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## Preferences for Public Health Messaging Related to Bladder Health in Adolescent and Adult Women

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### Abstract

**Objective:** The purpose of this analysis was to explore adolescent and adult women's preferences for the content and delivery of public health messaging around bladder health.

**Materials and Methods:** This was a directed content analysis of focus group data from the Study of Habits, Attitudes, Realities, and Experiences, which explored adolescent and adult women's experiences, perceptions, beliefs, knowledge, and behaviors related to bladder health and function across the life course. This article reports an analysis of the "Public Health Messaging" code, which includes participants' views on what information is needed about bladder health, attributes of messaging, and preferred locations and delivery methods.

**Results:** Forty-four focus groups were conducted with 360 participants (ages 11–93 years) organized into six age groups. Across age groups, participants wanted messaging on maintaining bladder health and preventing bladder problems. They offered suggestions for a wide variety of methods to deliver bladder health information. Ideas for delivery methods fell into three broad categories: (1) traditional in-person modes of delivery, which included individual communication with providers in clinical settings and group-based methods in schools and other community settings where adolescent and adult women naturally gather; (2) internet-based website and social media delivery methods; and (3) static (noninteractive) modes of delivery such as pamphlets. Participants recommended the development of multiple delivery methods to be tailored for specific audiences.

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**Conclusions:** These findings can inform development of broad ranging public health messaging tailored to audiences of all ages with a goal of engaging adolescent and adult women across the bladder health risk spectrum.

**Keywords:** bladder health, lower urinary tract symptoms, women, adolescents, public health, qualitative research

## Introduction

LOWER URINARY TRACT symptoms, such as urinary urgency, frequent urination, and urinary incontinence, are highly prevalent among women and are associated with considerable social and emotional cost and negative impact on quality of life.<sup>1,2</sup> Although treatments are available, many women delay or do not seek care for urinary symptoms due, in part, to lack of knowledge about bladder conditions.<sup>3–15</sup> In addition, the role of bladder health as a component of overall health is not fully appreciated within professional communities or by the general public.<sup>16</sup> Historically, most research in this area has focused on evaluation and treatment of women with urinary symptoms, with less emphasis on prevention. However, there has been growing interest in prevention and calls for more work to promote bladder health through education and research.<sup>16–18</sup>

As defined by the World Health Organization, “health promotion is the process of enabling people to increase control over, and improve their health.”<sup>19</sup> The basis for both research and public health promotion interventions typically is guided by broad constructs such as social determinants of health, which emphasize the impact of social, cultural, political, economic, and environmental conditions on health and health-related behaviors.<sup>20</sup> Current research has begun to consider how best to tailor health promotion messages, particularly using social media, based on the desired behavior change.<sup>21</sup>

As more evidence emerges on risk and protective factors, public health messaging represents an important opportunity for increasing awareness of bladder conditions and conveying information to help individuals maintain bladder health. Public health messaging can encourage individuals to change health behaviors and motivate communities to adopt social and institutional policies that support access to safe clean toilets and facilitate healthy bladder habits.<sup>22</sup> Increasing public awareness about bladder health also could mitigate barriers to screening for urinary symptoms and timely treatment seeking.<sup>23</sup>

Public health interventions are most likely to succeed when developed with input from stakeholders, including intended audiences.<sup>24,25</sup> There is a need for research on women’s views on bladder health information and their preferences for public health messaging. We conducted this analysis to inform the development of public health messaging around bladder health using qualitative data from the Study of Habits, Attitudes, Realities, and Experiences (SHARE),<sup>26</sup> which explored the perspectives of a diverse sample of adolescent and adult women. In prior analyses of SHARE data, a consensus emerged that information about bladder conditions and bladder health is needed throughout the life course.<sup>27</sup> The purpose of the current analysis was to explore preferences for the content of public health messaging and methods of delivery.

## Materials and Methods

### Overview

SHARE was a qualitative study using focus groups as the data collection method.<sup>28</sup> It was conducted by the Prevention of Lower Urinary Tract Symptoms (PLUS) Research Consortium, a transdisciplinary network established to expand research on prevention of lower urinary tract symptoms and promotion of bladder health in adolescent and adult women.<sup>29</sup> SHARE explored adolescents’ and adult women’s views on several aspects of bladder health and function across the life course. The full protocol has been published elsewhere.<sup>26</sup> This article reports a directed content analysis of the “Public Health Messaging” code, one of several codes determined *a priori*.<sup>30</sup> It comprises preferences for the content of public health messaging and recommendations for how to disseminate information about bladder health.

### Participants

Participants were 360 adolescent and adult women across a broad age range recruited at each of the seven U.S. research centers using a variety of recruitment methods, including flyers, online postings, word of mouth, email, and referral by community partners. Applying a life course perspective,<sup>31</sup> participants were recruited and organized into six age categories: early adolescents: 11–14 years; adolescents: 15–17 years; young adult women: 18–25 years; adult women: 26–44 years; middle-aged women: 45–64 years; and older women: 65+ years. Participants were eligible if they were ≥11 years of age, assigned female at birth, spoke English/Spanish, able to read and provide written informed consent (or assent and parental permission for 11–14-year olds), and self-reported absence of physical or mental condition that would impede participation. Current pregnancy was an exclusion criterion due to the known effects of pregnancy on the bladder. Participants were included without regard to urinary symptoms which were assessed after focus group participation.

The study was approved by the University of Pennsylvania Institutional Review Board (IRB), the central review board for six of the seven centers, and a local university IRB at the remaining site. All participants provided written informed consent and received a \$50 gift card.

### Procedures

Forty-four focus groups with 3–12 participants each were conducted between July 2017 and April 2018, including six conducted in Spanish. Focus groups were conducted within age categories to encourage comfort and open communication based on shared social context and developmentally similar life experience. Sessions were facilitated by a female moderator with standardized training in qualitative research

principles and the SHARE protocol.<sup>32</sup> Each session lasted ~90 minutes and followed a semistructured guide informed by the PLUS conceptual framework, based on the social ecological model.<sup>33</sup> The guide covered several domains, including public health messaging. Participants selected pseudonyms to protect their identities. Sessions were audio-recorded and transcribed verbatim. Spanish language focus groups were translated to English. Spanish-speaking PLUS moderators, research coordinators, and investigators were involved in back translation.

#### Data analysis and interpretation

Focus group transcripts and field notes were entered into Dedoose.<sup>34</sup> Guided by a four-member team, the iterative analysis process used consensus building, involving (1) memoing transcripts,<sup>35</sup> (2) using directed content analysis to formulate *a priori* deductive codes derived from the focus group guide,<sup>36</sup> and (3) identifying emergent inductive codes.

For the current article, a second layer of data analysis and interpretation was conducted using the “Public Health Messaging” code, composed of preferences and recommendations for the content and dissemination of bladder health information. The following questions guided the discussion: “We are thinking of developing some programs to inform the public about bladder health. Do you think people will be interested in this type of information? What are the best ways to get this information to people?”

The directed content analysis and thematic interpretation was conducted by the authors using a transdisciplinary lens.<sup>37</sup> The team included investigators from the fields of medical sociology, public health, behavioral science, nursing, social work, urology, and urogynecology. Consistent with the life course perspective, excerpts were organized into the six designated age groups. Initially, the lead author immersed in

the text to identify and define subcodes (including content and method of delivery), which were reviewed and refined by the investigative team. Working independent of one another, pairs of investigators used a deductive process to assign segments of text to the appropriate subcode within a specific age category. The coding was reviewed by a third coder who reconciled discrepancies and produced the final body of excerpts for each subcode.

The entire team assembled virtually to discuss each theme and share interpretive insights from their professional perspectives. At the conclusion of the analysis phase, the investigators used a life course perspective to characterize and contextualize participants’ preferences for public health messaging for bladder health information.<sup>31</sup>

## Results

### Characteristics of the participants

The 360 participants ranged in age from 11 to 93, with an overall mean of 45.8 years (Table 1). The sample was diverse with respect to race, ethnicity, and geography (urban, rural, or suburban).<sup>38</sup>

### Content of messaging

Participants characterized preferences for content of bladder health messaging in two distinct ways: the subject matter and the attributes of the information. Illustrative quotes are provided in Table 2 with some exemplars inserted below to demonstrate the range of responses.

**Subject matter content of the information.** Overwhelmingly, participants wanted messaging on how to maintain bladder health and prevent bladder problems. Specific topics included hygiene, postvoid wiping, not holding urine, how

TABLE 1. CHARACTERISTICS OF THE PARTICIPANTS BY AGE GROUP

	Overall	Ages 11–14	Ages 15–17	Ages 18–25	Ages 26–44	Ages 45–64	Ages 65+
N	360	18	26	51	72	104	89
Focus groups	44	4	4	6	9	11	10
Focus groups in Spanish	6	0	0	0	2	2	2
Age, years, mean (SD)	45.8 (21.6)	12.4 (1.1)	16 (0.8)	21.8 (2.1)	34.9 (5.8)	54.9 (5.9)	73.2 (6.9)
Age range, years	(11–93)	(11–14)	(15–17)	(18–25)	(26–44)	(45–64)	(65–93)
Race, n (%)							
White/Caucasian	145 (40.3)	9 (50)	7 (26.9)	29 (56.9)	24 (33.3)	34 (32.7)	42 (47.2)
Black/African American	114 (31.7)	8 (44.4)	13 (50)	9 (17.6)	13 (18.1)	42 (40.4)	29 (32.6)
Asian	5 (1.4)	0 (0)	0 (0)	2 (3.9)	3 (4.2)	0 (0)	0 (0)
Other	75 (20.8)	1 (5.6)	4 (15.4)	9 (17.6)	32 (44.4)	18 (17.3)	11 (12.4)
Not answered	23 (6.4)	0 (0)	3 (11.5)	2 (3.9)	1 (1.4)	10 (9.6)	7 (7.9)
Ethnicity, n (%)							
Hispanic, Latina, Spanish	117 (32.5)	2 (11.1)	7 (26.9%)	10 (19.6)	36 (50)	35 (33.7)	27 (30.3)
Geographic, n (%)							
Rural	45 (13.2)	0 (0)	0 (0)	11 (21.6)	0 (0)	7 (7.2)	27 (30.3)
Suburban	59 (17.3)	5 (33.3)	5 (29.4)	17 (33.3)	14 (19.4)	9 (9.3)	9 (10.1)
Urban	237 (69.5)	10 (66.7)	12 (70.6)	23 (45.1)	58 (80.6)	81 (83.5)	53 (59.6)
Missing	19	3	9	0	0	7	0
Language spoken at home, n (%)							
English	280 (77.8)	18 (100)	26 (100)	50 (98)	41 (56.9)	79 (76)	66 (74.2)
Spanish	75 (20.8)	0 (0)	0 (0)	1 (2)	26 (36.1)	25 (24)	23 (25.8)
Other	5 (1.4)	0 (0)	0 (0)	0 (0)	5 (6.9)	0 (0%)	0 (0%)

TABLE 2. ILLUSTRATIVE QUOTES ON SUBJECT MATTER CONTENT AND ATTRIBUTES OF MESSAGING (AGE GROUPS IN PARENTHESES)

Subject matter content

How to maintain bladder health

- And then the kids would know, like, you can do such and such to **help yourself**, and like good hygiene stuff like that. (11–14).*
- Teach me **how I can make my body healthy** besides running around playing kickball. How can I make my body healthy? **What can I do?** Like what fruits and stuff can I eat to make my body healthy? (15–17)*
- There should be posters about bladder, like **how many times you should use the bathroom or signs of something that something is wrong, how many cups of water** we should drink a day and just **important facts** about it I think would be helpful. (18–25)*
- It would be good to know what is it that causes elderly people to lose control of their bladder **so that we can work on not doing that**, you know by the time we get old or... (26–44)*
- I would say nobody tells us it's all kind of things about **how to keep our, our bodies in good shape** when we get older, nobody tells how to keep our bladders in good shape. (group in agreement) (45–64)*
- They monitor like the percentile that your height and weight is. I'd like to know that in terms of like what is my predisposition of incontinence and what are some things that I can do **in middle age** to really like kind of minimize and, and try to **eliminate long-term problems** as I get older? (45–64)*
- Well, I would like that they give us something about reliability on how to do it **so we do not get these problems** [laughs]. (65+)*
- If you have the knowledge of that and you prevent it, what you can do to help the situation I think most people would take advantage of that. We don't have the knowledge of it. It's not discussed unless you're going to a urologist or you're doing some really having an issue you're not aware of it. So I think this would **help us to take care of it better** and make sure we do what we need to. (65+)*
- I would say just be more aware of **taking care of your bladder**. (65+)*

What can go wrong

- I don't think a lot of people know **what happens to your bladder** when it is affected, or **how your bladder can get affected**... (11–14)*
- I think it would be useful to like give us **a list of ways that we could get UTI's** and how to avoid them. (26–44)*
- Teach us the harms obviously of, like, what process to hold it or **what are the process** if you don't take care of your bladder? I'm sure I would be interested to lean about. Like **I'm still kind of not sure what happens** to the bladder. (26–44)*
- I know it **happens to a lot of people** and talk about what it might feel like and **what girls can expect** and so that they're not afraid, like you said, when you had your first one (UTI) and you had no idea that was even possible. (26–44)*
- I guess what I would do is to like be as, be more knowledgeable of **what really is going on with the bladder**. I, it's no worse; listening today, very few people knew much about the bladder is that we know we have problems sometimes but **we don't know what makes it tick**, what makes it do this or that. (65+)*

Impact of age, pregnancy, sexual activity, and disease

- I feel like umm having health class is necessary and even learning about sex and things like that, but **I believe that can affect your bladder** since you know. (15–17)*
- ...if you're wanting to address bladder health most likely, there's **diseases that you're wanting to look at or health issue** that you're wanting to look at, so maybe like specify what those are. (18–25)*
- Like ...like sexual, like understanding your **sexual health, understanding your bladder health**, you know it kind of like hangs together and makes sense. (18–25)*
- I would be curious to see kind of... when you're born and how you develop, if there was more education surrounded behind that, where the doctors actually kind of like take you through **the life stages of your bladder development**. (45–64)*
- From the moment you get **pregnant**, you should be told that **this is a potential problem**, is gonna be a potential problem for you so you can start doing those exercises early so that you, all the, all the tissue doesn't relax and then you have the problem. (45–64)*
- Talk with maybe whoever their caregivers are, and keep them encouraged, motivated, and let them know hey, **it's going to happen to all of us**. (65+)*
- Moderator: What would you want to know? Participant: That the as you age or after childbirth, the, **the things that will happen to your bladder**. (65+)*

How to know if the bladder is healthy

- I think knowing the **difference between a healthy and unhealthy bladder, the signs of it** just looking at your pee... so just raising awareness of **what to look for** .... (18–25)*
- Like but you can base it upon like color... You know because I feel like color is a very obvious thing to look at for your pee **to see if it's good or bad**. (18–25)*
- ... the more aware you are of the information, you'll **recognize the signs** before something becomes too terrible... so that way down the line when you are becoming sexually active, however that may be, you know **what to look out for**.... (26–44)*
- I would like to actually see the difference between a healthy liver and a bad liver and **what causes that**. The same thing as a bladder you know. (65+)*

(continued)

TABLE 2. (CONTINUED)

## Attributes of the information

## Specific factual information

*I think the best way to deliver is like to, like, be specific about it, have **good information, and true facts.** (11–14)*  
*I think another important thing with getting information out there and making sure that people have access to resources is, kinda **getting rid of rumors or misinformation,** like UTIs are only caused by having sex or, whether or not it really is a concern that you can contract something from sitting on a dirty toilet seat or that kind of stuff. (18–25)*

## Information that attracts and holds attention

*Like tweets and stuff like that for like little kids, like, you could have like this little **fun little toy** that give it to them and like it has a note and it says like fun fact. Or like for adults, like, it could be on something simple, but like **fun and cute** and say like oh, this happens to your bladder, and stuff like that. (11–14)*  
*I think **short, sweet, and funny** is the best way to like connect to our age group. (18–25)*  
*... he uses puns, jokes, and like **colorful,** like **animated like little characters.**... So just like little fun like interactive little dudes is best. (18–25)*  
*Right, and like I mean you could probably somebody that can do really good **graphics** because, I mean, to show like turbidity of urine. ... and like colors and stuff and you could you know then people would have visuals and I think for our age level, **visuals are key.** (18–25)*  
*The presentation of it is important, people will **not be interested in a flyer** about bladder health. Start with **catchy questions/ statements:** “Are you a squatter?,” “Are you peeing correctly?,” “Are you wearing the right underwear?” (26–44)*  
*I think at that age, you have to make it **fun.** ... you need to add some **humor,** especially right now, we’re looking at this technology driven world where they’re catching everything in **little snippets.** ... it is something that **catches their attention.** (26–44)*  
*Like did you see that **commercial, especially if it’s funny.** ... She used a lot of slangs too, which made it **funny and caught your attention.** But also made it, because of that, it made it a conversational piece ... (26–44)*  
*maybe **phrasing it in ways that make people think about the subject in ways that they haven’t thought about it before** and whether or not they are addressing their health appropriately might make them more interested, you know, the average person. (26–44)*  
*The squatty potty thing that was going on. So I wanted to know what is this, what am I doing wrong? Am I not using the bathroom correctly with that commercial going around? It caught my attention. ... **It caught my attention** and also I wanted to know. (26–44)*  
*it **took a taboo subject and made it really interesting,** and people were like oh, okay, I actually want to know about this. I want to talk about it versus oh, no, we don’t talk about the bathroom sort of thing. (26–44)*  
*But when there was like, like when all those cat videos were popular everywhere, they designed this **music video with cats all about smoking** and categories. Oh my God, it is wonderful but it’s like it takes something that might be a dry topic or **something people don’t really want to talk about it and it gets them right away.** So, like you **have their attention** by like not only do you like initially grab their attention but you keep their attention through the minute and a half... (26–44)*  
*I’m a more sometime, I’m a more visual person and if you guys are like trying to know, it **would be like pretty cool to know more of a visual** like you know how when you go to the doctor’s office and then they have the woman’s body shaped into the dimension and all this and this is where your bladder is and this is what happens. (65+)*  
*I want to see what we’re talking about. I want to see where is my bladder and what is this that is next to my bladder. I’m a **visual (learner).** It would be good. (65+)*

## Amount of information—Just the basics

*Or if you’re in a waiting room, you see like a little pamphlet and it has like **three basic information** and I don’t know, just sticks with you. (18–26)*  
*It’s better when we just have like **little bullet points of facts** then I’m more interested, than like a long paragraph because I won’t read that. (18–25)*  
*... like very **short answers or short information blurs** ... So, like a **tiny little fact** that you can pick up **instead of like a whole list** of how your bladder works and everything, just like small information bits that are easy to digest, like, subconsciously. (18–26)*  
*I think that just basics like you were saying just like basic does and don’ts. (26–44)*  
*Just the **basic topics** that we’ve talked about here... (26–44)*  
*I think that if you get **two pages of information,** most of this generation I think or the millennials, they are so used to reading bullet points and just short that a two-page, it’s like that’s a lot of reading. (45–64)*

## Amount of information—Comprehensive

*I think kind of just a **general rundown of everything,** where it is, how it works, what you should do, what you shouldn’t do, you know just kind of facts and you know. (26–44)*  
*I think you need to take also in, to look at not only the physical thing, **also the mental, emotional, because all this stuff** also promote that kind of, any sickness, right, that is particular sickness, so need to like **focus on everything** not only the disease. The whole (person). (26–44)*  
*I would like it if they could talk to us about, **everything.** From how to take care of it and what are the first symptoms when one is not doing well and all of that, so one can know and take care, take care of our kids. (26–44)*  
*... where they would have **all the information about what the bladder is, its functioning, everything,** all the symptoms when there is a problem the bladder, which symptoms and all that information, **where to go,** the best places where a woman could feel comfortable, where they will be conscious about the woman and where they will treat her as it should be. (45–64)*  
*The figures should come [with]... how it works, **what are its causes** that, causes of the diseases, and what are the possible, **what are the preventions,** what are, how, in which way they could cure certain things. Where is it? I want to see in the body where it is. (65+)*

often to go to the bathroom, how much water to drink, and how to avoid urinary tract infections (UTIs). In one woman's words, "how to take care of the bladder," in another's "the dos and don'ts."

Although a wide array of topics of interest were identified by participants, there was a particular interest in knowing about what can "go wrong" with the bladder if proper care is not taken. Participants were specifically interested in understanding the impact of age, pregnancy, sexual activity, and disease on the bladder and how these factors can lead to bladder problems. Participants also wanted information enabling them to assess whether their own bladder is normal or healthy and to determine if something is wrong.

**Attributes of the information.** Focus group discourse emphasized message attributes, including specificity, relevance, and usefulness. Participants wanted information that was factual, specific, explanatory, concise, and clear. Some mentioned "getting rid of rumors or misinformation."

Participants had many suggestions for messaging that would attract and hold the attention of their audience by making it fun, colorful, and catchy, especially for younger groups. They referred to various types of material that appealed to them on other health topics and imagined how something similar could be done for bladder health.

There were variations in how much information was desirable. Some preferred a basic, narrowly focused approach with "just the basic topics" or "bullet points of facts." Others preferred a more comprehensive set of information, "the more the better." Reflecting desire for inclusivity, they also noted that content should reduce stigma, ease the sense of isolation, and be delivered with sensitivity and attention to language and cultural considerations.

#### *Methods of delivery*

Participants offered suggestions for a wide variety of methods to deliver information on bladder health. They articulated preferences for themselves and those in their age group, offered ideas for individuals in other age groups, and expressed suggestions for delivering bladder health information to women and girls at large. Focus group interaction elicited brainstorming and generated traditional, as well as innovative, approaches.

There were variations in preferences for methods of delivery across the life course. Preferred methods tended to be place based in specific locations that would capitalize on common gathering places for each age group. Participants expressed the notion that information should be available in settings where adolescent and adult women routinely spend their time and that the method of delivery should be tailored to the location. For example, methods focused on girls and teens could be located in schools, while methods for older adults would be situated in senior centers or faith-based institutions. This approach would make it convenient for "captive audiences" of adolescent and adult women and reach those who were not necessarily actively seeking information.

Ideas for delivery methods fell into three broad categories: (1) traditional in-person modes of delivery (Table 3), (2) internet-based website and social media modes of delivery (Table 4), and (3) static (noninteractive) modes of delivery such as pamphlets and posters (Table 5).

**Traditional in-person modes of delivery.** Across age groups, some participants mentioned a desire to have individual conversations with their health care providers, often capitalizing on routine visits for yearly physical examinations and tests. They wished that information would be offered to them rather than having to initiate conversations themselves. In addition to having individual interactions with health care providers, the preponderance of participants' comments focused on delivery methods using group didactic or interactive approaches, including lectures, classes, seminars, conferences, meetings, workshops, and small group meetings.

Adolescents and adult women in all age groups identified school as the primary setting for offering bladder health information to children and adolescents through assemblies, in small groups, or by integrating it into sex education and health classes. Participants also identified opportunities to integrate information into existing prenatal classes or sessions for new mothers. Middle aged and older women endorsed the focus group format and wished to have similar events and workshops in community settings such as senior centers, community health centers, and religious institutions. As an extension of their own learning experiences, participants saw the potential for passing information on to others through word-of-mouth and networking, noting, "We listen to our peers."

In addition to identifying group gatherings for traditional didactic learning, participants valued the group modality for its opportunities to interact with others in a safe environment that could normalize bladder health discussions, provide support, reduce isolation, and destigmatize their experiences.

**Internet-based and social media modes of delivery.** There were extensive focus group discussions about utilizing the internet and especially social media to deliver bladder health information, either within private groups or to broad audiences. Participants thought that websites, including National Institutes of Health and WebMD, were useful for women who are actively seeking information. For women who are not necessarily seeking information, several approaches were suggested as useful ways to attract attention to the topic and disseminate bladder health information *via* targeted advertisements, pop-up questions/quizzes, blogs, videos, illustrations, and articles using functions of Facebook, YouTube, Snapchat, Instagram, and other platforms. Social media was a preferred method, especially for young audiences given their regular use and facility with the technology.

**Static (noninteractive) modes of delivery.** Participants talked about a variety of static modes, including durable materials that could be distributed, shared, and reused in many ways as stand-alone products or for use in combination with in-person or internet-based approaches to convey information on bladder health. These may include pamphlets, brochures, flyers, books, posters, instructional videos, documentaries, advertisements, and public service announcements (for newspapers, newsletters, television, and radio).

Older adults in particular preferred books, magazine and newspaper articles, and pamphlets as enduring products that they could read and reread to more fully absorb and retain knowledge that might otherwise have been lost with a single

TABLE 3. ILLUSTRATIVE QUOTES: TRADITIONAL IN-PERSON MODES OF DELIVERY (AGE GROUPS IN PARENTHESES)

Individual instruction during routine medical care

*I think it could also be something that like during a **yearly physical** that a doctor could bring up and say ..., like clearly saying like and how is your bladder health and kind of explaining various things that you know could be educational for them. (18–25)*

*If I'm **at a physical** where I'm prioritizing my health and I'm you know really thinking about that topic, then that's where I would probably find it most interesting that I can follow up if I have further questions. (18–25)*

*You know you're pregnant and you **go to a gynecologist** and she's going to lay that all out. (26–44)*

*You know it would be great if **every doctor could change their practice** and make sure that they were communicating that to all of their patients. (45–64)*

*You know, either by her **primary care** or who, OB, and I think that's the ideal place to start. (65+)*

Group-based models

School based learning for children and adolescents

*I mean, many people go to our **school** and say oh, we'd like to do **a club** and our school is really open to clubs. We have many, many clubs, so we can just go and say oh, I want to do a club and they'll let us. So, I feel that we can educate people and get all the information if we do like a club. (11–14)*

*Like people like you can have like **groups of people** come to like the school and like have a **big meeting with the whole school**. Something like some people do that or like have like a meeting for like the health class stuff, so like people really do that, like just go to different schools and like inform people about bladder issues. (15–17)*

*One of the other things to consider is, for more of the long-term incorporating it into sex ed and, kind of **health classes** as well. 'Cause you're already learning about your reproductive system and, all these other health aspects with your body and it kinda just makes sense to incorporate the bladder as well. (18–25)*

*I think **schools** could be really useful too maybe ... if there were like a **woman's health guest speaker** or something I think everybody would be super open to that I think. Yeah, I think kids in schools could be really powerful way. (26–44)*

***Talks in high school** with girls... So **someone goes to school and talk to the kids** about it like when they have the **sex education classes**. (45–64)*

*Why don't they **organize workshops for the kids, the youth?** ... It could be **at the schools or the high schools**, like that, so they take care of their bladder and they know everything before they get to our age. (65+)*

Prenatal classes and new moms' groups for childbearing women

*I would agree that like not, I wouldn't want to call it preventative care but like maybe in a **prenatal class**. (26–44)*

*For me, I met Danielle at a hospital **new moms' group** and so I would start there because you have a bunch of women who are probably experiencing bladder control issues and they're, at that point, willing to hear and discuss their problems in a **safe hospital setting**. (26–44)*

Groups for middle-aged and older women

*I could go to the doctor, he could just tell me, you know what I saying? But **having like a group like this** I'm learning. (45–64)*

*I think like **these groups**, no? Because here we **focus and we engage better**, and we learn more from another person as well. (65+)*

*...for us, for our age, it would be **better as a group**, to have a **doctor come** and give us answers, no? to the questions that we have and well, like that, **small groups** because we would feel more **trust to be able to ask certain questions**, no? (65+)*

*Or here in the **community centers**, an option apart from, from the schools and that. (45–64)*

*but I do think **community events** really, really work and they, they get a lot of population. (45–64)*

*In the **church**, a lot of older, A lot of older people go to church and then get into senior citizen centers and **senior citizen assisted centers, and senior citizens living quarters**. That's a good way to get information out. (65+)*

Value of group methods

*I was just going to say even just **talking about it more**, if you make it more **normal** to talk about, where I can't feel like it's something like awkward to talk about, like breaking through the kind of awkward barriers and when more people start talking about it, then it becomes more normal. (18–25)*

*You know, **everybody has a bladder** so if they did come up with something, you know, promoting bladder health that it needs to be universal for both genders and, it needs to be made **more normalized**... to make it known that everybody has a bladder and everybody has bladder problems maybe. (18–26)*

*Oh, my gosh. But we need to, that's the thing. **We need to talk about it**. That's the only way we can **break the stigma** is where we have open and honest conversations about it and we won't let people shut us up. Okay. (26–44)*

*I felt like having this conversation made me realize that **I'm not the only one** who experiences this. It makes it seem less, **I guess less embarrassed about it and I**, I would think that is key to disseminating information and key to individuals wanting to seek out the information if you're not as embarrassed to do so and so formats like this, ... could be really helpful in that. (26–44)*

*So I have learned being in this that you can talk about it and you can say things and it's nice to **be in a group of just women so you do feel open** and are able to voice your scares and your remedies and your, and your problem. So I, I really enjoyed it. (65+)*

(continued)



TABLE 3. (CONTINUED)

## Peer-to-peer and word of mouth

*You know, it's always **word of mouth** you get things out. (45–64)*  
*I truly believe in **peer education**. So if you, if you teach peers you know if you teach a **group** from a specific population and ask them to **teach their peers**, that we listen to our peers. Then we'll, so **parents listen to other parents, teens listen to other teens**, maybe seniors will listen to other seniors, and so I think that's a powerful method for education. (45–64)*  
*But I think from experience and I think from just this **group** I glean that **networking** like we've had some of this information shared, so we can go out and network and you know those people that we **friends or acquaintances, inform them** you know about there is information out there if you, if there's a problem, and if you have a problem with it, **don't go to your doctor** because the doctor's going to say oh, that's not a problem. (65+)*

exposure to the information. They also endorsed sharing pamphlets or their content with others, including family members or friends who may benefit.

Focus group discussion addressed many locations where durable materials could be placed to reach intended audiences. There was considerable dialog across age groups about placing materials in medical offices or other health clinics, where information could be accessed by both symptomatic

and asymptomatic patients. This was seen as an ideal location due to the amount of time spent waiting to be seen by providers.

Participants were enthusiastic about placing materials in bathrooms, especially bathroom stalls, and even on rolls of toilet paper. This was seen as potentially capturing women's attention during toileting, a routine and necessary daily activity, but the information is also pertinent to their bathroom

TABLE 4. ILLUSTRATIVE QUOTES: INTERNET-BASED WEBSITE AND SOCIAL MEDIA MODES OF DELIVERY (AGE GROUPS IN PARENTHESES)

## Internet and websites

*Maybe on a **website**. (11–14)*  
*I say that also through the **Internet** because almost all the world is using the Internet... (26–44)*  
*We call him **Dr. Google** in our family, Dr. Google. It's referring to Google. (45–64)*  
*My, my typical thing is I'll **Google** it and then I'll look for the **NIH** website... **NIH** is, is probably the top one. (65+)*  
*What about **WebMD**?... Yeah, that's what I was gonna - tryin' to say. (65+)*

## Social media

*Just like through school and **social media** because a lot of people just use social media. (11–14)*  
*I'm just imaging a **Facebook advertisement** that just says are you peeing weird? (Laughs) I would totally click on that. (15–17)*  
*I agree with that. I think the way to go now is definitely on some sort of **social media**. Most people do have access to something, you know somewhere throughout their day they normally have access to the internet. (26–44)*  
*I feel the **social media** is prevailing all throughout our society at this point. And so I think it's the **strongest way** you can reach people in a cost-effective manner, I will say. Like my mom is in her 70s and says to me all the time, I do not want to be a dinosaur, I want to learn this technology so that I can be a part of it. So hitting **Facebook** and then **Instagram** there's a, you know, if you can make a **visual**, a strong visual campaign... where people would say, oh, I want to click on that, and then that would be interesting. I think that would hit all demographics. (26–44)*  
*I think it would be **social media**, like, regular social media, like, Facebook, Instagram, all of those, and the very, like, casually explain information. (26–44)*  
***Social media** is the biggest thing out there now... People are not reading like they used to. (45–64)*  
*I think that like kids my age, like, they like **phones** and like **Snapchat, Instagram**, stuff like that. Like maybe if like Snapchat and have like a ding where before they can take a picture, you have to answer a question, like take a quiz or something like that that it's like addictive but like at the same time, you want to take a picture, so you have to complete it. So then it's like, it's like forcing you to learn more about your bladder... (11–14)*  
*So I think like yeah, ... it should be like on **social media** since teenagers these days use social media so much. (11–14)*  
*I think it kind of depends on age group too, like, **social media's really effective for like our age** group but like for like older people like they may not, you know, watch the **Cosmo**, you know, **Snap stories**. (18–25)*  
*I wrote a paper on the CDC campaigns for cervical cancer and they found that like the most effective ways to get information out was through like **targeted ads** on like **YouTube** and on **Facebook**. ... **a lot of people don't want to go to the doctor to talk about bladder health** because it's expensive. (18–25)*  
*I think the way to go would be through **social media** whenever they have those like pop up ads about like something you don't necessarily care about but looks cool. I think that would be like **easy for like young people** to click on, especially **like girls who haven't even started going to the OB yet**. ... there are lots of children ...they're always on their phone. So I think that would be like the easiest way to reach kids and adults alike... (26–44)*  
*Put it on **social media**. **That's going to reach the young folks**. That's going to, every, **they're all on social media**. Yeah, actually, I can't knock it because that's how I found out about this group. (26–44)*  
***Social media** because that's where their interest lies (young people). (45–64)*

TABLE 5. ILLUSTRATIVE QUOTES: STATIC (NONINTERACTIVE) MODES OF DELIVERY (AGE GROUPS IN PARENTHESES)

## Types of materials

*Yeah. I mean, if I saw a **pamphlet**, I'd probably pick it up because you never see any with bladder health, so I'd be like oh, this is interesting. I don't know enough about it. I would pick it up. (18–25)*

*... having you like watch that little like **training video** would be like helpful rather than them saying this is what you need to do 'cause that, people take in more information when they have it visually rather than just like hearing it. (18–25)*

*Yes, I think it would be the **pamphlets**, not only with a **flier** because, something that folds like this, ... where they would have all the information about what the bladder is, its functioning, um, everything...yes, I think those, pamphlets. (45–64)*

*And then I was thinking, too, that besides just a, a **pamphlet**, I would say that like **video** is very good, too. It's visual, and you know that, that really teaches the reproductive what happens in there, you know the process and it's just that's a good education right there, so. (45–64)*

*Besides **health magazines**, just **women's magazines**, **Women's Day** and **Good Housekeeping** and those different magazines that women pick up. They sometimes will have some. Sometimes they'll have an article that a lot of women would read those. (65+)*

***pamphlets** - - because you can refer back to that, - - whether you've seen it on the TV or the radio, then it's when it's over, it's over, - - but if you have pamphlets, you can go back and read. (45–64)*

*I would rather have it on a **pamphlet** - - because, you know, you can read it and re-read it. Get the good understanding of it... But just listening to it, you know, that you may not hear but one time, but reading it, you can read it **as many times as you want** and while you're reading, you're concentrating on what you're going to do, and how you need to do this. So I say a pamphlet. (65+)*

*A **pamphlet** - - would be better for me - - On TV, the snippets are so short; we might get in on the front end, on the tail end, so we're not getting the gist of what it is, so a pamphlet for me would be better. (65+)*

## Locations for placing materials

## Clinical settings

*When I'm at a doctor's office, I know like there's a lot of **downtime** ... I find myself looking at the **posters on the wall** a lot and like I can like remember like exactly like what posters are on the walls of my doctor's office just because ... you're like just sitting there, you're looking around ... and like that's the first place that you can like get information without having to directly ask for it. (15–17)*

*Most young women who are healthy people, healthy women will go to a gynecologist every year, so that could be a way just to educate or have like **posters or brochures in the waiting room** for that in that office. (26–44)*

*And as soon as I sit down, I have a **lovely monitor** and it goes from heart health to bladder health to lungs and dadada ... It is so amazing because it's like **you're going to be in the waiting room forever**, so. (26–44)*

*Literature would be good... I mean, like **post it like in your OB/GYN offices** or in your office, just medical office you know where people can, people see stuff like that, **pamphlets and stuff** and they pick it up, just curious and read it and, and a lot of times it just get **passed on to the next person**. It could be a family member, a friend. Where you get this from? And something could be going on with that person and they need it. (45–64)*

*You know, you know there's all kinds of **posters and other things that you look at while you wait** and sometimes you wait longer than other times. (45–64)*

*And just like, ...in the doctor's office when they have the little TV with, with nothing but **doctors' messages on**, (others in agreement) doctors' messages about the bladder on it... In the waiting room. (45–64)*

*Another idea I have is to kinda spread the information in places like this, because a lot of people come through the **health center**. A lot of people come through the health centers. (45–64)*

## Bathrooms

*A **poster in the bathroom** about your bladder when I'm drying my hands would be so helpful. (18–25)*

*...or when you have to like take a pee ... I would appreciate **looking at something** that's not don't put tampons in the toilets. (Group laughing.) (18–25)*

*I feel like, you know, just having something on the **back of the stall door** while you're in the bathroom. You're already there, it's just very relevant to what you're doing. (18–25)*

*Or even just having something in the **bathroom stall** that you could like read while you're peeing.*

*Yeah, I really like the **bathroom stalls**.*

*Yeah, especially while you're peeing, like that's perfect. (18–25)*

*But I think that also it's good you know when you go to the restroom and they have are you being abused? (Group in agreement.) **The little pamphlets. It's so private**. Nobody knows what. (26–44)*

*I would say **signage inside bathrooms** at state fair would be a pretty good route because everyone, you know it's like how do you reach a **variety of demographics** something like that that it's not just hitting one type of group? You want to hit people of different socioeconomic income levels and everything. (26–44)*

*if I go into a **bathroom** like at a school and I see those kind of things... that's another way to pick up the information.*

*Other speaker: That's kind of like forced on you. Kind of forced on you.*

*That's true because, because when I'm sitting in the **stall**, it's staring at me. (45–64)*

*I thought if you want to reach people, put like a checklist or some kind of like little information in **toilet paper**, like when you want to wrap it and you've got a, you know, the information there and you change it, ...I mean everyone wants to find something to read on the toilet, right? (45–64)*

(continued)

TABLE 5. (CONTINUED)

## Locations for placing materials

...and you might have like little **message in the stall or in the bathroom**. Just to normalize it. I think it's just kind of like this invisible thing that we just do and don't pay attention to. (45–64)

I'm thinking that a **poster in the restrooms**, any open restrooms to the **public** would be a good thing to get information. (Group saying mmm hmm in agreement.) (65+)

## Public transportation

And I guess in the local area, I do like reading the **bus stop ads**, so I can see that, too, for the ads on the **Metro <TRAIN>**. I know that this is a national thing. (18–25)

So even on the Transportation Authority **trains**, where you know you look up and there's like different signs. ... That would be because everyone's forced to see it, even if you, you know don't use stuff that often. ... And the **Metro <TRAIN>**. Everyone reads the Metro. It's a free newspaper so why not. (26–44)

I read every little wrap on the **<TRAIN>**, every single one of them, like I'm fascinated by it. I like **commercials**. (45–64)

We have it right in front of us, these little **bullet point posters** that you could put up all over like here in schools, even on the Transportation Authority **buses and trains**. And then you can list the toll-free number and so forth and things like that. (45–64)

## Radio, television, and podcasts

But you could also do it as like an ad on like you know a **website radio**, you know, like **Spotify or Pandora** kind of ad. But I also listen to like the local radio stations, too, so yeah. (18–25)

I think **podcasts** would actually be a really good place, too, because you're targeting a population that's most likely listening to something because they want to learn already, and so **they're already open to hearing about that**. And with podcasts, you hear the same ones over, the same ads over and over and over, so like I can, I just remember all of them so I feel like if you were to put them there, then I would remember it and like eventually, you know start to look into it and be like what is this? (18–25)

I think that bladder information should be delivered the same way drug information is on, like, **television** like those little sappy **commercials**, "This is your bladder," and how to take care of it. Like I think that's like the most effective way to do that. (18–25)

Definitely the **radio**. You know, they say **96 million people** get more of the radio than they do TV. (45–64)

I realize just how much money they take, things like **PSAs on TV**, like you know those do **reach a lot of people** and people could you know learn something. (45–64)

I think that they're all great options because it certainly feeds, certainly caters to all of the demographics. I mean, my mom 77... (has no) access to Internet whatsoever. So **TV and newspaper** are her doctors... (45–64)

## Other community

But you've got to, **you've got to bring this to the community**. You know what I'm trying to say? The community not going to come to, to, you know what I'm saying? To y'all. That's the only way we going to find out about something, about our health. (45–64)

**Reach out to communities**, small communities. You know **mail them**. why don't you guys start **sending mails also to communities and the young**. ... It's not just people coming out of the doors and knocking on offices or communities and where are they going to have this meeting? (65+)

So maybe communities like you guys ... **reach out to us**. ... people read it in the newspaper when they're going to have **events or fairs or the library**. There's a library over there ... you know they're going to have these seminars... But I would really read and look ooh, they're having this **event**. Let me go because it's closer. (65+)

I think, umm, sometimes at the **pharmacy** when you're trying to figure out like okay, what do I need at the stores or something, some product I need to pick up, have a **pamphlet**, you know, that may be a starting point there or, you know, so, it could be an option. (45–64)

visit. Public transportation venues were identified as another opportunity to attract the attention of community-based audiences riding or waiting for a bus or train.

Public service announcements and advertisements were viewed as useful ways to reach large numbers of people through radio, television, and podcasts. Participants also emphasized the need to reach out to communities by offering information in community centers, health centers, health fairs, libraries, faith-based organizations, senior centers, and pharmacies.

The need for tailoring and multiple delivery methods. Recognizing the need to reach a broad and diverse population, participants recommended the development of multiple delivery methods to be tailored for specific groups of people (Table 6). Across age categories, participants articu-

lated the need to use different approaches for different age groups. As noted above, social media was seen as especially suitable for younger audiences, although not exclusively, while older adults leaned toward wanting durable products and in-person messaging in community settings.

In addition to considering audience age group, participants recommended having tailored content and multiple delivery methods available to accommodate the broad diversity of individual and group differences in culture, preferred learning styles, personal comfort, and social context. Some specifically recommended visual messaging (e.g., videos or graphics) as a preferred mode. Many participants in the Spanish language focus groups requested messaging in Spanish. While some participants preferred learning about bladder health through groups and personal interaction, others preferred methods that would allow them to receive

TABLE 6. ILLUSTRATIVE QUOTES: NEED FOR MULTIPLE METHODS TAILORED FOR SPECIFIC GROUPS (AGE GROUPS IN PARENTHESES)

Need for multiple methods
<p><i>I don't think there could be like one single, like, program or like one single campaign to address everything, ... there could be more of like a treatment version of like are you having these symptoms like sort of thing. But also then the prevention like what even is bladder health? (26–44)</i></p> <p><i>You can get it, you can go online on the computer, you can go to the library, get books, or if you go visit a doctor's office, a lot of times they have pamphlet books laying around and where the magazines are and they have all kinds of information on anything, not just the bladder. (65+)</i></p>
Tailored to age group
<p><i>... are you targeting different groups or age groups of women for your resources. Because yeah, they'd be targeted differently, I think, because of the different problems that women face at different stages of their life related to their bladder. (18–25)</i></p> <p><i>You need to think about age. You definitely need different approaches. (26–44)</i></p> <p><i>You would have to add, in my opinion, for the older generation, not everybody Facebooks or Instagrams ... but you would have to target them through television, through you know, they're targeting them with Depends. (26–44)</i></p> <p><i>So like for my mom's age, they want to read every pamphlet. My mom doesn't want to see a phone. She doesn't want, she doesn't want it on her phone. But man, she goes to the doctor and she literally takes one out of each little thing and that's like her, her Friday night reading. ... but like for my, my teenage daughter. I would say okay, maybe we can have something geared to them and say hey, this is a website, you know this is a little card if you want to check it out, you know just something quick to give them because they're, they're not going to spend a lot of time on it... (26–44)</i></p> <p><i>I would say depends what, what age group you're targeting because if it's younger children, then yes, I would say school is, is important. But then if you're in high school well those kids now, everything is, is you know on the Internet so I think it has to be something that would impact them via Internet. And then if it's like the older generation, old-school people where a handout would be better because they want their privacy and they want maybe have time to read it and to absorb it, and would be the clinics or the hospitals but like I said, it depends, I say that the target group you want to aim at because everybody is taught differently and the ages is also really important to consider. (45–64)</i></p>
Tailored to individual and group differences
<p><i>Everyone consumes information different. Like I know I'm a visual learner ... I think it would depend on the person how they would best receive information. It could be an email, it could be a pamphlet, it could be a seminar. It could be on TV, you know, but I just think it just depends on the person. (26–44)</i></p> <p><i>You know some people are going to read books, some people are going to read the Internet, some people are going to read pamphlets, so like just different multimedia kind of things. (26–44)</i></p> <p><i>I think everything that we said like kind of strikes the point of one, being sensitive to your target audience. (26–44)</i></p>

information while remaining anonymous, preserving privacy, and avoiding embarrassment or discomfort around the topic of bladder health.

## Discussion

Participants in this qualitative study offered extensive insight into the development of public health messaging around bladder health for adolescent and adult women. Overwhelmingly, participants wanted information on how to maintain bladder health and prevent bladder problems. There was a particular interest in knowing what can “go wrong” with the bladder, what causes bladder problems, and how they could detect when something is wrong.

Focus group discussions highlighted the desire for clear and factual information, revealing concern about the existence of potentially inaccurate or misleading information. Research has shown that misinformation and misconceptions about bladder health are common, including the belief that urinary incontinence is a normal part of aging or childbearing and therefore inevitable and untreatable.<sup>10–15</sup> Such beliefs can be barriers to communicating bladder health concerns

with health care providers and are reasons given by women for not seeking treatment.<sup>10–15</sup> Public health messaging that corrects such misinformation is important because it has potential to encourage help seeking and other individual behaviors that may promote bladder health.

Across age groups, women expressed interest in having individual conversations with their health care providers about bladder health during routine visits and having information available in waiting rooms. Their preference for the topic to be raised by the provider is consistent with the findings of another qualitative study indicating that women are willing to talk about the bladder but prefer for the health care professional to initiate the conversation.<sup>11</sup> In one study, only 16% of continent women and 21% of women with incontinence reported being asked about urinary incontinence by their primary care provider, and physicians were more likely to screen younger than older cohorts of older adults.<sup>7</sup> Other research has found that providers do not ask patients about bladder problems, in part, assuming that they would raise the topic if it were an issue.<sup>11</sup>

The literature on patient–provider communication identifies additional barriers to having these conversations,

including provider lack of knowledge or expertise to treat bladder symptoms and limited time for consultation.<sup>11,39,40</sup> To address this situation, one study used a brief previsit pelvic floor assessment questionnaire to bring attention to bladder concerns and found that it increased clinician-initiated communication about urinary and fecal incontinence.<sup>41</sup>

In addition to wanting to receive information in encounters with providers, there was considerable discussion about using group instructional or interactive approaches, such as classes, lectures, and workshops. Across age groups, participants identified school as a natural environment for children and adolescents to learn about bladder health, suggesting that it be integrated into health classes and sex education. Offering bladder health information in an already established learning environment represents an opportunity for future curriculum development, notwithstanding challenges to such an approach in terms of acceptability to parents and lack of training on bladder health for school nurses and teachers.<sup>42,43</sup>

Suggestions for childbearing women emphasized integrating bladder health information into existing prenatal classes or groups for new mothers. Most participants seemed familiar with such programs which exist in varying forms across the country. Research in this area supports the efficacy of group models that integrate bladder health information and pelvic floor muscle training into education and fitness classes designed to promote pelvic health during pregnancy and the postpartum period and to prevent future symptoms.<sup>44,45</sup>

Group modalities also have been used to deliver pelvic floor muscle training to treat bladder symptoms in the context of pelvic fitness or general fitness classes.<sup>46-56</sup> Some classes have broader content, educating women about bladder function, toileting practices, or behavioral strategies for bladder control, including programs conducted in classroom settings rather than exercise class.<sup>57-62</sup> Research has shown that bladder health classes can be effective for preventing incontinence<sup>58-60</sup> and reducing existing bladder symptoms.<sup>61-63</sup> One study combined an educational seminar, leaflet, and weekly text messages to reduce UTIs in pregnant women. Results showed improvements in knowledge, preventive practices, and incidence of UTIs.<sup>64</sup> Thus, our findings lend credence to the value and acceptability of these existing efforts.

The preferences of middle aged and older women focused on workshops, lectures, and events situated in community settings. While such programs have been established in some places, they are not yet mainstream and depend on local culture and outreach. In one community-based randomized trial, continence education together with evidence-based self-management improved incontinence among older women.<sup>60</sup> In another community-based study for urinary incontinence, the education intervention improved condition-specific quality of life and self-management.<sup>61</sup>

Many participants in the current study seemed drawn to the group modalities because of opportunities to interact with others in a safe environment where they could feel supported and have their bladder experiences normalized. The literature indicates that bladder conditions often are stigmatized, resulting in embarrassment, social isolation, and reticence to discuss bladder issues with others, including doctors.<sup>10,11,23,65</sup> Group interaction could provide support and help destigmatize the topic and participants' bladder experiences.

There was considerable discussion about ways to use the internet and especially social media to disseminate bladder

health information, particularly if they incorporate mechanisms for identifying and correcting misinformation.<sup>66,67</sup> Many participants had experience with social media and could imagine broad reaching efforts to provide beneficial information to women actively seeking information, as well as to attract the attention of those who are not. Social media was a preferred method especially for young audiences given its embeddedness in their daily lives. Marketing research suggests that compared to older adults who prefer emotionally meaningful messaging, younger people are attracted to messaging that generates a sense of novelty and discovery.<sup>68</sup>

There was a distinct desire for durable materials particularly among older adults who may need more time to process and retain information that could be forgotten when an educational encounter is over, as well as to facilitate sharing information with others. Participants suggested placing materials in traditional locations such as medical offices and waiting rooms, where they are already thinking about their health.<sup>69</sup> Recognizing that women may not set time aside or prioritize information seeking, participants generated many ideas about ways to capture women's attention during routine daily activities. The idea of reaching the audience where they are was also reflected in the desire for community outreach. Research suggests that reaching out to older adults through their involvement in civic engagement volunteer venues can be an effective way to deliver public health messaging to that age group.<sup>70</sup>

To reach a broad and diverse population, participants recommended the development of multiple delivery methods designed for specific groups of people. Ensuring that information resonates with audiences will require diversity in stakeholder input during the development of public health messaging and sensitivity to cultural and language differences.<sup>71</sup>

A strength of this study is the number of focus groups conducted, including a wide age range and geographic distribution, representation from urban and rural communities, and diverse racial and ethnic identities. A limitation of this analysis is its use of a single domain of a larger focus group guide, such that there was limited time for discussion and probes for more in-depth information on the specific topic of public health messaging.

The findings of this study have implications for research and dissemination. Across age groups, participants expressed a need for information on maintaining bladder health and preventing bladder problems. The state of the science in bladder health promotion is limited in some areas, including the role of individual bladder habits in the etiology of bladder symptoms. Prioritizing prevention research is important if we are to address the deficiencies and close gaps that currently exist in meeting the health education needs expressed by the women in this study.

With the growth of social media, ample opportunities exist for creative delivery of bladder health information for audiences of any age. Measures may need to be taken to address existing structural and other barriers to accessing social media. Given the desire for school-based bladder health education, there is an apparent and compelling need for development of educational opportunities for teachers and school nurses. Considering preferences of older adults for outreach to their communities, it will be important to identify appropriate community-based venues. Involving community partners in these locations could promote an understanding of

social and cultural characteristics of individual communities and consideration of their specific needs.

### Conclusion

The findings of this study can inform development and dissemination of broad ranging public health messaging about bladder health tailored to audiences of all ages with a goal of engaging adolescent and adult women across the risk spectrum.

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