



U.S. Department of Veterans Affairs
Veterans Health Administration
Office of Informatics and Analytics



AVS Usability Study

Findings and Recommendations

September 15, 2016


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Office of Health Informatics
Office of Informatics and Analytics (10P2)
Veterans Health Administration*

Agenda

- Study objective
- Background on AVS
 - What are the intended benefits?
- Human Factors perspective
- Study design
- Participant demographics
- Study components
- Findings
 - Current use of AVS and ability to recall information
 - Overall layout, organization, and readability
 - By AVS section
 - Combined uses, ratings, themes
 - System Usability Scale (SUS)
 - Overall Evaluation (relative to the intended benefits)
 - Media preferences / MHV use
- Summary by Situation Awareness Level
- Rankings & Priorities
- Patient Safety Perspective
- Related Studies
- Appendices (references)

- To explore factors affecting the adoption and use of the printed AVS document by patients.

After Visit Summary		VA  U.S. Department of Veterans Affairs		
PATIENT, TEST DOB: Jan 1, 1970 (46y) Visit date: June 03, 2016 Date generated: June 06, 2016 15:11 LOMA LINDA HCS				
Today's Visit				
Clinic Visits	11:00 - LL/SURG/EYE POST OP BLD 51 / CHUNG, ANDREW / GREWAL, SANJEEV			
Providers	<ul style="list-style-type: none">CHUNG, ANDREW - RESIDENT PHYSICIANGREWAL, SANJEEV - PHYSICIAN			
Reason For Visit	DM Type 2 w/ Mild NonProlif Diab Retinopathy w/o Macular Edema - Type 2 diabetes mellitus with mild nonproliferative diabetic retinopathy without macular edema			
You Were Diagnosed With	DM Type 2 w/ Mild NonProlif Diab Retinopathy w/o Macular Edema - Type 2 diabetes mellitus with mild nonproliferative diabetic retinopathy without macular edema			
Immunizations	FLU, 3 YRS			
Vitals as of This Visit	<table><tr><td><ul style="list-style-type: none">Blood Pressure: 130/84 (Jun 03, 2016)Body Mass Index: 26.14 (Jun 03, 2016)Pain: 0 (Jun 03, 2016)Pulse Oximetry: 97 (Room Air) (Jun 03, 2016)</td><td><ul style="list-style-type: none">Pulse: 96 (Jun 03, 2016)Respirations: 16 (Jun 03, 2016)Temperature: 98.9 F (Jun 03, 2016)Weight: 181.8 lb (Jun 03, 2016)</td></tr></table>		<ul style="list-style-type: none">Blood Pressure: 130/84 (Jun 03, 2016)Body Mass Index: 26.14 (Jun 03, 2016)Pain: 0 (Jun 03, 2016)Pulse Oximetry: 97 (Room Air) (Jun 03, 2016)	<ul style="list-style-type: none">Pulse: 96 (Jun 03, 2016)Respirations: 16 (Jun 03, 2016)Temperature: 98.9 F (Jun 03, 2016)Weight: 181.8 lb (Jun 03, 2016)
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New Orders From This Visit	Consultations <i>You will be contacted by mail or telephone for the following referrals:</i> <ul style="list-style-type: none">Rheumatology Consult			

The purpose of the AVS document is to provide patients with a summary of the activities associated with their visit to a VA medical center or clinic. Specifically, it is intended to:

- Enhance the ability of patients to remember interactions.
- Help Veterans track appointments, medications and important health care information.
- Support greater patient engagement and self management.
- Improve the quality of information in the EHR through transparency.
- Provide an artifact for other providers to see what was communicated to a patient.

(VERC, 2015)

Human Factors Perspective on Improving Situation Awareness & Decision Making

Questions that can be answered by interviewing patients:

Level 1: **Perception** of data

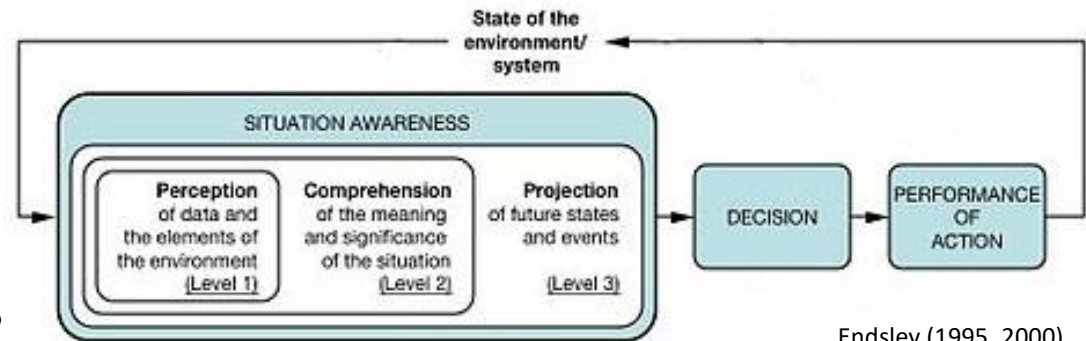
- Are patients being given the AVS?
- Are patients looking at it?
- Can patients read it?
- Are patients keeping it to look at again later?

Level 2: **Comprehension** of meaning and significance

- Is each section valued and understandable?
- Is the AVS overall valued and understandable?
- Do patients understand the significance of the data relative to their condition(s)?
- If they are given this AVS, or any other summary, is someone explaining it?
- Will patients identify and report missing or incorrect information?

Level 3: **Projection** to future states and events

- Can patients use it to actively manage their healthcare activities?
 - E.g. plan visits, manage medications, monitor vitals, make healthy choices



Endsley (1995, 2000)

Study Details

Dates



Participants



9 Veterans, +
1 Caregiver

AVS Content areas evaluated



13

Session Length



90m

Methods

- In person testing at the Loma Linda VAMC.
- Semi structured interviews combined with participant tasks.
- Likert scale rating system
 - (1 – strongly disagree, 2- disagree, 3 – neutral, 4 – agree, 5- strongly agree)

Participant Demographics

Summary		Age	Gender	Ethnicity	Education	Technology	MHV
Age: 53-70 Gender: 2 Females / 7 Males Ethnicity 1 Native American 1 African American / Black 1 Multi-ethnic 6 Caucasian / White Education: 1 HS graduate 3 Some college 4 College graduate 1 Postgraduate work Technology 8/9 Cell data 5/9 Tablets 9/9 laptop/desktops MHV 9 MHV Premium accts 7 use MHV Rx refill 2 use Non VA Rx refill	P1	62	M	Native American	Some college	Cell Data: Yes / OS: IOS / #Apps: 11-20 Tablet: Yes / Data: No / Type: Acer / #Apps: >20 Desktop: Win10	MHV: Yes / Premium Use: monthly Med Refills : VA MHV and Commercial
	P2	59	M	African American / Black	Some college	Cell Data: Yes/ OS: Andriod / #Apps: 11 -20 Tablet: Yes/ Data: No/ Type: Kindle/ #Apps: >20 Desktop: Win10	MHV: Yes / Premium Use: Monthly Med refills: VA/MHV
	P3	53	M	Caucasian / White	Postgraduate work	Cell Data: Yes / OS: IOS / #Apps: 1-5 Tablet: Yes / Data: Yes / Type: Samsung/ #Apps: 6-10 Desktop: Win10	MHV: Yes / Premium Use: weekly or more Med Refills: VA MHV
	P4	62	M	Caucasian / White	Some college	Cell Data: Yes/ OS: Android/ #Apps: 1-5 Tablet: No Desktop: Win10	MHV: Yes / Premium Use: Monthly Rx Refills: VA MHV
	P5	68	M	Multi-ethnic	College graduate	Cell Data: Yes/ OS: IOS/ #Apps: 11-20 Tablet: No Desktop: Win10 / Google Chrome	MHV: Yes / Premium Use: weekly or more Rx Refills: VA MHV
	P6	70	M	Caucasian / White	College graduate	Cell Data: Yes/ OS: IOS/ #Apps: >20 Tablet: Yes/ Data: Yes/ Type: Ipad/ #Apps: >20 Desktop: Win 7	MHV: Yes / Premium Use: weekly or more Rx Refills: VA MHV and Commercial
	P7	69	M + Crgvr	Caucasian / White	High school graduate	Cell Data: Yes-don't use/ OS: IOS/#Apps: 6-10 Tablet: No Desktop: Win10	MHV: Yes/Premium Use: Weekly or more RxRefills: VA MHV
	P8	59	F	Caucasian / White	College graduate	Cell Data: Yes/ OS: IOS/ #Apps: >20 Tablet: Yes/ Data: Yes/ Typs: IPAD/ #Apps: >20 Desktop: MacOS/Win10	MHV: Premium Use: Weekly or more often RxRefill: VA and commercial
	P9	55	F	Caucasian / White	College graduate	Cell Data: Yes/ OS: IOS/ # Apps: >20 Tablet: No Desktop: Win 10	MHV: Premium Use: every other month Rx Refills: VA

The following limitations apply to this study:

- This study only addressed the printed version of the AVS. It did not address the software available to providers via the CPRS tool tab.
- While healthcare providers, Veterans and Caregivers have all been identified as intended users of this document, this study focused on the use of the AVS by Veteran patients.
- Participants in this study were between 53 and 70 years old, most with college education.
- In order to be part of this study, participants had to signup online.
- Not all data was present in each participant's AVS document. In these cases, a generic document was used.

1. Level of awareness

- Veteran's current medical treatment plan (i.e. medications, conditions).

2. Veterans current use

- Loma Linda AVS or other after visit summaries.

3. Content review

- 13 sections of the AVS document (included Likert scale responses).

4. Follow up questions

- Overall evaluation, SUS.

Findings – Level of awareness

Participants were asked what they could recall about their medications, health conditions and last visit.

MEDS	# reported
	2 Ps - 2 meds 1 P - 4 meds 1 P - 5 meds 6 Ps - 5 meds or more
	<ul style="list-style-type: none"> • Most (8 of 9) Ps could recall their meds - up to 5 meds / indications
	<ul style="list-style-type: none"> • Discrepancies exist between AVS med list and what Participants are actually taking
	<ul style="list-style-type: none"> • Participants did not always mention ALL the meds they are taking for a condition
	<ul style="list-style-type: none"> • Participants often used the brand names instead of the generic VA names to refer to medications they are taking
APPTS	<ul style="list-style-type: none"> • Participants confidently recalled last appt.
	<ul style="list-style-type: none"> • All could recall appt. details without memory aids except P7-Veteran with Caregiver who reminded him.
	<ul style="list-style-type: none"> • Range of dates of Participants last appt. - one week to 4 months ago
OTHER	<ul style="list-style-type: none"> • P2 - would like a way to provide feedback on his appt. - how it made him feel to arrive early and not be seen until 2 hours later

Findings – Veteran's current use of AVS

Participants were asked if to describe the after visit documents they currently receive.

Received printed summary	Yes - 7 No – 2 (P2, P8)
Received LL AVS	No – 9
7 received other documents	<ul style="list-style-type: none">• One sheet with action items for today (P3)• I got another that was a scaled down model of this version. It had instructions, but very limited. (P5)• Received at beginning of the visit. Doc wrote on it and circled items. (P6)• Didn't have much detail because it was first visit probably. (P9)

Findings:

- 8 of 9 participants had positive comments about the AVS document

Comments:

- *Likes that it tells you what doctors have decided and has your info [vitals, etc]. (P1)*
- *Likes separation of stuff - alternating gray and white [meds]. (P3)*
- *I would like to have this for my own personal records. My wife could see it. I like the look and everything. (P2)*
- *Much better than what we usually get which is a piece of paper with appointments...Reminds me what is coming in the future. I like this very much. (P5)*
- *I like it, its got everything there like my PCP. (P8)*
- *Bloody brilliant. (P6)*

Findings – Overall layout

Font size and style

Findings 1:

- Participants found italics hard to read.
- Participants could read the headers, but found the body text too small.

Comments:

- *Prefers larger font [for body text]. Likes larger fonts like headers. (P1, P2,P3, P4. P6, P9)*
- *Italics [in body text] is almost impossible to read. (P6, P4)*

Recommendations:

- Avoid using italics. Important information should be in a larger font and/or emphasized.
- Increase the size of the font in the document body.

Reason For Visit	Type II diabetes mellitus in remission
You Were Diagnosed With	Type II diabetes mellitus in remission
New Orders From This Visit	Imaging <i>For CT and MRI scans, you will be contacted Rays and Ultrasound, please report to Imagir. complete your exam. If a specific preparation</i> <ul style="list-style-type: none">• Shoulder Right Int/Ext Right

Imaging

For CT and MRI scans, you will be contacted by Imaging Service for your appointment. For X-Rays and Ultrasound, please report to Imaging Service during normal working hours to complete your exam. If a specific preparation is required, the Technologist will inform you.

- Chest 2 Views Pa&lat Stat

Lab Tests

Please report to the lab for the following blood tests on the date listed for each test:

August 02, 2016

- Va Prescription Opiate Monitoring Panel Urine - Lab Order #: 1026325
- Tox Screen Urine Random - Lab Order #: 1026325

August 15, 2016

- Basic Metabolic Panel (Chem 7) Blood Serum - Lab Order #: 1026311

Medications & Supplies

*Note: This section **only** lists **changes** to your medication regimen. Please see your complete medication list under **My Ongoing Care** below.*

Findings – Overall layout Headers and footers

Findings 1:

- No issues with patient identification information .
- Date of visit not prominent.
- Headers for Instructions and Final text inappropriate.

Comments:

- *Footer doesn't have personal information [SSN] which is nice. (P2, P5)*
- *Expected today's date next to Today's visit. (P6)*
- *[Instructions] is more information than instructions. (P1, P2, P3, P5,P6)*
- *Include header for Final text. (P1, P3, P5)*

Recommendations:

- Move visit date next to Today's Visit.
- Change either header or content in Instructions section.
- Include a header for final text section.

After Visit Summary

PATIENT,TEST
DOB: Jan 1, 1970 (46y)
Visit date: August 02, 2016
Date generated: August 05, 2016 10:11
LOMA LINDA HCS

Today's Visit

Clinic Visits	11:00 - LOM PACT MOD 4 MD 5 / TUAZON, BEVERLY A
Providers	TUAZON, BEVERLY A - NURSE PRACTITIONER
Reason For Visit	Essential hypertension

Name: PATIENT,TEST | DOB: Jan 1, 1970 (46y)

Instructions

Common Heart Medicines



This information is meant to provide a summary of your appointment with your health care provider. If you have any questions about your care including test results, medications, diagnoses or other concerns, please contact your health care provider. Please bring this form to your next visit as a record of your medications and alert your provider to any changes in your medications.

To contact your primary care provider, please call (909) 825-7084 or 1-800-741-8387 and follow the prompts to the Module where your primary care provider is located. To refill a prescription, please call 909-777-3259 or visit www.myhealth.va.gov. For care on evenings and weekends, please call 24 hour Telephone Care at 1-877-252-4866.

Access health resources. Track your health. Refill VA prescriptions. Visit www.myhealth.va.gov | Ask your health care team about in-person authentication and begin ordering medications and viewing appointments through MyHealthVet. After completing in-person authentication, click on "Secure Messaging" in MyHealthVet and select "I would like to opt in to secure messaging" in order to send email messages to your providers.

Want to be healthier? Take the HealthLiving Assessment on My Health eVet at www.myhealth.va.gov . Answer the questions about your health history. You will get a list of ways to improve your health. Please bring your report to your next primary care appointment. Talk about it with your PACT-they will connect you with tools to help you succeed with your health goals. Live healthier!

Findings – Overall layout

Headers and footers

Findings 2:

- Columns (in headers and body) with wrapping text are hard to read.
- Page break problems (P3, P6)

Recommendations:

- For Vitals, move from after each reading to the top of the section.
- For Allergies and Primary Care Team, consider a bulleted list instead of bulleted columns so each item is on a single horizontal line.
- Consider ways to visually separate the footer from the body text; by adding a blank space above, a line above to separate it, or other visual aids.

Allergies and Adverse Drug Reactions (Signs / Symptoms) <ul style="list-style-type: none"> • Amoxicillin / Clavulanate [augmentin] (Diarrhea) Documenting Facility: LOMA LINDA HCS • Amoxicillin / Clavulanate [augmentin] (Diarrhea) Documenting Facility: WEST LA VAMC • Latex (Rash) Documenting Facility: WEST LA VAMC • Latex Documenting Facility: LOMA LINDA HCS • Latex Documenting Facility: LONG BEACH VAMC

Vitals as of This Visit

- | | |
|---|--------------------------------------|
| • Blood Pressure: 134/62 (Aug 02, 2016) | • Respirations: 20 (Aug 02, 2016) |
| • Pain: 4 (Aug 02, 2016) | • Temperature: 98.2 F (Aug 02, 2016) |
| • Pulse Oximetry: 92 (Aug 02, 2016) | • Weight: Unavailable (Aug 02, 2016) |
| • Pulse: 71 (Aug 02, 2016) | |

Primary Care Team

- | | |
|---|--|
| • SRISKANDARAJAH, MALATHY - PHYSICIAN | • BENNETT, SABBATH N - LICENSED VOCATIONAL NURSE (LVN) |
| • ONTIVEROS, ANDREA M - REGISTERED NURSE (RN) | |

Donepezil Hcl 10mg Tab

TAKE ONE TABLET BY MOUTH DAILY

Name: PATIENT,TEST | DOB: Jan 1, 1970 (46y)

FOR MEMORY ** TAKE AFTER A MEAL

**

Rx #: 7989523A

Notes:

Important Notes

Upcoming Appointments

Scheduled Appointments

Appointments in the next 3 months:

Friday, August 19, 2016

| DOB: 03/11/1963 (53y)

08:30 - LOM PACT MOD 2 MD 4 (LOMA LINDA HCS)

Clinic Location: 1ST FLOOR MODULE 2

Findings – Overall layout Content

Findings:

- Codes, acronyms and medical language were hard to understand. (P1, P3, P4, P6)

Comments:

- Some people (including me – and I've worked for government for decades) may have issues figuring out what acronyms stand for. (P6)*
- What does order mean exactly? (P3)*
- Doesn't know what mellitus (diabetes) is or hyperlipidemia. (P4) diabetic tele retinal surveillance ?(P6)*

Recommendations:

- Reduce or eliminate acronyms for locations.
- Use plain language as much as possible.

Important Notes

Upcoming Appointments

Scheduled Appointments

Appointments in the next 3 months:

Friday, August 19, 2016

08:30 - LOM PACT MOD 2 MD 4 (LOMA LINDA HCS)

Clinic Location: 1ST FLOOR,MODULE 2

10:00 - LL/ONCO/TRUONG (LOMA LINDA HCS)

Clinic Location: 4SE

11:00 - LL/NUTRITION/COLELLA/2E-57 (LOMA LINDA HCS)

Clinic Location: 2E-59

13:00 - LL/ONCO/INFUSION/SHORT (LOMA LINDA HCS)

Clinic Location: 4SE

Friday, September 09, 2016

10:00 - LL/ONCO/INFUSION/SHORT (LOMA LINDA HCS)

Clinic Location: 4SE

Clinic Visits

09:30 - VIC PACT CBOC MD 2 / DRAINE,QUIDA D

- Return To Clinic In 6 Month (Cid)
- Diabetic Teleretinal Surveillance Patient due for Diabetic Teleretinal Surveillance.
- Return To Clinic In 6 Month (Cid)

Other Orders

- Pneumovax Text Order
- Return To Clinic In 6 Month (Cid)

Findings – Content review- Clinic visit, Reason for visit, You were diagnosed with

Finding 1

- Acronyms/Codes and clinical language use in these sections is difficult to understand

Comments:

- It says ONCO, but I really go to hematology. (P3)*
- I know diabetes, but not that other word or hyperlipidemia? (P4)*
- I have no idea what PACT means. (P6)*

Statement	Avg. rating
1. Easy to Read	4.78
2. This section is well organized	4.75
3. This section contains useful information	4.67
4. The content of this section is easy to understand	3.67
5. It is easy to determine what I should do with the information in this section	4.11
6. The header for this section is appropriate	4.56
7. Does this information seem accurate?	8y/1n
8. Does this section seem complete?	5y/3n

Today's Visit

Clinic Visits	11:35 - LL/ONCO/TRUONG / TRUONG,LYANNE
Providers	TRUONG,LYANNE - PHYSICIAN ASSISTANT
Reason For Visit	Iron deficiency anemia
You Were Diagnosed With	Iron deficiency anemia

Today's Visit

Clinic Visits	10:00 - LOM PACT MOD 2 MD 4 / ISAAC,GEORGE M / GARMON,LATANZA M
Providers	<ul style="list-style-type: none"> ISAAC,GEORGE M - STAFF PHYSICIAN GARMON,LATANZA M - NURSE-LVN
Reason For Visit	Diabetes mellitus
You Were Diagnosed With	<ul style="list-style-type: none"> Diabetes mellitus Hyperlipidemia Obesity Low back pain Sleep apnea

Findings – Content review- Clinic visit, Reason for visit, You were diagnosed with

Finding 2

- In the section 'You Were Diagnosed With', some AVS documents listed a single diagnosis, while others listed many active conditions. Participants expected to see all of their current conditions listed.

Comments:

- Something is missing... the information... about tinnitus. And I wear hearing aids. (P5)*
- Missing shoulder concerns. If there are multiple reasons for a visit, I'd like to see that. (P6)*

Recommendations

- Eliminate acronyms/codes - Use plain language.
- Create a standard to include all diagnoses or not. Add language to make it clear what is being shown in this document.

Today's Visit

Clinic Visits	11:35 - LL/ONCO/TRUONG / TRUONG,LYANNE
Providers	TRUONG,LYANNE - PHYSICIAN ASSISTANT
Reason For Visit	Iron deficiency anemia
You Were Diagnosed With	Iron deficiency anemia

Reason For Visit	Type II diabetes mellitus in remission
You Were Diagnosed With	Type II diabetes mellitus in remission
New Orders From This Visit	Imaging <i>For CT and MRI scans, you will be contacted Rays and Ultrasound, please report to Imagir, complete your exam. If a specific preparation</i> <ul style="list-style-type: none"> Shoulder Right Int/Ext Right

Reason For Visit	Chronic migraine
You Were Diagnosed With	Chronic migraine

Reason For Visit	Counseling, unspecified
You Were Diagnosed With	<ul style="list-style-type: none"> Counseling, unspecified Chronic post-traumatic stress disorder Essential hypertension Gastroesophageal reflux disease without esophagitis disorder Inactive tuberculosis

How participants said they would use this part of the AVS document:

Research

- *Research what I need to do. (P1)*

Record keeping

- *Record keeping, proof for what has happened to me. I would 3-hole punch this and keep it in a binder. (P2)*

Reminder

- *To help remember who said what. I like having the doctor's name. (P3)*
- *I'd write on this printout (P4)*
- *Highlight in yellow so when I look at my records it would stick out to me. (P6)*
- *I like that it gives the psychologist's names, I'm not good with names. Tell secretary about a health issue and she can direct me where to go. (P9)*

Show others

- *Update doctors with what happened last time if referred to a different doctor or clinic. (P8)*

Ask questions

- *Keep a file of my records so I can ask questions next time.*

Findings – Content review

Immunizations

Findings:

- Ps found this section difficult to understand and difficult to determine what to do
- Only 1 AVS included immunizations information even though other participants had received immunizations from VA.(P3, P5, P7)

Comments:

- *Last flu shot was 3 years ago.* (P2,P8)
- *Had flu shots for past 3 years.* (P1,P3)
- *Flu shot is good for 3 years.* (P6)
- *It's ambiguous in terms of the flu shot.* (P4,P7,P9)
- *Flu shot needed in 3 years.* (P5)

Recommendations:

- Make data actionable by adding dates such as Next due: and Date given
- Investigate why participants' immunizations did not appear on the AVS.

Statement	Avg. rating
1. The section is easy to read	n/a
2. The section is well organized	n/a
3. This section contains useful information	4.63
4. The content of this section is easy to understand	2.78
5. It is easy to determine what I should do with the information in this section	2.50
6. The header for this section is appropriate	4.80
Their AVS?	8n/1y
7. Does this information see accurate?	n/a
8. Does this section seem complete?	n/a

Immunizations FLU,3 YRS

Immunizations

- PNEUMOCOCCAL POLYSACCHARIDE PPV23

- PNEUMOCOCCAL, UNSPECIFIED FORMULATION

Findings – Content review

Immunizations

How participants said they would use this part of the AVS document

Planning and reminders

- *See what he would do for that particular year or time of the year.*(P1)
- *Help know when to get another flu shot.*(P2, P3)
- *To double check and plan what needs to get done.* (P7)
- *I could look at it each time I go - got to get that.* (P6)
- *It would help me keep track of shots.* (P9)
- *Will know immunizations are up to date* (P8)

Show others

- *Bring to my doctor* (P4)
- *Can update doctors when getting immunizations done again. When going on travel, I can take it as evidence.* (P8)

Findings – Content review

New orders from this clinic

Findings:

- Ps did not understand terms (P3,P6,P7,P9)
- Information was missing (P1,P2, P7)
- Ps found italics difficult to read. (P4,P6)

Comments:

- *What is diabetic retinal scanning?*
- *Tell me if I should be fasting for blood test.*
Dates w/o times for lab tests are confusing.
- *Italics hard to read and info seems less important. Bold or star dates.*

Recommendations:

- Use plain language as much as possible with specific actions patients should take.
- Investigate why some order information was not appearing on participants' AVS. (P1, P7)
- Eliminate italics. Use bold to emphasize specific text.

Statement	Avg. rating
1. Easy to Read	4.22
2. This section is well organized	4.67
3. This section contains useful information	4.78
4. The content of this section is easy to understand	4.22
5. It is easy to determine what I should do with the information in this section	4.11
6. The header for this section is appropriate	4.56
On Their AVS?	8y/2n
7. Does this information see accurate?	6y/0n
8. Does this section seem complete?	4y/2n

New Orders From This Visit	Imaging
	<i>For CT and MRI scans, you will be contacted by Imaging Service for your appointment. For X-Rays and Ultrasound, please report to Imaging Service during normal working hours to complete your exam. If a specific preparation is required, the Technologist will inform you.</i>
	<ul style="list-style-type: none"> • Ct Abdomen Pelvis Wi&w/O Contrast [parent]
	Lab Tests
	<i>Please report to the lab for the following blood tests on the date listed for each test:</i>
	<u>September 01, 2016</u>
	<ul style="list-style-type: none"> • Comprehensive Metabolic (Chem 13) Blood Serum - Lab Order #: 990406
	Other Orders
	<ul style="list-style-type: none"> • Return To Clinic In 4 Month (Cid)

Findings – Content review

New orders from this clinic

How participants said they would use this part of the AVS document

Reminder

- *Follow up with doctor's orders and follow best he can. (P1)*
- *Keep as records for me. (P2)*
- *Reminder of what I need to do. Changed dosage. Reminder when putting pills in boxes of what to take. (P9)*
- *Would want to look at it before next appt. (P7)*
- *One of the most important parts. Pretty complete. Would keep me on track. (P5)*

Show others

- *My wife could see what happened at visit. If something happened to my wife and I needed a caregiver, I would be able to show (caregiver) what's going on with me. (P2)*
- *Bring it to next appointment so doctor can be up to date of what happened in last visit. (P7)*

Ask questions

- *Make notes if we have questions to ask next time. (P7)*

Unsure

- *Not clear. Depends on what it's telling you to do (i.e., if your order is to go to pharmacy and pick up meds, etc.).(P3)*

Nothing

- *I wouldn't, I don't find it useful and would throw away.(P4)*

Findings – Content review

Upcoming appointments

Findings:

- Participants did not know what a recall appointment was. This terminology is inconsistent with postcard reminder.
- Postcard includes phone number and plain text location.
- Participants say its faster to schedule follow-ups in person.

Comments:

- Recall appointment – I'm not sure what that is. It says follow up on the postcard. (P3, P5, P9)*
- Should include a number and extension to call*
- Tell me the exact date, time, location – where in hospital and which hospital. (P1)*

Recommendations:

- Include the same information and language that's on the postcard (i.e. "Follow-up" appointment.)

Statement	Avg. rating
1. Easy to Read	4.89
2. This section is well organized	4.89
3. This section contains useful information	4.89
4. The content of this section is easy to understand	4.00
5. It is easy to determine what I should do with the information in this section	4.22
6. The header for this section is appropriate	4.44
7. Does this information see accurate?	9y/0n
8. Does this section seem complete?	6y/1n

Recall Appointments

Please note that Recall appointments are not confirmed appointments. You will receive a reminder approximately 3 weeks before the Recall date to call and request the appointment. When you call, you will be assigned a confirmed appointment date and time.

Monday, August 01, 2016

LL/GI/RETURN #1/2ND FLOOR 2SW (LOMA LINDA HCS)

Clinic Location: 3ne

  **LOMA LINDA VAMC**

Your health care provider has requested that you make an appointment with us.

Please call us at (909) 583-6141 ext. _____ to make an appointment.

Clinic: **GI Follow-up Appointment #1**

Location: **GI Clinic**

2nd Floor, 2SW

Write your new appointment in the space below.

Date: _____

Time: _____

Findings – Content review

Upcoming appointments

Findings:

- Participants found the coded locations hard to understand. (P1, P3, P6)
- Some location information is incomplete (i.e. Floor) (P7)
- Include contact information – phone number and extension. (P2)

Comments:

- *Tell me the exact date, time, location – where in hospital and which hospital.* (P1, P7)
- *Codes suck – they are hard to understand.* (P3)
- Acronyms are a problem. (P6)

Recommendations:

- Use plain language.
- Eliminate or reduce the use of location codes.
- Include customized “Clinical Services” contact info in all AVS documents (this was only in the generic document.)

08:30 - LOM PACT MOD 2 MD 4 (LOMA LINDA HCS)
Clinic Location: 1ST FLOOR,MODULE 2
10:00 - LL/ONCO/TRUONG (LOMA LINDA HCS)
Clinic Location: 4SE
11:00 - LL/NUTRITION/COLELLA/2E-57 (LOMA LINDA HCS)
Clinic Location: 2E-59
13:00 - LL/ONCO/INFUSION/SHORT (LOMA LINDA HCS)
Clinic Location: 4SE

Scheduled Appointments

Appointments in the next 3 months:

Wednesday, August 10, 2016

14:20 - LL/PM&R/MAJOR MED/LEE/2E-03** (LOMA LINDA HCS)
Clinic Location: 2E-03

Monday, August 29, 2016

15:15 - LL/PM&R*/INJECTION/F CLINIC (LOMA LINDA HCS)
Clinic Location: F CLINIC

Monday, September 12, 2016

15:15 - LL/PM&R*/INJECTION/F CLINIC (LOMA LINDA HCS)
Clinic Location: F CLINIC

Clinical Services (LOMA LINDA HCS)	Service	Location	Hours of Operation	Phone	Comment
	Module 4	First Floor	0800-1630	909-825-7084	
	Physical Medicine and Rehabilitation (PM&R)	Second Floor	0800-1630	909-583-2061	
	Radiology	Third Floor	0800-1630	909-583-6069	

Findings – Content review

Upcoming appointments

How participants said they would use this part of the AVS document:

Reminder:

- Know what has a follow up. (P1)
- As a printed list of upcoming information. (P3)
- Where to go is helpful. (building, floor, rooms) (P8)
- As a reminder so we can plan our schedules. I could put it in my phone. (P7)

Cross check

- I would check to confirm that I have the same date (in my calendar). Cross-reference.(P2)
- Would put on own calendar. (P6)

Findings – Content review

Clinic charts - Weight

Findings:

- Weight information is useful but lacks context.

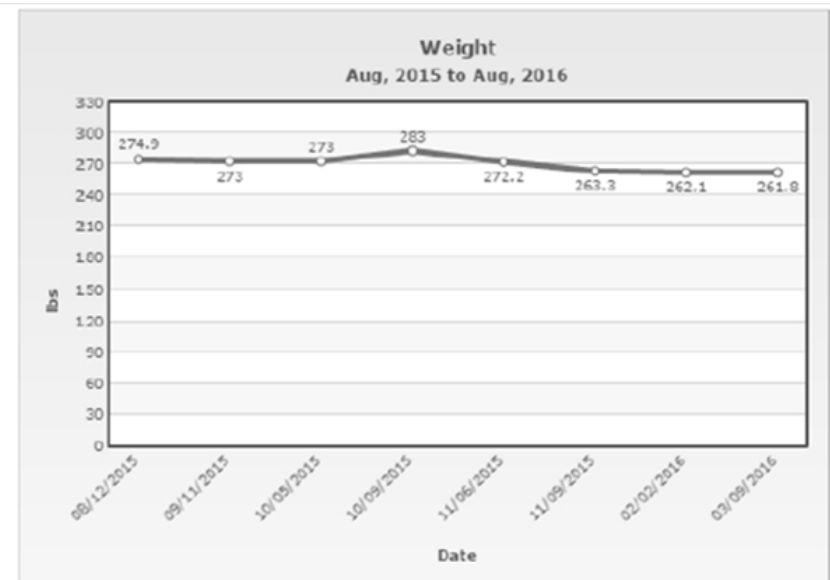
Comments:

- It doesn't tell me if I need to lose 5 lbs. (P4)*
- You have to have goals or you stagnate. (P1)*
- Without goals, the data is useless. (P3)*
- Its very important to add a range. (P6)*
- Include personal goals.(P8, P9)*
- Would also like to see A1C, glucose, GFR (P1)*

Recommendations:

- To make this information actionable, include personal weight goals for the patient, or at least high/low or normal ranges.
- Include other charts as relevant to each patient.

Statement	Avg. rating
1. Easy to Read	4.56
2. This section is well organized	4.44
3. This section contains useful information	4.78
4. The content of this section is easy to understand	4.67
5. It is easy to determine what I should do with the information in this section	3.33
6. The header for this section is appropriate	4.89



Findings – Content review

Clinic charts – Blood pressure

Findings:

- Participants found blood pressure info useful but not very usable.

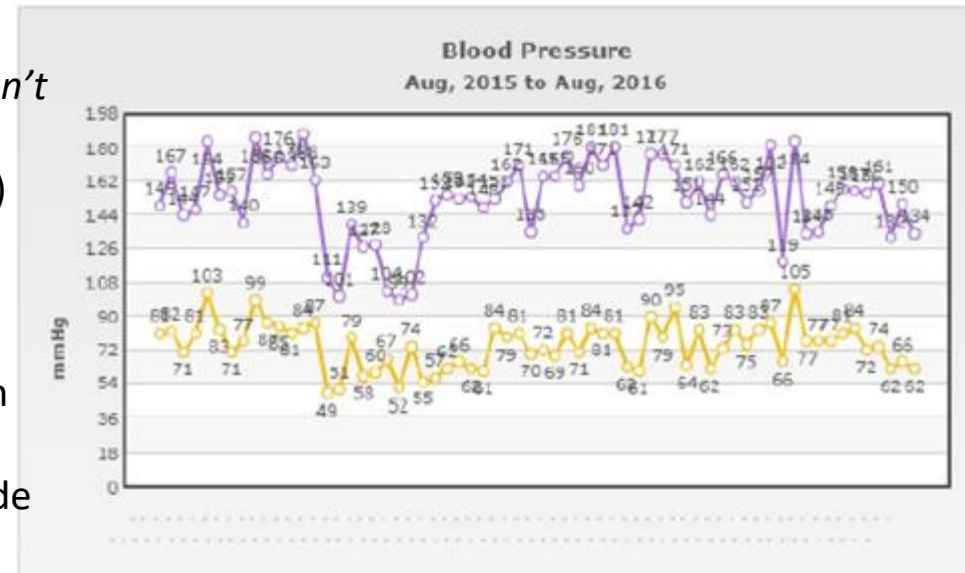
Comments:

- There are no dates for BP. (P3)*
- Hard to separate each value. (P6)*
- I'm normally looking at top and bottom, but can't correlate them here [systolic and diastolic](P5)*
- The pattern is useful but chart is confusing (P9)*

Recommendations:

- Reduce the number of data points so that each can be read.
- Add dates readings taken to the bottom. Include a line to make it easier to link systolic and diastolic readings.

Statement	Avg.rating
1. Easy to Read	2.88
2. This section is well organized	3.63
3. This section contains useful information	4.88
4. The content of this section is easy to understand	2.88
5. It is easy to determine what I should do with the information in this section	3.25
6. The header for this section is appropriate	5.00



Findings – Content review

Clinic charts – Weight and Blood Pressure

How participants said they would use this part of the AVS document:

Cross check

- Cross reference (P1)

Health management

- Gives history of whether workouts are working. (P5)
- I would notice patterns and link to behavior. (P6)
- A look back to see where he was in comparison to now. (P7)
- Determine if heading in right direction. (P8)

Findings – Content review

Vitals

Findings:

- The Vitals information shown is not actionable.
- It included unknown terms (Body mass index, pulse oximetry). (P6, P9)
- Text wrapping in columns is hard to read (P3)

Comments:

- *I don't know if there is anything to do with these. It only tells me where you are at that time.* (P5)
- *I may be more interested if ranges/trends were included.* (P1, P9)

Recommendations:

- Include high/low or ranges, or doctor recommendation for goals.
- To avoid wrapping, move date to the top, and remove it from individual readings.
- Consider grouping related items like height, weight and BMI.

Statement	Avg. rating
On Their AVS	7y/2n
1. Easy to Read	4.78
2. This section is well organized	4.78
3. This section contains useful information	4.78
4. The content of this section is easy to understand	4.56
5. It is easy to determine what I should do with the information in this section	3.67
6. The header for this section is appropriate	4.78
7. Does this information seem accurate?	6y/0n
8. Does this section seem complete?	7y/1n

Vitals as of This Visit

- | | |
|---|--------------------------------------|
| • Blood Pressure: 139/84 (Jun 17, 2016) | • Pulse: 71 (Jun 17, 2016) |
| • Body Mass Index: 32.79 (Jun 17, 2016) | • Respirations: 16 (Jun 17, 2016) |
| • Height: 71 in (Jun 17, 2016) | • Temperature: 98.5 F (Jun 17, 2016) |
| • Pain: 3 (Jun 17, 2016) | • Weight: 234.6 lb (Jun 17, 2016) |
| • Pulse Oximetry: 98 (Jun 17, 2016) | |

Findings – Content review

Vitals

How participants said they would use this part of the AVS document:

Health management

- Tracking my health. Interested because of diabetes (P1)
- I personally log this stuff weekly. (P6)

Share with others

- Relay information back to doctor, ask questions if needed (P7)
- Bring with me to doctors like ER or urgent care so they have background info. (P8)

Review

- Look at it and forget about it probably. (P9)

Findings – Content review

Instructions*

Findings:

- Text displayed was mostly informational while Participants were interested in actionable content.

Comments:

- Expected different info from the header given. (P2)*
- Looks more informational that instructional. (P1, P5, P6, P9)*
- Would be interested in instructions. (P9)*
- Emphasize actions – put those first. (P2, P3)*
- Picture not needed. (P1, P7)*
- Would like to know how to get more info. (P3, P6, P8)*

Recommendations:

- Include customized, actionable content (instructions).
- Include a link to more information.

*Instructions were generic – all participants saw the same content

Statement	Avg. rating
1. Easy to Read	4.63
2. This section is well organized	4.38
3. This section contains useful information	4.86
4. The content of this section is easy to understand	4.25
5. It is easy to determine what I should do with the information in this section	3.38
6. The header for this section is appropriate	2.50

Instructions

Common Heart Medicines



Many different medicines can help treat heart disease. Learn what type of medicine you're taking, what it treats, and how to take it safely. If you have questions about why you need a medicine or how it works, ask your doctor or pharmacist.

Findings – Content review

Instructions

How participants said they would use this part of the AVS document:

Health management

- Know what to do if something is going wrong. (P8)

Education

- *Keep it in my head so I understand what's going on and why I am the way that I am. (P6)*
- *Good to have information on different meds. (P5)*

Record keeping

- Keep as a record even though I don't need it because I already know all this. (P2)

Findings – Content review

Final text

Findings:

- This useful information should be more prominent.
- 4 Ps = needs a header, 2 Ps = no header.

Comments:

- *Gives you things to do. Reminds you of different websites and phone numbers. Very helpful. (P5)*
- *Include phone extensions. (P2)*
- *Should highlight this information “please bring this to your next visit”. (P9)*
- *If there was a header, it would make you take more notice of this page. (P1, P3)*
- *Separate each section because they’re each about different things. (four sections) Contact info should be in list - not be in a paragraph. (P3)*

Recommendations:

- Consider adding a header for the entire section or for each of the paragraphs.
- Use a list format for contact information. Include phone extensions.

Statement	Avg. rating
1. Easy to Read	4.63
2. This section is well organized	4.50
3. This section contains useful information	4.88
4. The content of this section is easy to understand	4.75
5. It is easy to determine what I should do with the information in this section	4.75
6. The header for this section is appropriate	3.71

This information is meant to provide a summary of your appointment with your health care provider. If you have any questions about your care including test results, medications, diagnoses or other concerns, please contact your health care provider. Please bring this form to your next visit as a record of your medications and alert your provider to any changes in your medications.

To contact your primary care provider, please call (909) 825-7084 or 1-800-741-8387 and follow the prompts to the Module where your primary care provider is located. To refill a prescription, please call 909-777-3259 or visit www.myhealth.va.gov. For care on evenings and weekends, please call 24 hour Telephone Care at 1-877-252-4866.

Access health resources. Track your health. Refill VA prescriptions. Visit www.myhealth.va.gov ! Ask your health care team about in-person authentication and begin ordering medications and viewing appointments through MyHealtheVet. After completing in-person authentication, click on "Secure Messaging" in MyHealtheVet and select "I would like to opt in to secure messaging" in order to send email messages to your providers.

Want to be healthier? Take the HealthLiving Assessment on My Health e Vet at www.myhealth.va.gov . Answer the questions about your health history. You will get a list of ways to improve your health. Please bring your report to your next primary care appointment. Talk about it with your PACT-they will connect you with tools to help you succeed with your health goals. Live healthier!

Findings – Content review

Allergies and ADRs

Findings:

- Information is useful but sometimes incomplete or missing completely (P6, P7, P9)
- Tight word wrapping is hard to read and takes more space.

Comments:

- *Less word wrapping in header and contents. (P6, P9)*
- *Add more detail. The header indicates there should be more information. (P3, P4, P5)*

Recommendations:

- Use a list format for allergies instead of columns so all information is on a single line.
- Suggest patients tell their providers about information gaps. (signs/symptoms)
- Check to make sure system is pulling all possible allergy/ADR information.

Statement	Avg. rating
1. Easy to Read	4.56
2. This section is well organized	4.11
3. This section contains useful information	4.56
4. The content of this section is easy to understand	4.11
5. It is easy to determine what I should do with the information in this section	3.56
6. The header for this section is appropriate	4.67
On Their AVS?	6y/3n
7. Does this information see accurate?	6y/0n
8. Does this section seem complete?	3y/3n

Allergies and
Adverse Drug
Reactions
(Signs /
Symptoms)

- **Ibuprofen**
[motrin]
Documenting
Facility: LOMA LINDA HCS

- **Ibuprofen**
Documenting
Facility: OKLAHOMA CITY VAMC

Findings – Content review

Allergies and ADRs

How participants said they would use this part of the AVS document:

Reminder:

- *Would take it with me. Gives me a list to go by. (P1)*
- *Reminder of allergies i.e. grapefruit juice reacts with some medications. (P7)*

Share with others

- *Would contact PCP if inaccurate/missing. (P1)*
- *Take this to dentist, put on card in wallet. (P5)*
- *Take to doctor. (P6)*
- *Its useful if someone is taking me to ER so they know how I will react if given something or if unconscious. (P8)*

Findings – Content review

My Medications

Findings:

- Participants liked the content, but had suggestions for formatting and questions about accuracy.

Comments:

- Too much word wrapping. Need better layout. (P2)*
- Expected list to be in order by fill [date] not meds. What I got most recently should be first. (P1)*
- They need to give these out. Some of the information wasn't in MyHealtheVet. (P8)*
- Liked the pill descriptions. (P5)*
- Likes explanation under the header. (P6)*

Recommendations:

- Consider if a 2 column format is possible.
- Investigate differences/time lag between MHV data and AVS data.
- Can providers print list by date filled?

Statement	Avg.rating
1. Easy to Read	4.33
2. This section is well organized	4.44
3. This section contains useful information	4.89
4. The content of this section is easy to understand	4.33
5. It is easy to determine what I should do with the information in this section	4.44
6. The header for this section is appropriate	4.78
7. Does this information seem accurate?	7y/2n
8. Does this section seem complete?	8y/1n

My Medications

The medications listed below were reviewed with you by your provider and is provided to you as an updated list of medications. Please remember to inform your provider of any medication changes or discrepancies that you note. Otherwise, please continue these medications as prescribed.

Medication	Facility	Prescription Status
Calcium Carbonate Tab TAKE 1000MG BY MOUTH DAILY Comment: OTC product Herbal/Nutritional supplement Notes:	NON-VA Documenting Facility & Provider: LOMA LINDA HCS GHAZARIAN, SEVANA	ACTIVE Start Date: 08/19/2014

Findings – Content review

My Medications

How participants said they would use this part of the AVS document:

Reminder

- *Would take it with me. Gives me a list to go by. (P1)*
- *Helps me know what is active and what is not. (P5)*

Cross check

- *I would want to make sure they match what I'm taking. (P3,P6)*
- *Cross check with MyHealtheVet. (P7)*
- *If you have meds not on the list you will check. (P4)*

Share with others

- *Make a different doctor aware of updates. (P8)*

Tracking

- *Would be important to track refills. (P9)*
- *To refill meds. (P2)*

Finding - Participant actions if they found inaccuracies

Finding:

- Not all participants knew what to do if they found inaccuracies in their AVS. Six would contact their healthcare team.

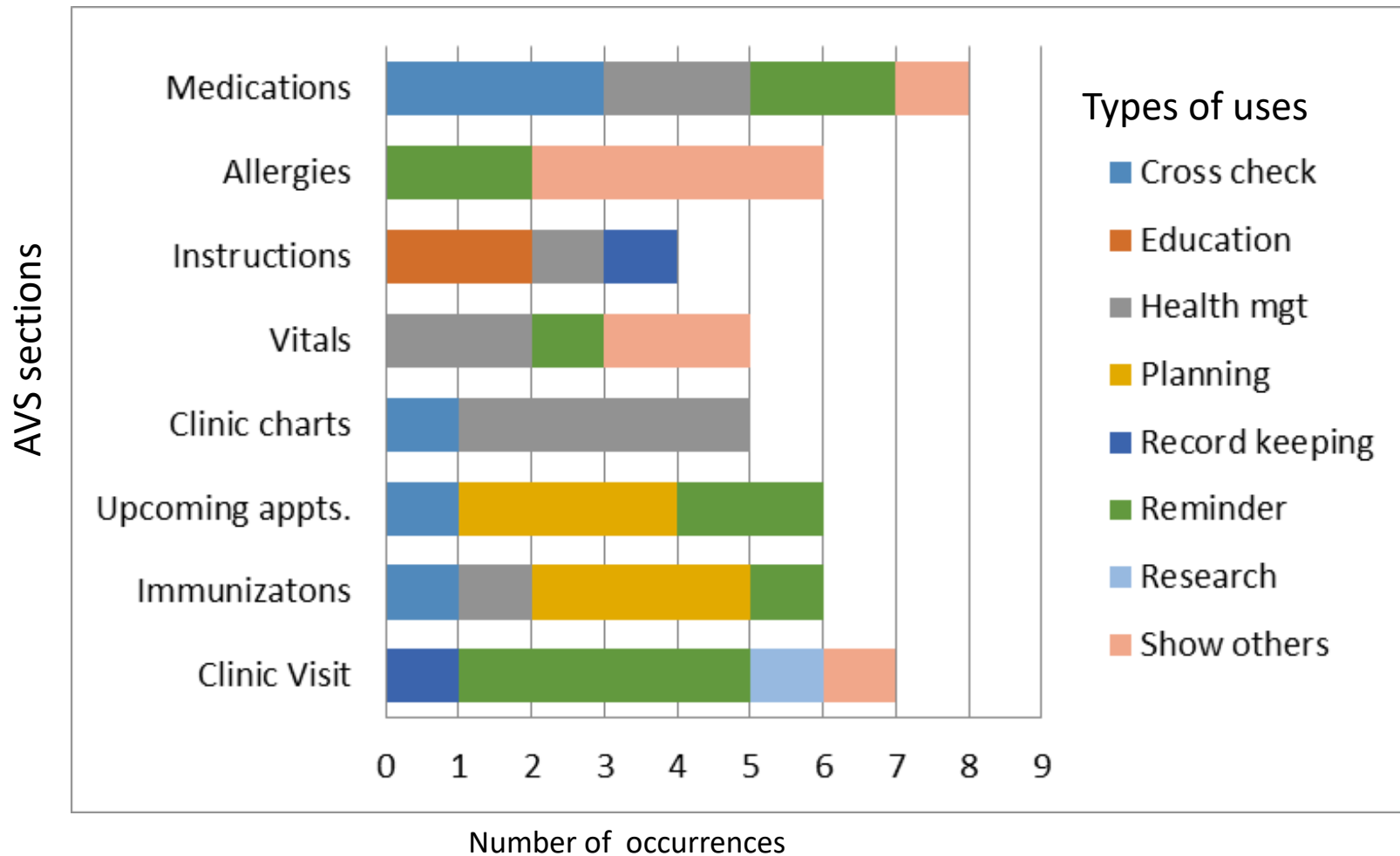
Comments:

- *Go to the desk and tell them at the clinic or call doctor. (P1)*
- ***I would want to know who to talk to say what I'm missing.** I would want to know WHO to talk to if I have questions. If I have any questions/concerns, I should be able to have a number and extension of the person I can call. (P2)*
- *Ignore it - thinking it is something weird in the system. (P3)*
- *Let my doctor know. If not him, someone else in the area. Make a note. (P4)*
- *Hearing aids. It's not all that important. If it was an exam, I'd be concerned. I'd have to address it. If this came out of the computer, then I'd need to know why it isn't here. **I wouldn't know what office to go to change, other than PC.** Or online (MHV), in secure messaging. Rather than come here. If they can't rectify, I'd have to go records or something. (P5)*
- ***Would not know what to do.** would Send secure message to RN. (P6)*
- *Ask nurses about it (we see her before we leave the appointment). If we noticed when we got home, then we would go through secure messages to ask a question. (P7)*
- *Ask them (doctor). If I found out when I got home, I would secure message doctor on My Healthy Vet. (P8)*
- *Would go to the MH window / would call if at home. (P9)*

Recommendation:

- Provide instructions to patients about what they should do if they find inaccuracies.

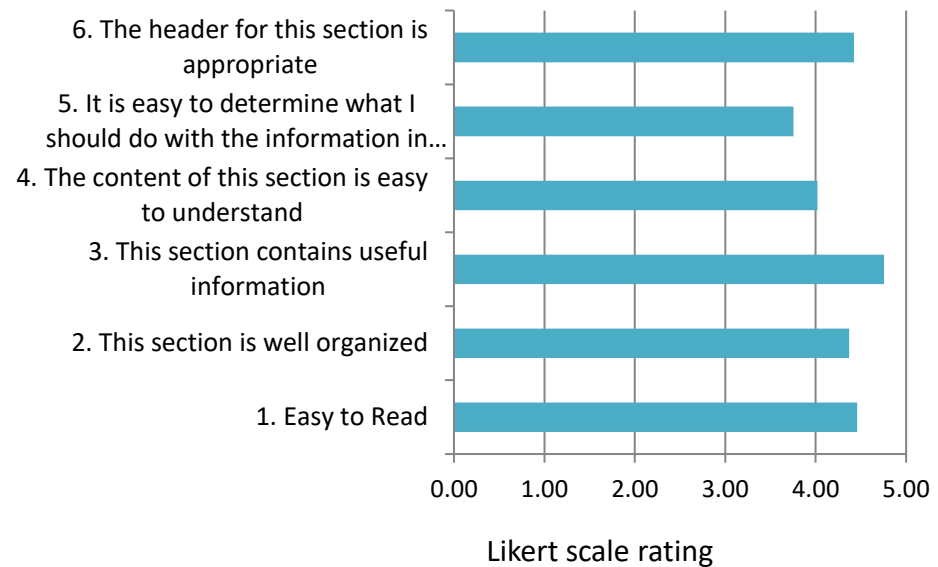
FindingHow participants said they would use the AVS data



Combined ratings from all sections

Average rating of all sections combined	AVG of AVGs
1. Easy to Read	4.46
2. This section is well organized	4.37
3. This section contains useful information	4.76
4. The content of this section is easy to understand	4.02
5. It is easy to determine what I should do with the information in this section	3.76
6. The header for this section is appropriate	4.43

Average rating of all sections combined



Summary of All Issues by Theme

Readability:

- font size in body text,
- italics,
- wrapping in columns,
- page breaks
- date of visit

Understanding:

- location codes
- medical terms
- inconsistent terms (with other documents)

Missing information:

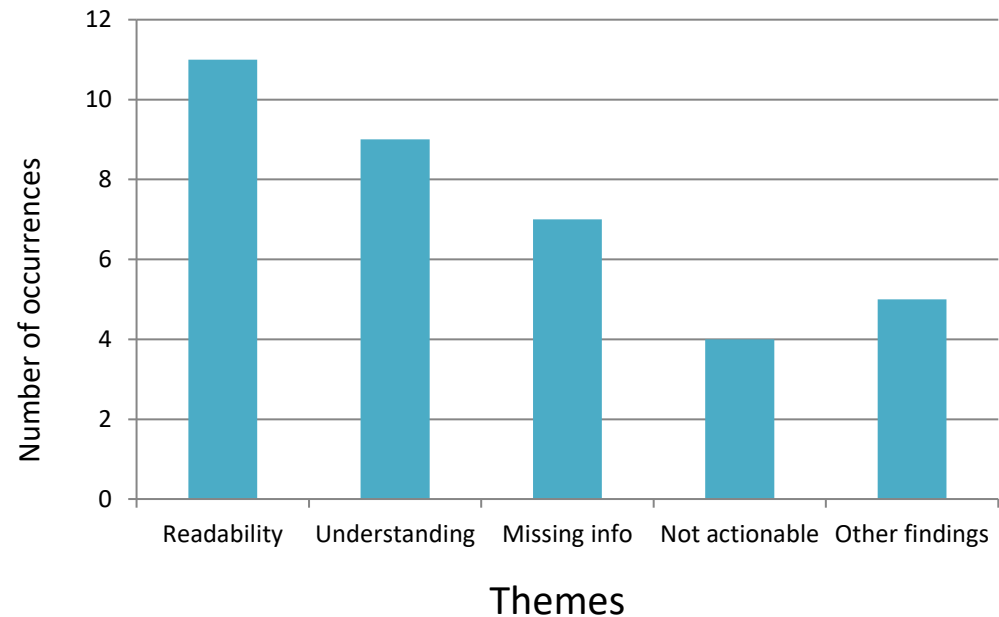
- You were diagnosed with
- Appointments (floor info)
- Immunizations
- New orders

Not Actionable

- Phone numbers + extension (appts.)
- Vitals and charts w/o norms/goals
- Instructions section

Other (Strength or Suggestion)

- positive comments
- Non issues



Overall Evaluation (relative to intent for AVS)

OVERALL EVALUATION	Avg.	Std. Dev.
1. I value the opportunity to verify information in my Electronic Health Record through the AVS	5.00	0.00
2. The AVS makes me more comfortable asking questions	4.89	0.33
3. There is useful information in the AVS I was not previously aware of	4.44	0.88
4. The AVS helps me remember important information	5.00	0.00
5. The AVS helps me understand what happened during my visit to a VA healthcare facility	4.78	0.44
6. The AVS helps me remember my appointments	4.78	0.44
7. The AVS helps me make decisions about my health care	4.78	0.44

- ✓ Enhance the ability of patients to remember interactions (4)
- ✓ Help Veterans track appointments (6), medications and important health care information (3)
- ✓ Support greater patient engagement (2, 5) and self management (7)
- ✓ Improve the quality of information in the EHR through transparency (1)
Provide an artifact for other providers to see what was communicated to a patient.

Findings:

- Participants believe the AVS does what it was intended to do

Recommendations:

- Follow the specific recommendations presented in other sections to help maximize the utility and usability of the AVS

System Usability Scale (SUS)

[The System Usability Scale \(SUS\)](#) is a reliable, low-cost usability scale that can be used for global assessments of systems usability. Developed in response to a need for broad general measures which can be used to compare usability across a range of contexts.

	Avg.	StdDev
System Usability Scale (modified)		
1. I think that I would like to use the AVS frequently	4.78	0.44
2. I found the AVS unnecessarily complex	1.44	0.53
3. I thought the AVS was easy to use	4.56	0.53
4. I think that I would need help from another person to be able to use the AVS	1.11	0.33
5. I found the various sections in the AVS were well organized	4.56	0.53
6. I thought there was too much inconsistency in the AVS	1.44	0.73
7. I would imagine that most people would learn to use the AVS very quickly	3.89	1.05
8. I found the AVS very cumbersome to use	1.22	0.67
9. I felt very confident using the AVS	4.78	0.44
10. I needed / would need to learn a lot of things before I could start using the AVS	1.33	1.00
Summation (normalized to scale 0-4 where 4 is most positive):	36.00	4.30
Participant SUS Score:	90.00	10.75

Findings:

- Participants believe the AVS is useful and usable
- Tohidi et al (2015)

Recommendations:

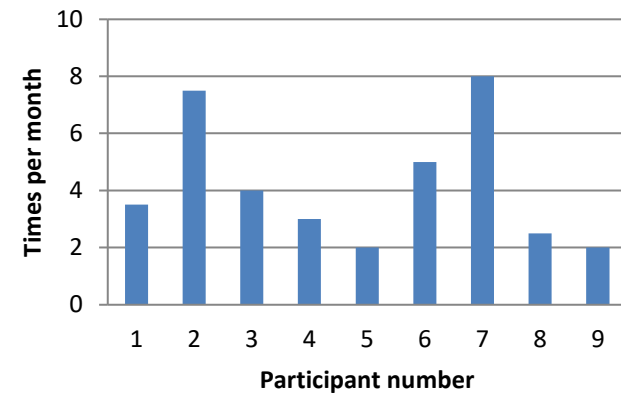
- Still follow the specific recommendations presented in other sections to help maximize the utility and usability of the AVS, because answers to other questions suggest there is still room for improvement

Findings – Media preferences / MHV use

Media preference	Electronic and paper : 7 Electronic only: 2
-------------------------	--

MHV user?	9	
MHV frequency	2x/mo = 4 3x/mo= 1 4x/mo=1 5x/mo=1	AVG= 4x mo
MHV features used	SM	
	Rxrefill	
	Blue Button	
	Appointments	
	Labs	
	Library	
	Healtheliving Assessment	
	Newsletters	

Use of MHV per month



Summary – Issues Mapped to Situation Awareness Level

Level 1: **Perception** of data

- These users were not being given the LL AVS
- They could read it, but indicated it could be made more readable in some places
- They like a printed copy and not just electronic
- They indicated some information was new to them and some types of information not available in MHV

Level 2: **Comprehension** of meaning and significance

- It is valued
- They understand most of it, but some information can be made more understandable
- They indicated there were errors or missing information, and in general, they would report such errors in person or through MHV secure messaging

Level 3: **Projection** to future states and events

- They have some ideas for using it
- Guidance is needed for all users on how best to use the AVS

Readability: (Moderate)

- font size in body text,
- italics,
- wrapping in columns,
- page breaks
- date of visit

Understanding: (Moderate)

- location codes
- medical terms
- Inconsistent (with other documents)

Accuracy and Completeness: (possibly Serious)

- You were diagnosed with
- Appointments (floor info)
- Immunizations
- New orders
- How to report inaccuracies

Not Actionable (Moderate)

- Phone numbers + extension (appts.)
- Vitals and charts w/o norms/goals
- Instructions section

Other (Strength or Suggestion)

- positive comments
- Non issues

Priorities:

1. Accuracy and Completeness

A. Determine why data was missing from some sections of patients' AVS documents:

- Immunizations
- You were diagnosed with
- New orders

In order to make sure that data is not missing because of a flaw in the way the AVS document pulls in the data.

B. Provide patients with guidance on how to report issues with accuracy or completeness.

2. Address Readability and Understanding issues

- A. Adjust formatting
- B. Use plain language
- C. Make terms consistent across the facility
- D. Consistent data (you were diagnosed with)

3. Make content more actionable by

- A. Adding norms/goals to Vitals and Clinic Charts and
- B. Adjusting text in Instructions.
- C. Add contact info to Appointments and Orders (see example next slide)

Example – Action Sheet

Wound Clinic
(858) 642-6491

VA San Diego Healthcare System
3350 La Jolla Village Drive
San Diego, CA 92161

- ☐ **Follow Up:** _____ Day(s)/Week(s)/Month(s). If you need to cancel or reschedule your appointment please call (858) 642-6491.
- ☐ **Home Care Nursing:** You will be contacted by a home care nurse to schedule dressing changes in your home.
- ☐ **Pharmacy:** 1st Floor, South Wing (1B) or call for refills.
(858) 552-4390 or (858) 552-7450
- ☐ **Prosthetics:** 1st Floor, 1 East – across from Chapel.
- ☐ **Radiology:** 1st Floor, West Wing (double glass doors) or call (858) 642-1164
- ☐ **Blood Work/Lab:** 1st Floor, South Wing – Room 1497
- ☐ **Vascular Lab:** 5th Floor, North Wing or call (858) 552-8585 ext. 2848
- ☐ **Plastics:** You will be contacted to schedule your appointment or call
(858) 552-8585 ext. 3991.
- ☐ **Primary Care Main Line/Appointments:** (858) 552-7475
- ☐ **Wound Care Supplies:** You can call the Pharmacy for refills or leave a message for the Wound/Ostomy Clinic nurse at (858) 642-6491.

Home care – General Wound Dressing

- Avoid salt and salty foods.
- Keep your legs elevated as much as possible.
- The feeling of tightness or mild pressure in the area of the dressing is normal and required to aid in the wound healing process. You should elevate the leg higher than the level of your heart to reduce the symptoms of tightness and pressure.
- Don't get your dressing wet. Take a sponge bath or secure a large trash bag over the dressing. You may remove the dressing and shower prior to a home nurse visit only if instructed to do so by the wound care nurse.

Patient Safety Perspective

- The AVS can enhance patient safety if the content itself is valuable, accurate, complete, meaningful, and actionable AND if all AVS users know how to use it
- There are a multitude of *safety critical elements* (MIL-STD-882E) involving the AVS, including:
 1. Generation of an accurate and complete AVS, with necessary and sufficient information for the specific visit (e.g. new orders from the visit, to help ensure those orders get followed)
 2. Patient interpretation of the AVS leading to healthy and safe decision making (e.g. understanding when to call to make an appointment or when an immunization is due – to help ensure those events take place)
- The patient safety severity of a usability problem depends on the safety related decisions/actions it impacts. E.g. misreading instructions for taking a controlled substance is likely more serious than misreading a provider's name
- High priorities:
 - Investigate the important information that patients reported as missing and inaccurate. i.e. how the data is being generated and the processes for verifying it (e.g. new orders)
 - Improve the representation of important information that caused confusion (e.g. immunizations)
 - Develop training for staff on how to discuss the AVS with patients (e.g. verifying the data, emphasizing what is important, checking understanding, and suggesting after visit uses)
- Moderate priority:
 - Add ranges / automatic interpretation for vitals and charts
- Low priority:
 - Add personal goal values to vitals

Related Studies (funded by AHRQ)

- Federman, A.D., et al (2016) *Patient and clinician perspectives on the outpatient after-visit summary: a qualitative study to inform improvements in visit summary design*. [Focus groups and semi-structured interviews. 39 patients. 56 clinicians].
 - Overall: an AVS is highly valued by patients and clinicians, but they both identified ways it can be improved.
 - Uses (similar to LL AVS)– summary of visit, summary of health care, quick reference, reminder, sharing with others
 - Disposition (similar to LL AVS) – disposed immediately, retained in viewable area, filed, carried with person.
 - Preferred formatting (Similar to LL AVS) – Use of lay language, larger font size, reduced density, sufficient white space
 - Inaccurate information – med list, problem list, referral contact information
 - Preferred content – (not in LL AVS) - treatment plan, goals of care, challenges to patient care, health summaries/visit summaries
- Lyles, C., Gupta, R. Tieu, L. and Fernandez, A. (2016) *Primary Care Implementation of After-Visit Summaries for Patients with Limited Health Literacy*. [Literature Review & Interviews]
 - Patients value the AVS, even though extent of use varies and recall of content is sometimes poor. Those with limited literacy should be prioritized for AVS review by staff
 - Clinicians frustrated by extraneous and incorrect information. They should be given the ability to tailor the AVS based on the patients needs and staff should be trained on using the AVS with patients

Questions?

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- Endsley, M.R. (2000). Theoretical underpinnings of situation awareness: A critical review. In M.R. Endsley & D.J. Garland (Eds.), *Situation awareness analysis and measurement*. Mahwah, NJ: LEA.
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- VERC PMO (2015) Improving Access with the After Visit Summary (AVS). p6.

Discussed in the presentation:

From Jorge: http://amdis.org/wp-content/uploads/2014/01/Problem-Lists-Ted-Talk_Weiss.pdf

CMS recommendations on including problem lists in after visit summaries:

<https://www.healthit.gov/sites/default/files/measure-tools/avs-tech-guide.pdf>