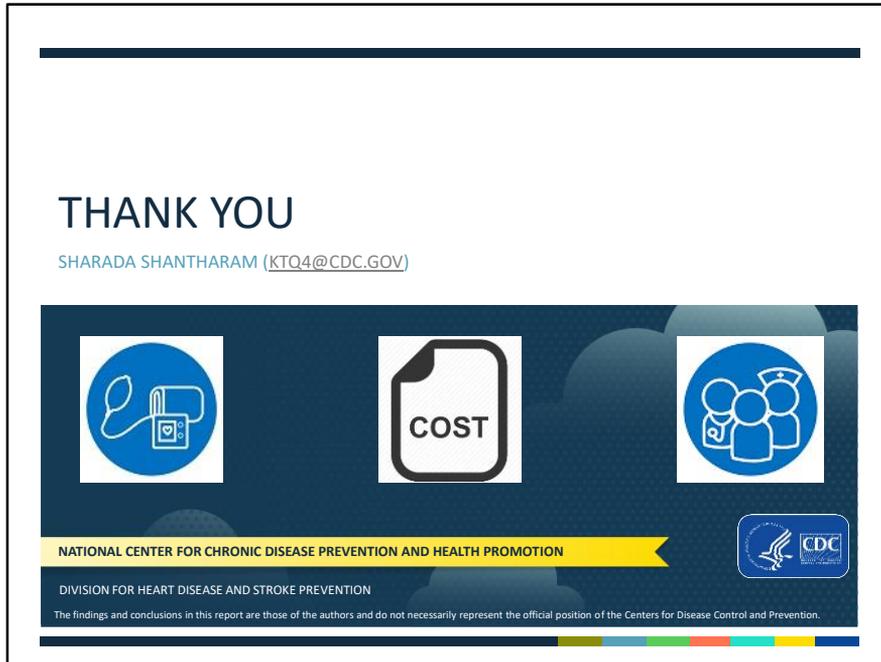
- We know that heart disease has serious consequences in terms of health and medical costs.
- But we know that hypertension is a preventable and modifiable risk factor, one that SMBP can help with.
- And now we know that implementing SMBP interventions can cost anywhere between \$32-1,200 USD.

However, due to the large variation in the available evidence on the types of costs and amounts, more research and information is needed to help public health practitioners and patients understand the weight of using SMBP to manage their health.

In terms of next steps, we will continue to conduct our analyses to see where the connections can be made with the resources and the costs reported, particularly with how these play out according to the different types of SMBP. And we're aiming to publish our results in a peer-reviewed journal. As we move through the project, we hope to develop technical assistance for implementing SMBP for different users.

REFERENCES

1. Wall HK, Ritchey MD, Gillespie C, Omura JD, Jamal A, George MG. Vital signs: recent prevalence of key cardiovascular disease risk factors for Million Hearts 2022, 2011-2016. *MMWR Morb Mortal Wkly Rep.* 2018;67:983–991.
2. Fryar CD, Ostchega Y, Hales CM, Zhang G, Kruszon-Moran D. Hypertension Prevalence and Control Among Adults: United States, 2015–2016. National Center for Health Statistics Data Brief, no 289. Hyattsville, MD: National Center for Health Statistics; 2017.
3. Farley TA, Dalal MA, Mostashari F, Frieden TR. Deaths preventable in the United States by improvements in the use of clinical preventive services. *Am J Prev Med.* 2010;38(6):600–609
4. Law MR, Morris JK, Wald NJ. Use of blood pressure lowering drugs in the prevention of cardiovascular disease: meta-analysis of 147 randomised trials in the context of expectations from prospective epidemiological studies. *BMJ* 2009; 338.



MODERATOR:

At this time, we'll take questions, but first we'll check to see if any questions have come in through the Q&A box.

If we have questions ask the questions posed by the attendees to the presenter

If we do not have questions, proceed with the script below

Since it appears that we have no questions at this time from the audience, we have some questions that we wanted to ask that might be insightful to our participants.

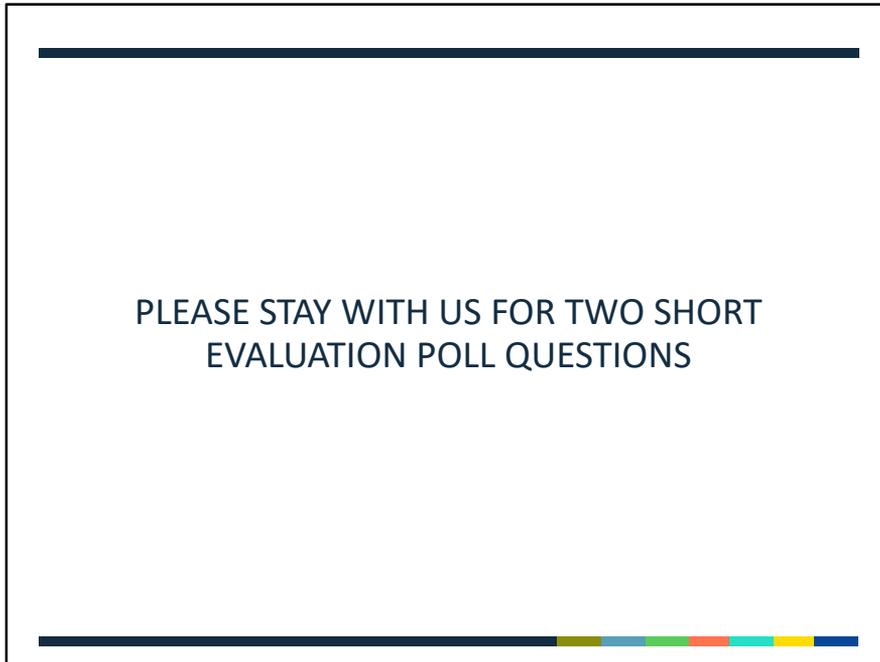
Questions:

You mentioned SMBP alone, with additional support, and team-based care in this presentation. Are there any other forms of SMBP?

Great question. So, I touched on the area of interactive digital interventions in the beginning this presentation (as a part of additional support). The Community Guide has researched the use of electronic devices to receive personalized and automated guidance on blood pressure self-management by patients with hypertension. They recommended it with sufficient evidence back in 2017. However, they did note SMBP as a potential influencer on the effectiveness of digital interventions. There's some more work that needs to be done in this area, but that is another "form," so to speak, of SMBP.

Aside from cost, are there any other considerations I should keep in mind when implementing SMBP?

Oh, absolutely! What I presented today are really from the implementer's, or provider's, side. There's always the patient side to health care, right? So, oftentimes a patient may need to purchase the blood pressure monitoring device on their own. While these devices are not inherently expensive, they do incur a cost. With that in mind, insurance coverage for SMBP is not universal – it varies by state and individual insurance plans. Traditional fee-for-service models often reimburse only for office-based visits and services, so things done at the home are not typically covered. I suggest implementers or providers look to Medicare and Medicaid, or even flexible spending accounts, when speaking with their patients to see how one can reduce this patient-level barrier or burden. Million Hearts has some great resources in this area – highly recommend viewers check out their website.



MODERATOR:

Next, please stay with us for two short poll questions.

Please allow a few seconds for the poll to pop up on your screen. We will pause for a few moments after the question is presented to give you time to answer. One moment everyone.

Moderator present poll question. Make sure to read the following after presenting each.

The **[first, second]** question should be showing, it read **[read question and potential answers]**

Please respond with the appropriate answer at this time.

The level of information was

- Too basic
- About right
- Beyond my needs

The information presented was helpful to me.

- Yes

Somewhat
No not at all

REMINDERS!

- All sessions are archived and the slides and script can be accessed at <https://www.cdc.gov/dhdsp/pubs/webcasts.htm>
- If you have any questions, comments, or topic ideas send an email to AREBheartinfo@cdc.gov

Thank you for your participation!

As a reminder, all sessions are archived and the slides and script can be accessed at our Division website at the link shown. Today's slides will be available in about 3 weeks.

If you have any ideas for future topics or questions, please feel free to contact us at the listed email address on this slide.

NEXT COFFEE BREAK

- **When:** Tuesday, November 12, 2019
- **Topic:** Building Statewide CHW Workforce Infrastructure
- **Presenter:** Colleen Barbero, PhD



MODERATOR:

Our next Coffee Break is scheduled for Tuesday, November 12th and will be focused on Building Statewide CHW Workforce Infrastructure.

Thank you for joining us. Have a terrific day, everyone. This concludes today's call.