

# **Examination of Office Visit Patient Preferences for the After-Visit Summary (AVS)**

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## **Abstract**

The federal government advocates the practice of routinely providing an after-visit summary (AVS) to patients after each office-based visit as an element of stage 1 meaningful use. A significant potential benefit of the AVS is improved patient engagement achieved by enabling patients and family members to better understand and retain key health information. The methodology for this study was a mixed-methods pilot study to examine, through the perspectives of adult primary care patients, how relevant and actionable data can be better formatted in the AVS. Results of this study suggest that the goal of the AVS to serve as a communication tool to engage and support patients is frequently not being met. Further study is needed to understand, from the viewpoints of patients and providers, what barriers are keeping them from optimally providing and using the information on the AVS.

**Keywords:** meaningful use, after-visit summary, primary care, patient-provider communication

## **Introduction**

The federal government advocates the practice of routinely providing an after-visit summary (AVS) to patients after each office-based visit as an element of stage 1 meaningful use.<sup>1</sup> The AVS is generally defined as a communication tool to support continuity and coordination of care. It is a written document that summarizes the visit while providing the patient with relevant and actionable information and instructions.<sup>2</sup> A significant potential benefit of the AVS is improved patient engagement achieved by enabling patients and family members to better understand and retain key health information. Research shows that oral information combined with written information has a greater impact on patient knowledge than oral information alone.<sup>3</sup> The AVS can also support coordination-of-care efforts by serving as a clinical document that patients can share with their other healthcare providers. Although 50 percent of US patients are now estimated to be receiving some form of AVS, the preferred content areas, format, and potential benefits of the AVS for either patients or providers remain largely unknown.<sup>4,5</sup>

## **Methods**

Our research team conducted a mixed-methods pilot study to examine how the AVS was being used in the primary care office and to explore patients' perceptions of the AVS. We specifically wanted to delineate how frequently the AVS was used to support continuity and coordination of care through improved communication with patients, their family members, and other providers involved in their care. The study received Institutional Review Board approval from the university and the area health system.

Participants were identified through two primary care offices. At the end of their visit, they were asked if they would like to participate and then consented. A total of 209 primary care adult patients participated in a 10-minute interview after the office visit. They were asked 14 questions concerning their current and prospective uses and preferences for the AVS. Among the participants, 45 percent ( $n = 94$ ) came from an academic-based family medicine clinic affiliated with a major university in the Midwest, with the remaining 55 percent ( $n = 115$ ) receiving primary care services from an off-campus family medicine residency clinic in the same community. Each site used different common electronic health record (EHR) systems. The content of the AVS at each site was generally equivalent, but formatting varied slightly. The authors found no significant overall differences between participants from the two clinics in terms of age, sex, number of major chronic health conditions, or racial affiliation, although participants from the second off-campus clinic tended to be nonmarried ( $p = .29$ ), had lower levels of completed education ( $p < .001$ ), and were less likely to agree to be contacted by the authors for possible follow-up ( $p = .025$ ).

## Results

Patients reported an average age of about 51 years ( $SD = 15.55$  years), and ages ranged considerably from 21 to 83 years. A total of 139 patients (66.5 percent) were female. More than 72 percent of the total sample reported their racial affiliation group as white. Notably, more than 74 percent of the patients had completed undergraduate or graduate college programs, 98.6 percent reported English as their primary language, and approximately 50 percent were married. The mean number of their reported chronic health conditions averaged 1.77 ( $SD = 1.53$ ) but ranged from zero to eight.

The interview included nine yes/no questions and some open-ended questions. Data from the yes/no questions are shown in Table 1. Results showed that 98 percent of the patients had received an AVS at the end of the visit, with 57 percent receiving the document directly from the physician and the rest reportedly receiving it from either a nurse, a nurse practitioner, or reception staff. Among the respondents, 60 percent said that someone in the clinic reviewed the AVS with them, and 88 percent said the information was easy to understand. Approximately 79 percent reported that the problem list was accurate, and 73 percent said the medication list was accurate. Although 60 percent said that the allergies were correctly recorded, only 41 percent said that the severity of the reaction was listed correctly. About 80 percent of patients stated that the information in the section on problems addressed made sense, while 96 percent said that they understood the instructions on the AVS. A total of 84 percent said that the AVS was helpful to them.

Responses to the two open-ended questions were thematically analyzed into core conceptual themes and subthemes. As shown in Table 2 and Table 3, a total of 469 analyzable interview comments were collected during the interviews. Some responses to single questions fit into more than one thematic category.

Table 2 lists the frequencies of comments placed under the core theme “What do you plan to do with this clinical summary?” and the three subthemes, which included (1) “File it” (without specific intent), (2) “Keep it” (for a specific purpose), and (3) “Throw it away/nothing.”

Among the participants, 88 (42 percent) said they would file the document without specific purpose; that is, they indicated they would simply store the AVS somewhere at home, in their car or purse, or elsewhere. Eighty-six participants (41 percent) said they would keep it for a specific purpose. They indicated that they would share their AVS with family members, review it with other healthcare providers, or review it by themselves at home. Thirty-five participants (17 percent) indicated that they perceived no real value or future use for their AVS and that they would be likely to discard it.

Table 3 lists the frequencies of comments placed under the core theme “Suggestion for improvement for the way instructions are given,” and the five subthemes included (1) “Improve format/layout of document,” (2) “Enhance healthcare communication,” (3) “Resolve discrepancies/omitted information,” (4) “Provide document in electronic form,” and (5) no suggestions or opinions offered.

Eleven patients (4.5 percent of total comments) suggested improving the format or layout of the document by using graphics and larger print, bolding key words or sections, or sequencing information in

order of importance. Forty-seven patients (19.2 percent of comments) suggested enhancing healthcare communication by using less medical terminology, providing only key information, and having a provider review the AVS with them. The largest group of suggested comments, with 61 comments (24.9 percent of comments), was in the subset “Resolve discrepancies/omitted information,” including information in the allergies, medication, and problem list sections; 23 percent of comments within this group suggested having specific instructions or a list of actions to be done before the next office visit, items that were often found to be absent on the AVS. Eight patients (3.3 percent of comments) suggested providing the document in electronic form or wanting the AVS to be made available through their personal health record portals, although several of these patients noted the difficulty of doing so. The majority of patients (118, or 48.2 percent of comments) offered no suggestions or opinions regarding improvement of the AVS. The researchers who conducted the interviews generally concluded that a proportion of these patients may have not wanted to seem “ignorant” regarding the content of the AVS or may have felt rushed to leave the clinic.

## Discussion

The overall purpose of this study was to gauge how primary care patients may perceive the AVS as a tool that might provide them with relevant and actionable information to better engage in managing and improving their health. We also wanted to examine how often the AVS was used to support continuity and coordination of care through improved communication with patients, their family members, and other providers involved in their care. We initially designed the study questions around a presumption that a fair proportion of patients would envision the AVS as a tool to improve communication and coordination of care between them and the clinicians with whom they interact. We found, however, a considerable discrepancy between what the AVS has been proposed to accomplish and how this sample of patients actually reported understanding and using the AVS.

We suspect that many patients provided a “preferred response” to some of the questions. For example, when asked if the AVS was helpful to them, 84 percent of patients responded “Yes,” although 59 percent ( $n = 123$ ) indicated that they would file their AVS without a specific purpose or simply throw it away. Similarly, while most respondents said that the AVS was easy to understand (60 percent) and that the information on the problems addressed section made sense (80 percent), fewer than half of the participants stated that they would keep the AVS for any specific purpose (41 percent). Among the participants who stated that they would keep the AVS, only 10 individuals mentioned that they would share the document with another provider, and only 10 individuals would use it as a medication reference. Similarly, few patients had suggestions on how to make the document more meaningful. Those who did make suggestions for improvement tended to focus on the format of the AVS document, ways to enhance communication, and issues of discrepancies and omitted information, with comments such as the following: “a color summary or highlight certain sections, bold key words,” “diagrams for less-educated people,” “problem list is very technical,” “medical terminology in problem list can be confusing,” “say what the medications are for, can’t pronounce it or understand what the medications are or even what they are for,” “have nurses or doctors go over the paperwork,” “instructions only say to follow-up, does not give specific medication instructions, treatments, or ‘to do’ list,” and “says I am currently smoking, I quit a year ago.”

In summary, these results suggest that significant room is available for improvement of the AVS to better engage and communicate with patients and to serve as a means to help coordinate their care. Suggestions from the participants included that the AVS should be written in plain language with limited medical terminology, the most important information should be given first, irrelevant information and incorrect information should be removed from the document, and providers should discuss the information printed on the AVS with patients. Another finding was that only 41 percent of the participants indicated that they would use their AVS for a specific purpose, mostly for themselves, not to share with other providers, thereby indicating that the AVS is not being used for coordination of care among patients and the clinicians with whom they interact, as was the original intent.

This study has limitations, such as using a convenience sample, having only two primary care clinics involved, and using a self-selection process. Only 16.7 percent of participants (35 patients) offered *both*

specific uses of the AVS and suggestions for its improvement. Participants with less than a high school education ( $n = 54$ ) were less likely to offer specific suggestions for how to improve the AVS, indicating that lower levels of education may be relevant in giving suggestions for improvement compared to other participants ( $p = .023$ .)

## Conclusion

The results of this pilot study can be used to inform future development of the AVS to enhance the way in which this document can effectively engage patients in their care. The participants in this study indicated significant room for improvement. Potential next steps include developing a survey that could be sent to a larger group of participants to broaden the understanding of patients' views of the AVS.

Further studies with primary care and specialist providers concerning their perceptions and use of the AVS and barriers to its use are needed. Providers work under time constraints and increasing regulations that require them to spend significant time entering information into the EHR for documentation.<sup>6, 7</sup> Improved provider and patient involvement during the design and evaluation of sections and layout of the AVS will be especially important. Although the AVS has the potential to be an excellent tool, our study results indicate that its potential is generally not being realized.

Also, further study is needed to understand, from the viewpoint of patients and providers, what barriers are keeping them from optimally providing and using the information on the AVS. Healthcare providers may need to consider reorienting their thought process from "what meaningful use criteria are" to "what is meaningful to patients" to be able to deliver information in a way that is easy for the patient to understand and act on.

## Funding

US Department of Health and Human Services/MI Department of Community Health. "2014 HIT Resource Center." 10/01/2013-09/30/2014. (Approved for \$565,605 funding). (Corser, W., PI).

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## Notes

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**Table 1**

Responses to Yes/No Questions

<b>Question</b>	<b>Response</b>
After your visit today, did you receive any paperwork?	98% Yes
Was the information on the AVS reviewed with you by someone?	60% Yes
Is the information on the clinical summary easy to understand?	60% Yes
Is the medication list accurate for both the prescribed and OTC?	73% Yes
Are your allergies listed correctly?	60% Yes
If allergies are recognized, is the severity of reactions correct?	41% Yes
Is your problem list accurate?	79% Yes
Does the information on the problems addressed section make sense?	80% Yes
Do the instructions on the AVS make sense?	80% Yes
Is this AVS helpful to you?	84% Yes

AVS, after-visit summary; OTC, over-the-counter.

**Table 2**

“What Do You Plan to Do with This Clinical Summary?”

Theme and Subtheme	Number of Responses	Percentage of Total Sample
1. “File it” (without specific intent)	88	42%
2. “Keep it” (for specific purpose)	86 <sup>a</sup>	41%
Review with family members	8	
Review with other healthcare providers	10	
Review and compare for self	36	
Save as healthcare documentation	19	
Medication reference	10	
Use for follow-up instructions	16	
3. “Throw it away/nothing”	35	17%
TOTAL	209	100%

<sup>a</sup>86 people kept it for specific purposes, and some gave more than one response.

**Table 3**

“Suggestion for Improvement for the Way Instructions Are Given”

Theme and Subtheme	Number of Comments	Percentage of Total Sample
1. “Improve format/layout of document”	11	4.5%
2. “Enhance healthcare communications”	47	19.2%
Use less medical terminology	19	
Provide only key information	18	
Have provider review document with patient	10	
3. “Resolve discrepancies/omitted information”	61	24.9%
Allergies section	10	
Medication list	16	
Problem list	21	
Provide specific instructions/“to do” list	14	
4. “Provide document in electronic form”	8	3.3%
5. No suggestions or opinions offered	118	48.2%
<b>TOTAL</b>	<b>245</b>	