

“Who is sending me these messages?
I want to meet you.”

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RTI International

Beyond Reminders:

Using Tailored Text-Messages to Promote Knowledge, Prevention, Social Support and Medication Adherence for People Living with HIV

Project funded by the Agency for Healthcare Research and Quality, contract Number HHS290200600001I#7. Findings and conclusions are those of the authors and do not necessarily represent the views of AHRQ.

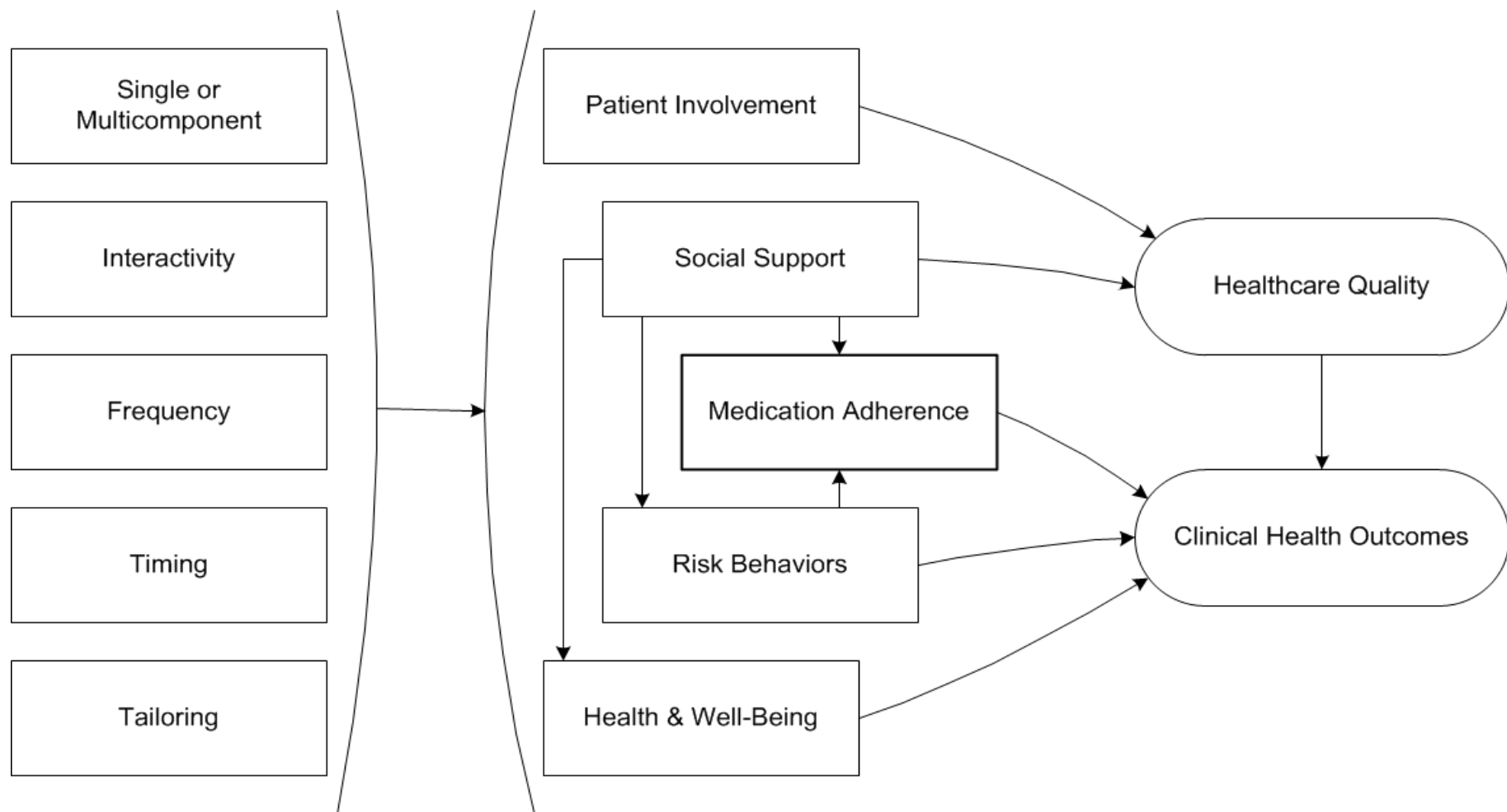
“Who is sending me these messages?
I want to meet you.”

Background

- Over 1 million people living with HIV (PLWH) in the US and more than 50,000 new infections annually
- Antiretroviral therapy (ART) has altered HIV from an acute to a chronic, manageable condition for many
- Need to design and deliver programs to support PLWH to better manage their health
- Mobile phones may offer opportunity to enhance treatment and prevention

Mobile Phones and Short Message Service (SMS)

- Mobile phones are ubiquitous
 - 83% of American adults own a mobile phone
 - SMS allows for instantaneous delivery of messages at any time/place/setting
 - SMS does not depend on fixed lines or equipment
 - SMS can be sent to multiple recipients simultaneously
 - Messages can be read when received or stored for later
- Evidence to date
 - 2 recent RCTs in Kenya have demonstrated that SMS support can improve ART adherence and rates of viral suppression in resource-limited settings



Coomes, Lewis, Uhrig, et al. in press. Beyond reminders: a conceptual framework for using short message service to promote prevention and improve healthcare quality and clinical outcomes for people living with HIV. *AIDS Care*.

Translating Conceptual Model to Research

- We posit that an SMS-based intervention that incorporates the elements of interactivity, frequency, timing and tailoring can be implemented to encourage greater medication adherence and impact other mutually reinforcing behaviors and factors to support better health care quality and outcomes

Study Purpose

- Develop, implement, and test a tailored SMS-based intervention for HIV positive men who have sex with men (MSM) to enhance outcomes related to managing HIV



Intervention Development

- Literature review
- Message development
- Expert review
- Provider review
- Limited qualitative pre-testing with target audience

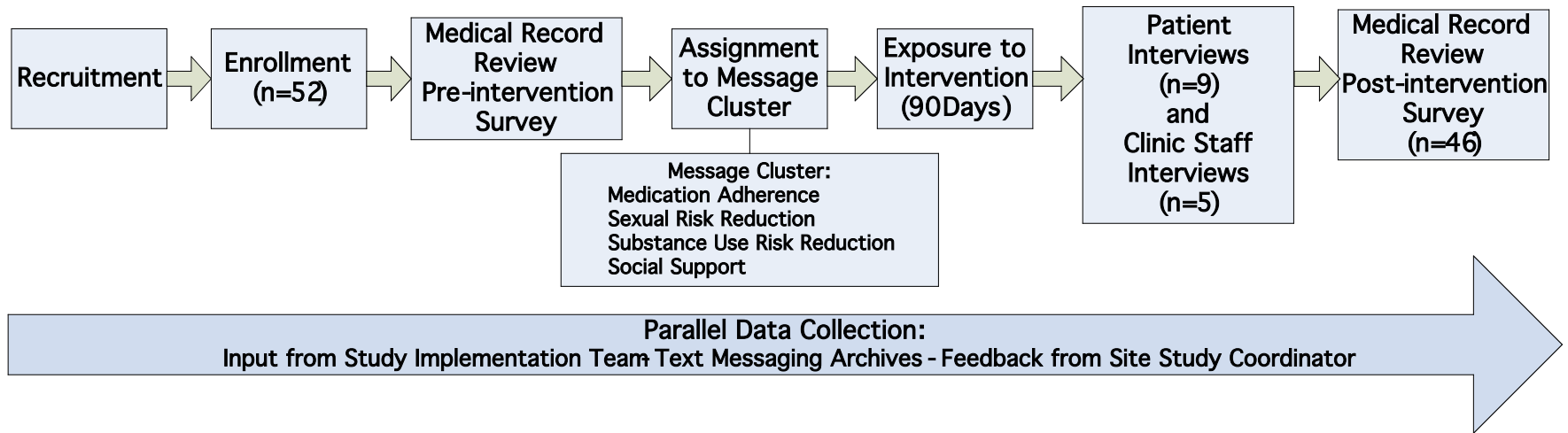


Adherent	He shoots! He scores! Perfect med adherence. Great job!
Non-adherent	It's going to be a great day. This is your med reminder.
Sex risk	Undetectable is respectable, but your partners are still infectable. Play safe.
Substance risk	Going out tonight? Be safe. Party smart.
General health and well-being	Take care of yourself today. Eat healthy foods, don't stress out, get some exercise and sleep well.
Social support	Worried about telling friends and family your status? We can help you find the right words. Call HB at 773-388-8865.
Patient involvement	Ask your provider questions. If you don't understand the answer, keep asking until you do.

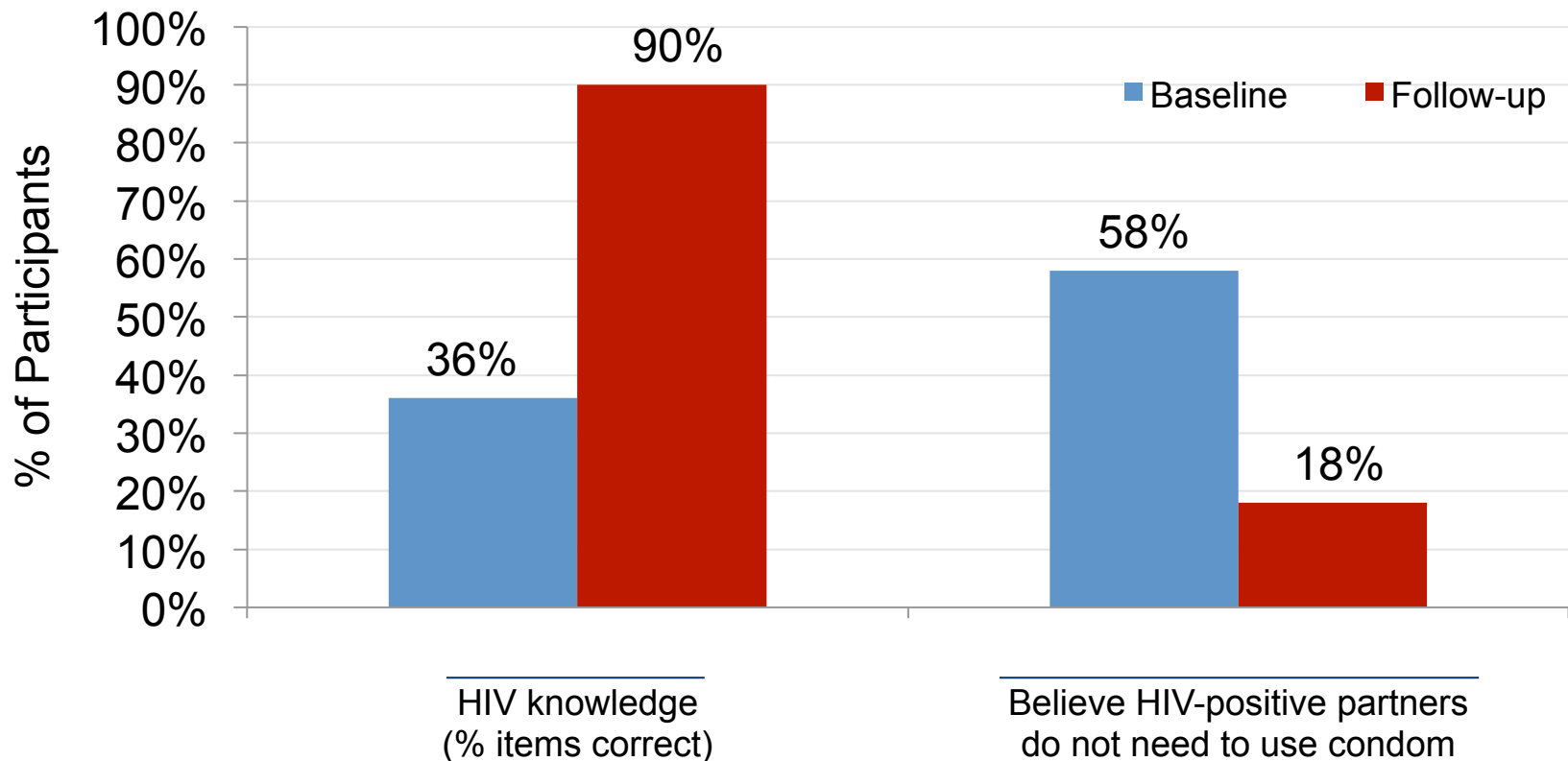
Evaluation Questions

- How did the participants react to the messages and program?
- Was the intervention associated with changes in
 - targeted knowledge, attitudes & beliefs
 - targeted risk behaviors
 - social support
 - patient involvement
 - self-reported medication adherence
 - viral load & CD4 counts

Evaluation Design



HIV Knowledge, Attitudes and Beliefs



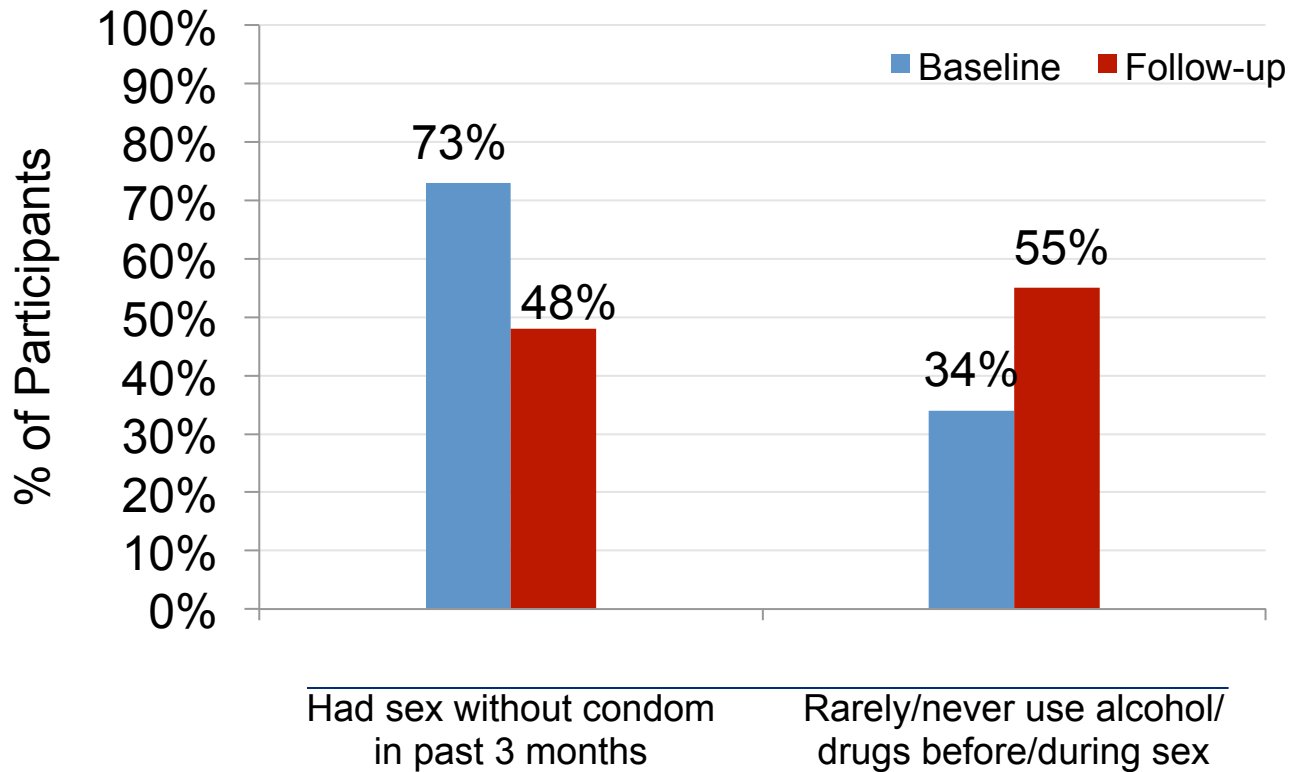
Notes:

All differences are statistically significant.

Differences between baseline and follow-up participants are due to loss at follow-up or missing data.

Smaller n's reflect SMS sent only to those with risk behavior at baseline.

Reduction in Risk Behaviors



"I guess there are some things subconsciously you internalize through the messages. There has been some benefit definitely."

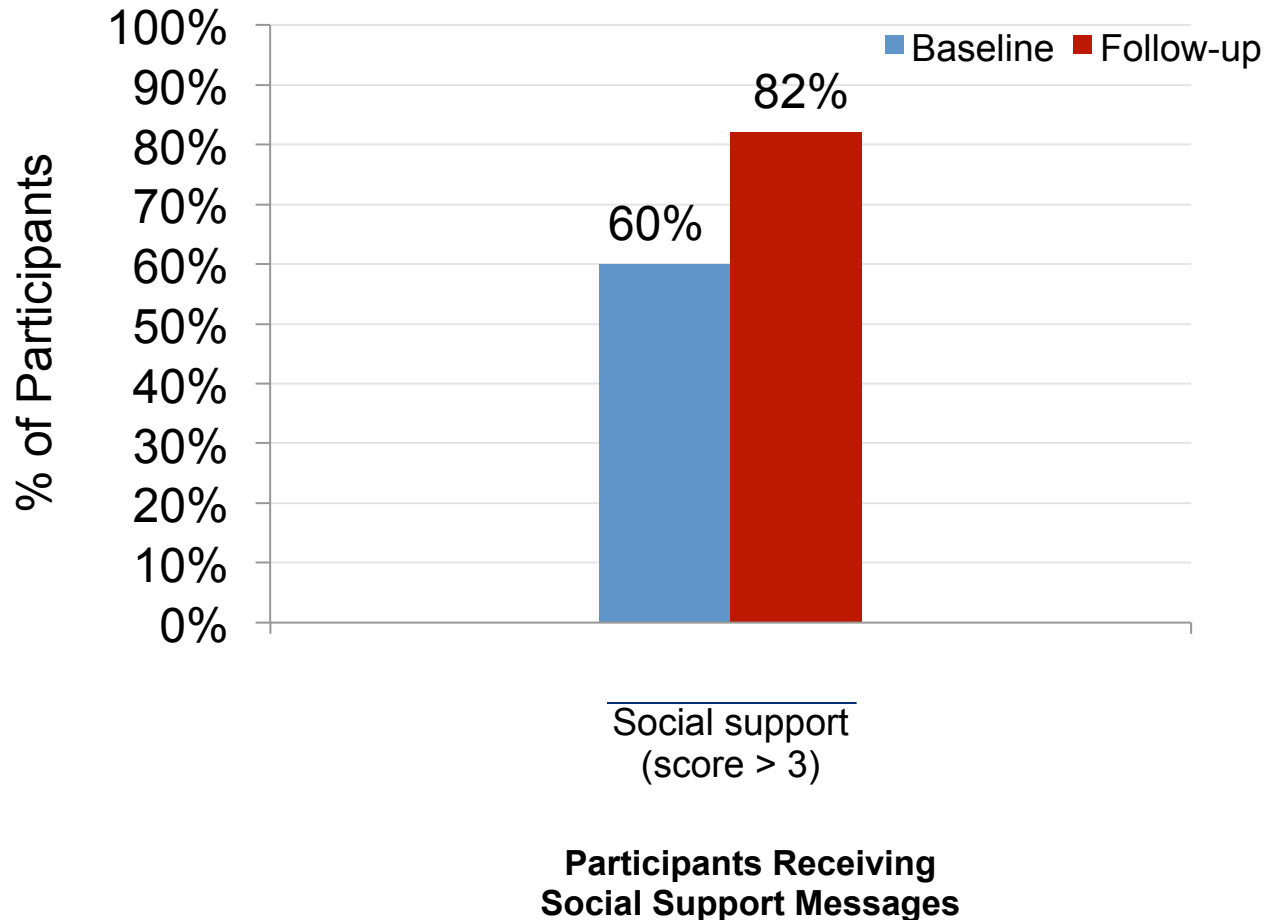
Notes:

All differences are statistically significant.

Differences between baseline and follow-up participants are due to loss at follow-up or missing data.

Smaller n's reflect SMS sent only to those with risk behavior at baseline.

Enhanced Social Support



"I was recently diagnosed as HIV positive, and it's a pretty isolating disease...it was nice to receive messages that are positive about people who are HIV positive."

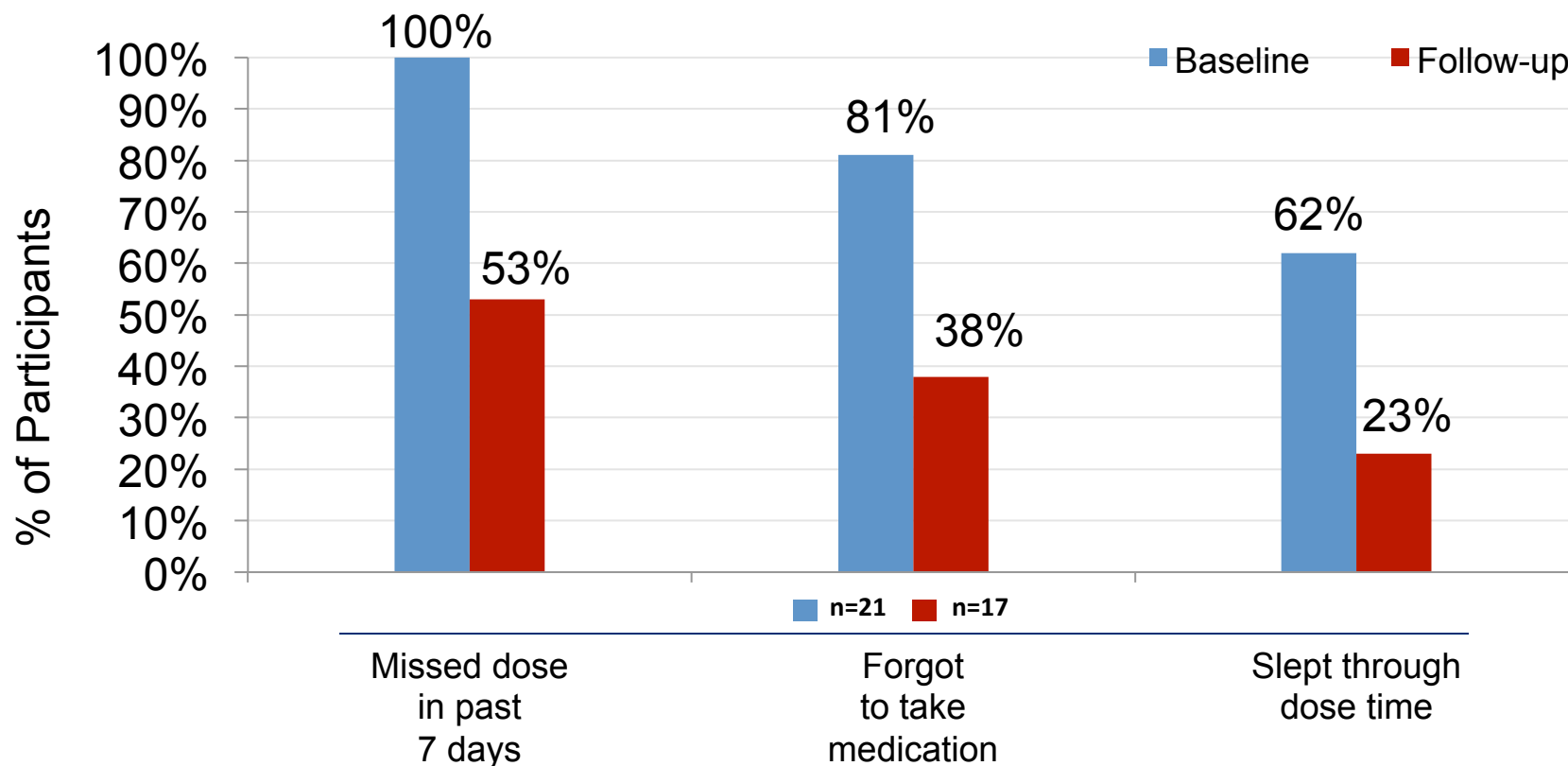
"It wasn't just information but more community support. You don't get a lot of support...so it's nice to have that."

Notes:

All differences are statistically significant.

Differences between baseline and follow-up participants are due to loss at follow-up or missing data.

Improved self-reported adherence



Notes:

All differences are statistically significant.

Differences between baseline and follow-up participants are due to loss at follow-up or missing data.

Smaller n's reflect SMS sent only to those nonadherent at baseline.

Improved clinical outcomes

Measure	Baseline Mean (SD)	Follow-up Mean (SD)	p-value
Viral Load (<i>HIV-1 RNA copies per mL</i>)	69413 (231809) (n=37)	3355 (9942) (n=35)	.012
CD4 (<i>Absolute count per mm³</i>)	528 (290) (n=36)	589 (291) (n=35)	.037

“It [the study] really helped. My last viral load was 85, which is next to undetectable. I wish that this would continue.”

Summary of Findings

Among HIV positive MSM, intervention was associated with a statistically significant

- increase in knowledge,
 - change in beliefs,
 - reduction in risk behaviors,
 - increase in perceived social support, and
 - improved medication adherence
- (self reported and clinical data)

Cites for technical report and papers in press

- Uhrig JD, Harris J, Furberg R, et al. Communication-Focused Technologies: Health Messages for HIV-Positive Men Who Have Sex with Men—Final Report. (Prepared by RTI International, under Contract No. HHS290200600001I#7). AHRQ Publication No. 11-0063-EF. Rockville, MD: Agency for Healthcare Research and Quality. June 2011.
- Coomes, C., Lewis, M.A., Uhrig, J.D., et al. (in press). Beyond Reminders: A Conceptual Framework for Using SMS to Promote Prevention and Improve Health Care Quality and Outcomes for Patients Living with HIV. *AIDS Care*.
- Uhrig, J.D., Lewis, M.A., Bann, C.M., et al. (in press). Addressing HIV Knowledge, Risk Reduction, Social Support, and Patient Involvement using SMS: Results of a Proof-of-Concept Study. *Journal of Health Communication*.
- Lewis MA, Uhrig JD, Bann CM, et al. (in press). Tailored Text Messaging Intervention for HIV Adherence: A Proof-of-Concept Study. *Health Psychology*.
- Furberg RD, Uhrig JD, Bann CM, et al. (in press). Technical Implementation of a Multi-Component, Text Message-Based Intervention for Persons Living with HIV. *Journal of Medical Internet Research*.

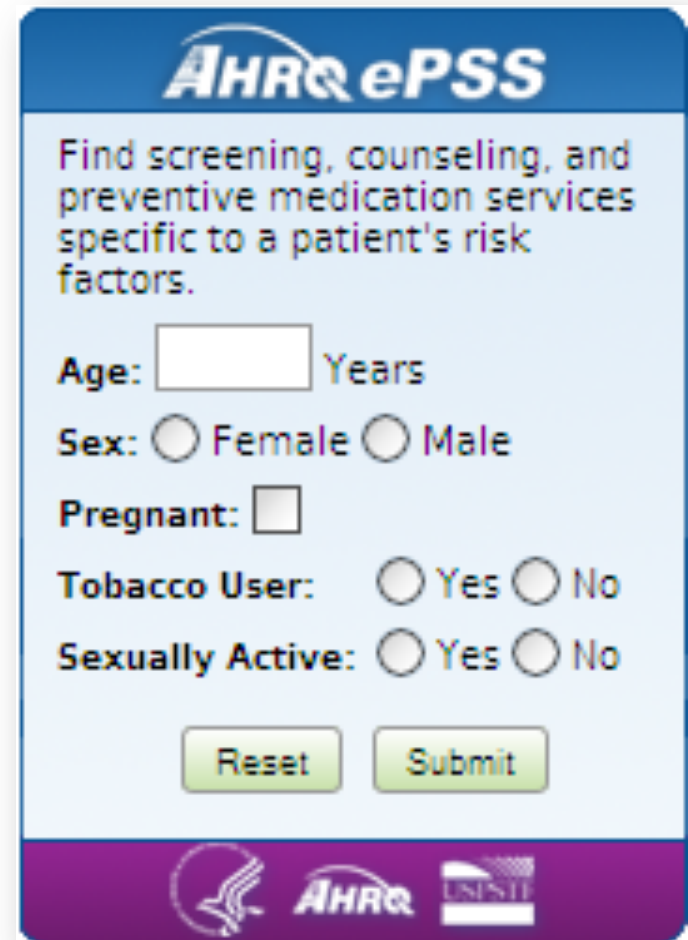
Patient-provider partnerships
and shared decision making

Improvements and Upgrades to
AHRQ's Electronic Preventive
Services Selector (ePSS)

This project was funded under contract number HHSA290200900021/03 from the Agency for Healthcare Research and Quality (AHRQ), U.S. Department of Health and Human Services. The opinions expressed in this document are those of the authors and do not reflect the official position of AHRQ or the U.S. Department of Health and Human Services.

Overview of ePSS Tool

- The ePSS is a real-time decision support tool for clinicians
- Provides appropriate USPSTF recommendations based on patient characteristics
 - Age
 - Sex
 - Pregnancy status
 - Tobacco use
 - Sexual activity



The screenshot shows the AHRQ ePSS tool interface. At the top is a blue header with the AHRQ ePSS logo. Below the header, the text reads: "Find screening, counseling, and preventive medication services specific to a patient's risk factors." The form includes several input fields: "Age: [text box] Years", "Sex: [radio button] Female [radio button] Male", "Pregnant: [checkbox]", "Tobacco User: [radio button] Yes [radio button] No", and "Sexually Active: [radio button] Yes [radio button] No". At the bottom of the form are two buttons: "Reset" and "Submit". The footer of the interface is purple and contains the AHRQ logo, the USPSTF logo, and a stylized eagle logo.

Overview of ePSS Tool

AT&T 11:04

Reset Search Start >

Enter the following information to retrieve recommendations from the USPSTF Preventive Services Database.

Age: 26 Years

Sex: both Female Male

Pregnant: No Yes

Tobacco User: n/a No Yes

Sexually Active: n/a No Yes

Search Browse Bookmarks Tools More

AT&T 11:04

Search A B C D I

26 y/o, Male, Tobacco(N), Sex(Y) 3

- * High Blood Pressure: Screening -- Adults 18 and Over >
- HIV: Screening -- Adults and Adolescents at Increased Risk >
- Syphilis: Screening -- Men and Women at Increased Risk >

Search Browse Bookmarks Tools More

AT&T 11:04

Back General Clinical Rationale Tools

High Blood Pressure: Screening -- Adults 18 and Over

Grade: A* (Strongly Recommended)

Specific Recommendations:

The U.S. Preventive Services Task Force (USPSTF) recommends screening for high blood pressure in adults aged 18 and older.

Frequency of Service:

The JNC recommends screening every 2 years in persons with blood pressure less than 120/80 mm Hg and every year with systolic blood pressure of 120 to 139 mm Hg or diastolic blood pressure of 80 to 90 mm Hg. Evidence is lacking on the optimal interval for screening adults for hypertension.

Risk Factor Information:

No information available.

* Indicates a new grade definition.

Search Browse Bookmarks Tools More

Web Analytics Findings

Web logs for the ePSS for a 6-month period during 2011

Nearly
28,000

- Visited the ePSS search page
- Average of 800 visits a day
- Staying on average for 00:7:57 minutes

64,000

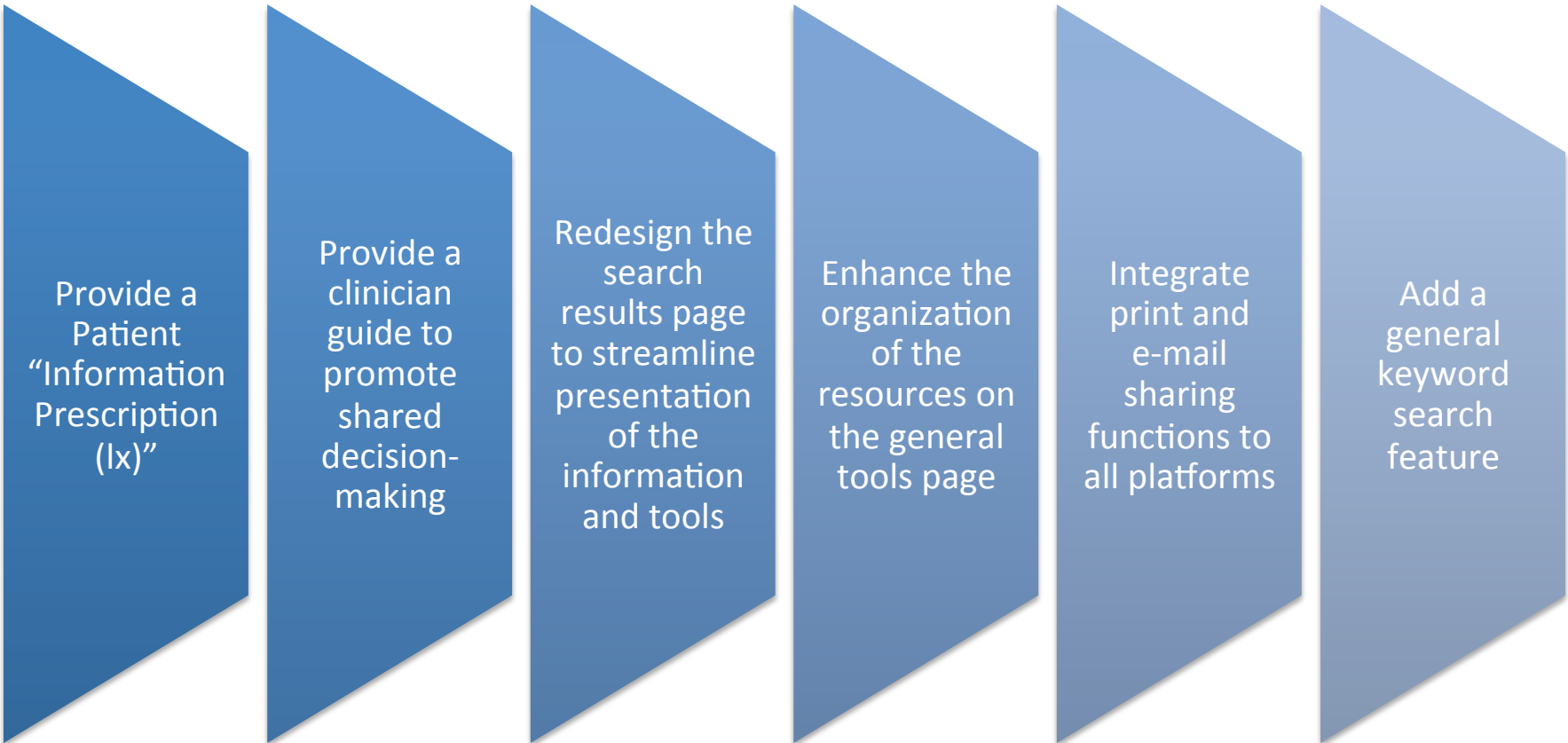
- Visits to the ePSS Widget
- Staying on average for 00:03:04 minutes

Nearly
33,000

- Visited the PDA index page to download the ePSS application to a handheld device or smartphone

Functionality Recommendations

Priority functionality recommendations



Provide a
Patient
“Information
Prescription
(Ix)”

Provide a
clinician
guide to
promote
shared
decision-
making

Redesign the
search
results page
to streamline
presentation
of the
information
and tools

Enhance the
organization
of the
resources on
the general
tools page

Integrate
print and
e-mail
sharing
functions to
all platforms

Add a
general
keyword
search
feature

Patient Handouts - “D” Grade Recommendations

- Participants had difficulty understanding and accepting that **not** getting a service was an appropriate response

Solution: Explicitly acknowledge when a recommendation runs counter to normative expectations:

“It may surprise you that not everyone needs to be screened.”

Patient Handouts -“C” Grade Recommendations

For “C” grade recommendations, a service should be provided only if other considerations support it, which goes against a strong bias for screening

Solution: Educate the patient that a certain service may or may *not* be right for them.

- Key headings phrased as questions

“Should I be screened for....?”

- Refer to choices and decisions throughout text

“...if you’re a women age 40 to 49, the decision to get screened is yours.”

Appropriate Language for Uncertainty

Patients have a limited understanding of the term “harms”

Solution: Refer directly to the potential downsides of overscreening or overtreatment

SCREENING FOR BREAST CANCER, AGES 75 AND OLDER

Should I be screened for breast cancer?

If you're a woman age 75 or older, talk to your doctor about it. There is not enough evidence for researchers to know whether or not screening at this age is more likely to help you or hurt you.


Recommendations are different for women in other age groups.

Here are a few reasons why experts don't recommend screening if you're 86 or older.

- Colon cancer usually grows very slowly. Another health problem could take your life even if you have colon cancer. Finding out that you have colon cancer probably won't help you live longer or better.

Providing Narratives

USPSTF Recommendation: C*



“ At my last checkup, my doctor asked me about smoking and if anyone in my family has had an abdominal aortic aneurysm. He said there’s a test to see if I have this aneurysm, but it’s only recommended for certain men who smoke or used to smoke. I’m the right age for this test—I’m 66—but I’ve never smoked.

I think I’ll learn a little more and come back for another talk. Then my doctor and I can decide whether I need the test or not.”

—Carlos

- Narratives engage readers in thinking about a decision
- Content targeted to grade level
- Participants liked the inclusion of narratives:

“Made me think about friends and family with similar experiences.”

***“Straightforward” and
“Motivational”***

***“Easy to relate to these
‘real’ people.”***

Clinician Guide

AHRQ
Agency for Healthcare Research and Quality

ePSS Home
Partner With Your Patients
Benefits of Shared Decisionmaking
Developing a Positive Relationship
Engaging in Shared Decisionmaking
Discussing USPSTF Recommendations
Additional Resources
References

Partner With Your Patients

Partner With Your Patients: Shared Decisionmaking for Better Preventive Care

How do you and your patients make decisions about a preventive service when...

- different screening options have **similar** benefits and different service when...
- different screening options have **different** benefits and harms?
- different screening options involve significant trade-offs?
- the screening option has uncertain benefits and certain harms?

As a clinician, you can partner with your patients to make important decisions together about preventive care. Shared decisionmaking is an essential part of patient-centered care. Although it is always important to consider patients' values, needs, and preferences, patient input is especially important in making "preference-sensitive decisions" when there are no clear-cut clinical recommendations.

This guide will help you apply principles of shared decisionmaking as you and your patients determine the right clinical preventive services for them. Some of these principles may be familiar to you, but you may not have applied them to preventive care.

What is shared decisionmaking?

Shared decisionmaking involves working with your patients as an active partner to clarify medical choices and to choose a preferred course of clinical care.^{1,2}

It is a process between clinician and patient that:

- engages the patient in learning about options and making decisions about care
- provides the patient with information about alternative care options
- integrates patient preferences and values into the care plan.

Shared decisionmaking can improve patient care and lead to better health outcomes.

What's in this guide?

This guide offers...

- An overview of the benefits of shared decisionmaking
- Tips for developing positive relationships with your patients
- Ideas about how to engage your patients in shared decisionmaking about clinical preventive services and how to discuss recommendations from the US Preventive Services Task Force

It also points you to additional health communication and health literacy resources.

U.S. Department of Health and Human Services

Quick Guide to Decisionmaking

You may be familiar with the 5A's framework that has been used in the context of smoking cessation. A modification of this framework for shared decisionmaking is the 3A's: **Ask, Advise, and Arrange**.

Applying the 3A's can be helpful when there is more than one option to choose from, or when the evidence is insufficient to determine whether or not the benefits of the preventive service outweigh the potential harms. Even when the choice may seem clear, such as with preventive services that are recommended by the U.S. Preventive Services Task Force (USPSTF A and B recommendations), your patients may still feel uncertain and need help making a decision. The 3A's framework can help you and your patients work together to make a shared decision.

ASK

- **Form a partnership with your patient:** Let your patients know that you would like to work with them to make preventive care decisions. Encourage their participation by asking for their help in the decisionmaking process.
- **Use an individualized approach:** Ask your patient about how they prefer to receive information from you. For example, do they like to learn about health-related risks using numbers, words, or pictures? Adapt your communication style to meet a patient's preferences as best you can. Secure translation and cultural competency resources if needed.
- **Identify any fears or barriers:** Ask how your patients feel about the possibility of getting the screening test or preventative service. Keep in mind that embarrassment and anxiety may be a barrier to decision making. Address any emotional distress by empathizing with your patient, validating their emotions, and offering ways help. Address inaccurate or fatalistic beliefs (for example, "Cancer is always fatal"; "Treatment will have intolerable side effects").

ADVISE

- **Give clear, specific, and personalized advice:** Translate risk and medical information in plain language. Explain options, advantages, and disadvantages. Make personalized recommendations using a style. When discussing pros and cons, provide context by highlighting differences in screening recommendations across age groups. Use visual aids when available.
- **Keep your patients' values and preferences in mind:** Remind your patients that people have different goals and concerns. Assist your patients in evaluating their options based on what is important to them.
- **Manage uncertainty:** Acknowledge any medical uncertainty and remind your patients that feeling frustrated is normal. Be up front about what medical science knows and does not know at this time. Ask your patients to share what they find most difficult about dealing with medical uncertainty.

ARRANGE

- **Clarify decision and patient confidence:** Ask your patient to share their decision. Ask a few brief questions to assess your patients' motivations and confidence to follow through with their decision.
- **Check for understanding using Teach-Back:** Use the Teach-Back method to check your patients' understanding of the benefits and harms discussed and the next steps or medical instructions. Ask your patient to repeat in their own words what you have discussed. Avoid asking "Do you have any questions?" Instead, ask "What questions do you still have?"
- **Specify and discuss next steps:** Be explicit about next steps, such as screening or follow-up. Discuss when and how you will follow-up with them. If possible, ask your patient to rehearse what their next steps will be. Identify and enlist resources and support for your patient.
- **Help your patient follow through with their decision:** Encourage your patient to ask their family and friends for help. Offer additional information, such as handouts or decision aids. Make referrals to outside support when needed.

Overview of Clinician Guide: Goals

Goals

- Promote shared decisionmaking
- Provide example language
- Fit the needs of the clinician
 - Full website
 - “Quick Guide” variations and links

Here are some things you can say:

"I'll need your help as we go along to be sure I fully understand your goals and concerns about your health. I want to be sure we're working together."

Ask questions like:

"You made a face when I suggested that. How are you feeling about it?"

or

"You look confused. What would you like me to go over again?"

Tips and Talking Points

Only have 1 minute?

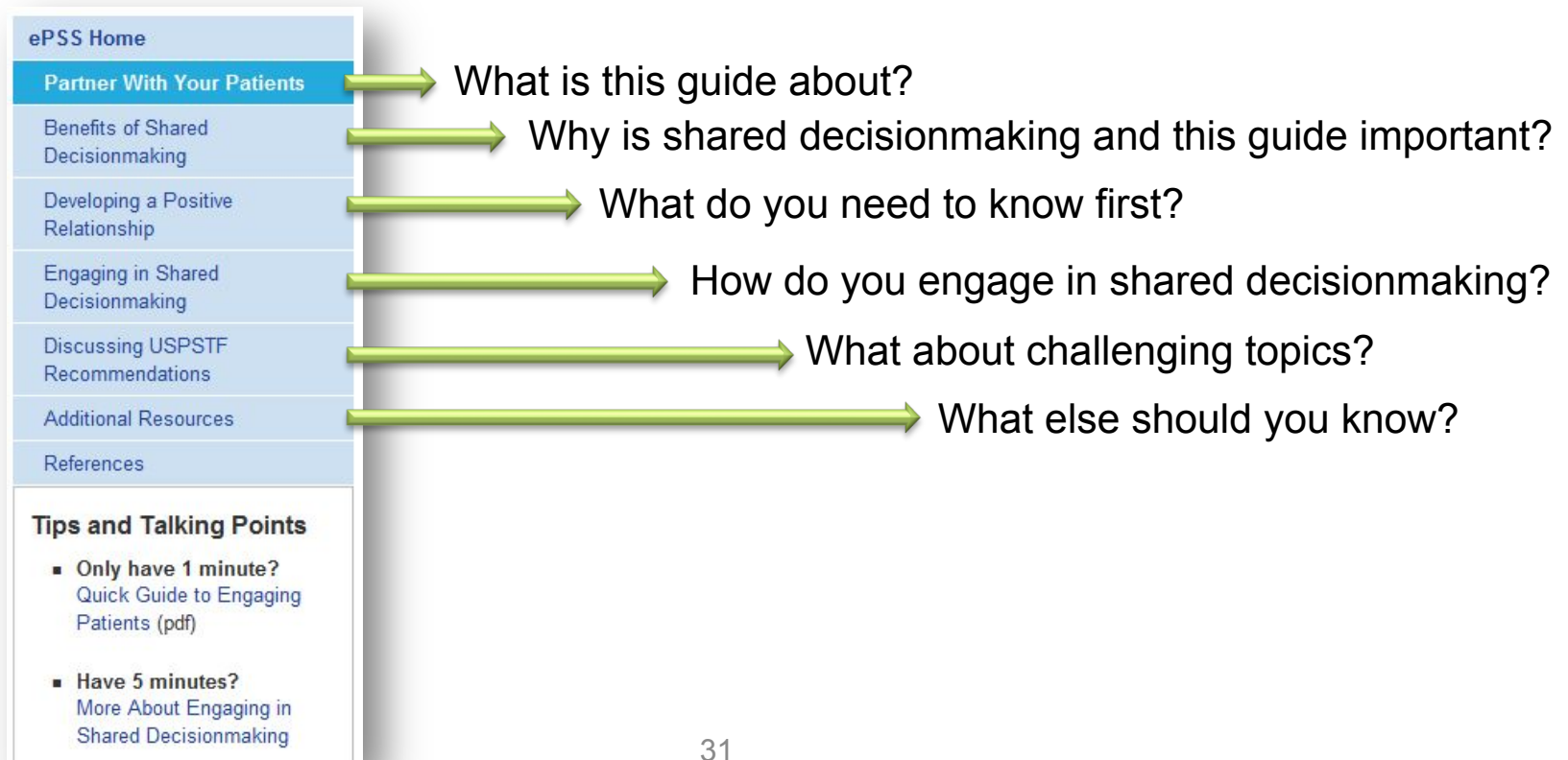
[*Quick Guide to Engaging Patients \(pdf\)*](#)

Have 5 minutes?

[*More about Engaging in Shared Decisionmaking*](#)

Overview of Clinician Guide: Organization

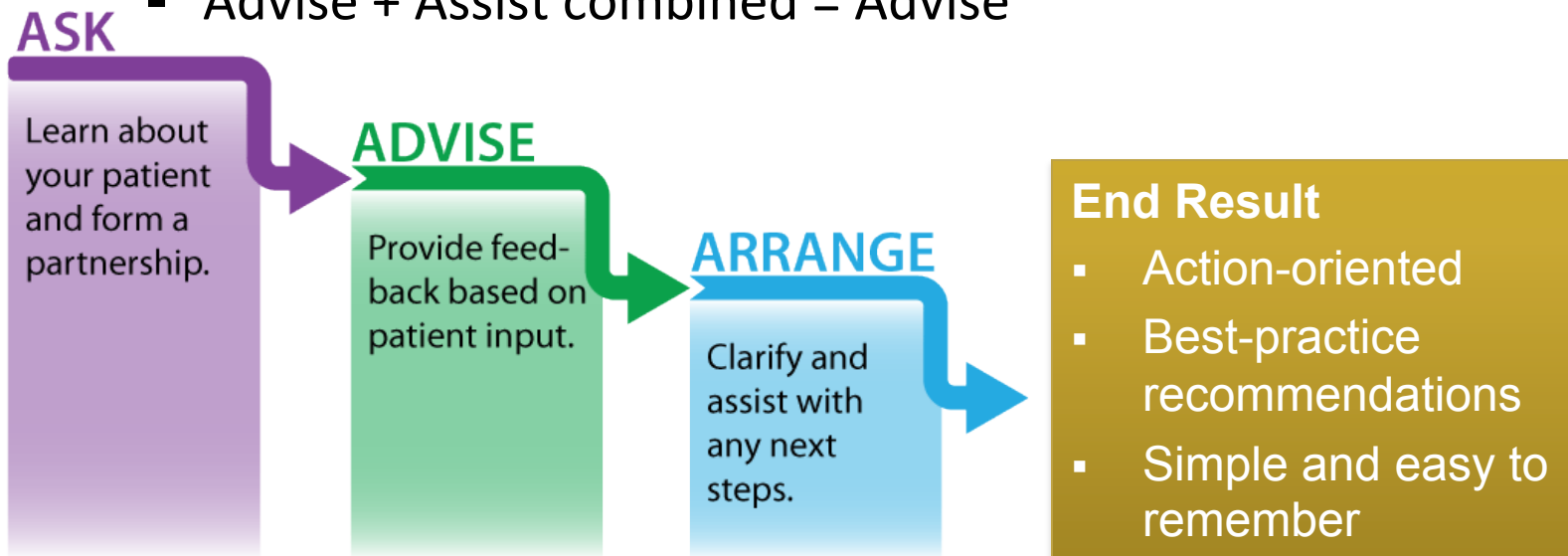
Critical Elements: Plain language principles, 508 Compliance, Visually appealing format, Interactivity, and Action-orientated content



Development of the 3As

Started with the 5As (Ask, Assess, Advise, Assist, Arrange)

- Ask + Assess combined = Ask
- Advise + Assist combined = Advise



Testing and Revisions

- Created mock-up of website
- 5 clinicians used in practice
 - Follow-up interview several weeks later
- 8 Technical Expert Panel members reviewed website
 - Provided comments via e-mail



A digital suite to support implementation of clinical practice guidelines

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WORKING WITH YOUR CHILD'S DOCTOR

HEART HEALTH GUIDELINES

THE RISK FOR HEART DISEASE BEGINS IN CHILDHOOD.

Pellentesque blandit, neque id dapibus varius, lorem tortor vehicula sem, a aliquam nisi dolor sed odio. Vestibulum vitae orci nibh. Cras imperdiet ullamcorper lorem imperdiet egestas. Donec tellus justo, pharetra ac molestie ut, imperdiet et enim. Mauris ullamcorper ultrices diam ac gravida.

Vivamus sed lacus ut ligula ultrices tincidunt. Morbi pellentesque porta orci, ut gravida lorem tristique vel. Etiam pretium sem quis augue cursus eleifend non eget risus. Fusce ac luctus lectus. Suspendisse convallis dapibus lorem, pretium scelerisque dui gravida non.

Little Hearts. Strong Starts. Campaign

ART

Maecenas suscipit felis eros, ut egestas mauris. In enim nisi, aliquam et consectetur ut, gravida sed odio. Aenean eget lectus id ipsum fringilla interdum. Aliquam sagittis lacus nibh. Pellentesque aliquam ante et quam volutpat at aliquam ante interdum. Aliquam erat volutpat. Donec non libero justo. In venenatis lectus id metus hendrerit interdum.

Get Involved

ART

Want to help spread the word about children's heart health?
» [Read More](#)

New Pediatric Guidelines

ART

For pediatricians and other health care providers: view NHLBI's new Integrated Pediatric Guideline for Cardiovascular Health and Risk Reduction.
» [Read More](#)



The Risks For Little Hearts

Give Your Child A Strong Start

► Age-Specific Tips

Working With Your Child's Doctor

Heart Health Guidelines

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En Español



Age-Specific Tips

Along with the facts about the risks for heart disease that develop in childhood, you should know the key heart health milestones for your child. Below, you'll find age-specific heart health tips for kids as well as topics to discuss with your child's doctor.

Heart Healthy Musts for Children of Every Age

- ♥ Offer fat-free milk and water as your child's primary drinks, and limit juice to just 4 ounces (or one half cup) a day. Avoid sugar-sweetened drinks of any kind.
- ♥ Make sure that family meals include fruits, vegetables, whole grains, and low-fat/nonfat dairy food. Also serve meals and snacks that are low in saturated fat, trans fat, sugar and salt.
- ♥ Include high fiber foods in your child's diet such as apples, nuts, broccoli, and whole wheat bread or pasta.
- ♥ Ask the doctor about your child's blood pressure (age 3 and older).
- ♥ Ask the doctor about your child's weight-to-height proportion (BMI) (age 2 and older).
- ♥ Keep your child smoke-free: make your home smoke-free and keep your child away from cigarette smoke outside your home.



Little Hearts. Strong Starts.

Find out the origins, goals, and objectives of the *Little Hearts. Strong Starts.* campaign.

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Heart Health Guidelines

For pediatricians and other health professionals: view the NHLBI's new [Integrated Pediatric Guideline for Cardiovascular Health and Risk Reduction](#)

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Integrated Guidelines for Cardiovascular Health and Risk Reduction in Children and Adolescents

The Report of the Expert Panel

- **Summary Report [Online Web version]**

[Front matter](#) (Expert Panel, Disclosures)

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3. [Integrated Cardiovascular Health Schedule](#)
4. [Family History of Early Atherosclerotic Cardiovascular Disease](#)
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