



**Promoting Patient Engagement through
Consumer Health Informatics Outreach and
Training**

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Nothing to Disclose

- No financial ties to any of the products discussed.

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Presentation

- Patient Engagement: Theory and Practice
- Patient Portals
 - Patient experience of reading their medical record
 - Consumer-mediated health information exchange
 - Research Study: Impact and value of training Veterans to use their portal for HIE
- Patient Generated Data and Quality and Efficiency of Care
 - Promise and reality of patient generated data
 - Research Studies: IVR assessment of depression the Medicaid population and Veteran population.
 - Kiosk-based assessment of mental health outcomes

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Patient Engagement- The Perfect Storm and the Holy Grail

- Chronic disease self management most important determinant of health.
- Patient engagement at the core of population health.
- Several Technology Innovations support Patient Monitoring-Internet of Things



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Models of Patient Engagement: Patient Activation & Intrinsic Motivation

Patient Activation: Hibbard 	Self Determination/Intrinsic Motivation: Deci and Ryan
Taking an active role in my own health care is the most important thing that affects my health.	I felt it was not my own choice to do this task.
I am confident that I can follow through on medical treatments I may need to do at home.	I did this activity because I wanted to.
I know how to prevent problems with my health.	I believe this activity could be of some value to me.
I know what each of my prescribed medications do.	I think this is important to do because it can

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Patient Engagement—What Works?

Angela Coulter, PhD

Table 1. Empowering Health

People can play a distinct role in promoting the health of themselves, their families, and their communities by:

- understanding the causes of disease and the factors that influence health
- self-diagnosing and treating minor conditions
- knowing when to seek advice and professional help
- choosing appropriate health care providers
- selecting appropriate treatments
- monitoring symptoms and treatment effects
- being aware of safety issues and preventing errors
- coping with the effects of chronic illness and self-managing their care
- adopting healthy behaviors to prevent occurrence or recurrence of disease
- providing feedback to enable assessment of the quality of care
- ensuring that health care resources are used appropriately and effectively
- participating in clinical and health services research
- articulating their views in debates about health care practice
- helping to plan, govern and evaluate health services
- working collectively to tackle the causes of ill health

What interventions promote health literacy?

What interventions promote shared decisionmaking?

What interventions promote improved care processes?



Patient Portals and Patient Driven Care

“Ultimately patient centered medicine is about sharing information. It is also about respect and empathy.”

Maggie Mahar

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VA OpenNotes:

Experience of Early Patient Adopters
Accessing Clinical Notes

Research Lead: Kim M. Nazi, PhD, FACHE



Research Team:
Kim Nazi, Carolyn Turvey,
Down Klein, Timothy Hogan,
and Susan Woods






VA My HealthVet Features

- Personal Health Record
- Prescription Refills and Delivery Tracking
- Secure Messaging
- Access to data from the VA Electronic Health Record
- VA Blue Button
- VA OpenNotes
- VA Health Summary
- Healthliving Assessment
- Veterans Health Library
- VA Appointment Email Reminders





www.myhealthvet.gov 11



VA My HealthVet Statistics



- 3.3 million registered users
- 1.9 million Premium users (authenticated VA patients)
- 1.6 million VA patients opted-in to use Secure Messaging
- 1.3 million unique VA Blue Button users
- 72 million VA prescription refills since August 2005

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VA OpenNotes Launched January 2013

All VA patients can access their clinical notes using the VA Blue Button on My HealtheVet

- Requires a Premium (authenticated) account
- Includes primary care, specialty care, mental health, social work, nursing, and Secure Messaging notes, consult result notes, and note addendums
- Notes from January 1, 2013 forward available 3 days after completion



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Provider Fears

- Increased workload
 - Too many between visit questions
- Patients won't understand their notes
- Notes will cause unnecessary anxiety or worry
- Mental Health patients will be distressed or "triggered" by reading their notes.

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American Customer Satisfaction Index (ACSI) Survey on My HealtheVet



About the Survey

22 JUN 2013 to 15 SEP 2013

4% random sample of website visitors who navigated 4 or more pages during their visit

N=37,103 (62% survey completion rate)

Data filtered to remove potential duplicates and focus on patients receiving VA care (N=29,191)

Research Team:
Kim Nazi, Carolyn Turvey, Dawn Klein, Timothy Hogan, and Susan Woods

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Knowledge and Use of VA Notes

- VA Notes users (N=6861):
 - ✓ were predominantly male (90%) and aged 50-79 years old (87%)
 - ✓ tended to have more education and more frequent VA use (67% used a VA service 2-11 times in the past year)
 - ✓ tended to be more frequent My HealtheVet users

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Knowledge and Use of VA Notes

- VA Notes use was not significantly associated with gender or self-rated health status
- More than half of both users and non-users had previously requested medical records (57% of users versus 51% of non-users)
- VA Notes users were asked additional questions about their experience

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Motivation

Primary reason for viewing VA Notes (N=5152):

- 26% To know more about my health
- 21% I was curious
- 21% To be sure I understood what my provider said
- 13% To remember what happened in the visit
- 9% To check to see if the notes were right
- 6% I wanted to know what my provider was thinking
- 4% Other

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Use of VA Notes

Type of VA Notes Viewed (N=6861):

- 68% Visit notes from a primary care clinic visit
- 39% Visit notes from a specialist (medical or surgical)
- 34% VA Notes from Secure Messaging
- 18% Visit notes from a mental health professional
- 15% Visit notes from a hospital stay
- 14% I don't remember

Note: Multiple response choices allowed

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Use of VA Notes (continued)

Follow up Contact with Provider or Team (N=5339):

- 75% No I did not contact
- 13% I plan to contact
- 12% Yes I did contact

If did not contact or plan to contact (N=3987):

- 83% I had no reason to
- 5% I didn't want to waste my provider or team's time
- 5% I didn't think it was important
- 4% Other reason

Note: Multiple response choices allowed 20

Use of VA Notes (continued)

Follow up Contact with Provider or Team (N=5339):

- 75% No I did not contact
- 13% I plan to contact
- 12% Yes I did contact

If did contact or plan to contact (N=1352):

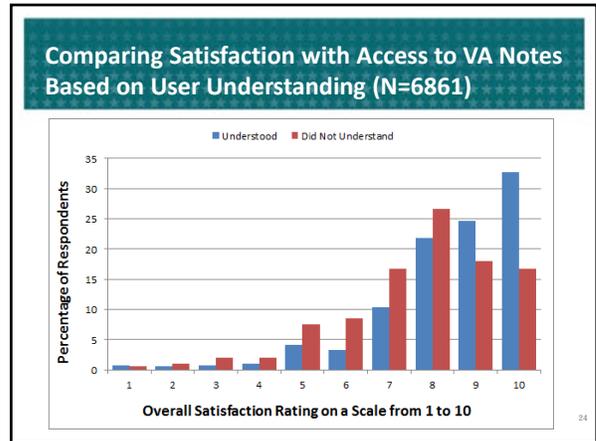
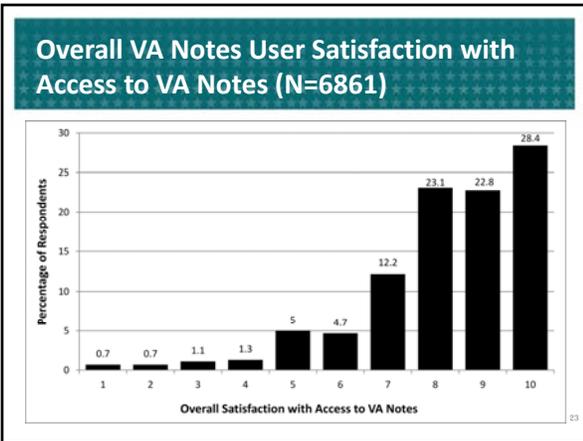
- 54% To learn more about an issue, medication, or result
- 33% To get an explanation about something in the note
- 22% To discuss something I was worried about
- 21% To discuss something I thought was not correct
- 8% To ask about changing or removing something

Note: Multiple response choices allowed 21

User Experience with VA Notes

27% I did not understand the information in my VA Notes (for example there were too many abbreviations, acronyms, or words I did not understand)
[6% agreed and 22% somewhat agreed]

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Patient Engagement Outcomes

Patients who viewed their notes anticipated considerable benefits from having access to clinical notes similar to the OpenNotes study, including:

- ✓ doing a better job of taking medications as prescribed (80%)
- ✓ being better prepared for clinic visits (89%)
- ✓ feeling more in control of their health care (91%)
- ✓ taking better care of themselves (91%)
- ✓ understanding their conditions better (92%)
- ✓ being better able to remember the plan for their care (92%)

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Empowering Patients with Information: VA My HealtheVet, Blue Button, and Interoperability

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VA My HealtheVet www.myhealth.va.gov



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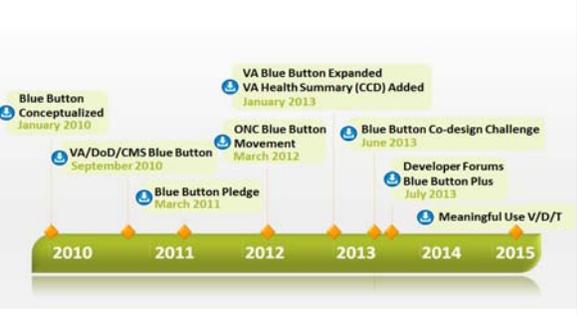
Empowering patients to improve the effectiveness and coordination of their health care by:

- enabling more informed decisions
- improving accuracy of information
- enabling them to securely share information across clinical care settings

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Blue Button: Simple Concept to an Era of Change



Year	Milestone
2010	Blue Button Conceptualized (January 2010)
2010	VA/DoD/CMS Blue Button (September 2010)
2011	Blue Button Pledge (March 2011)
2012	ONC Blue Button Movement (March 2012)
2013	VA Blue Button Expanded VA Health Summary (CCD) Added (January 2013)
2013	Blue Button Co-design Challenge (June 2013)
2013	Developer Forums Blue Button Plus (July 2013)
2015	Meaningful Use V/D/T

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Meaningful Use Stage 2 Core Measure



View/Download/Transmit

Provide patients with the ability to view online, download, and electronically transmit their health information.

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VA Patients and Community Care

- From 40 to 70% of VA patients also seek services outside VA
- A growing literature indicates that these Veterans have poorer outcomes than those who only get care at VA
- Coordination of co-managed care even more critical in light of the Veterans Choice Act



One Veteran's Story

At a recent Vietnam Veterans of America conference, Cheryl Van Syckle, a retired Veteran, told other Veterans: "I use the My HealtheVet Blue Button on a regular basis to download all new medical records to keep my home medical records updated. I also use those records at my military treatment facility to coordinate my medical care with my non-VA doctor. This helps to eliminate duplications for testing and medications. Also eliminates any misunderstanding from my VA doctor to my non-VA doctor."



"For me and my husband, the Blue Button is literally a life saver when it comes to medications and lab tests."

Cheryl Van Syckle

Department of Veterans (VA) 2015. Inside Veterans Health. "The Blue Button is Literally a Life Saver". URL: <http://www.va.gov/health/newsfeatures/2014/September/The-Blue-Button-is-Literally-A-Life-Saver.aspx>

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Health Information Exchange

3 key forms of health information exchange:

1. **Directed Exchange** – ability to send and receive secure information electronically between care providers to support coordinated care
2. **Query-based Exchange** – ability for providers to find and/or request information on a patient from other providers, often used for unplanned care
3. **Consumer Mediated Exchange** – ability for patients to aggregate and control the use of their health information among providers



Why Consumer Mediated Exchange?

- An important complement to organizational/provider health information exchange (query-based and directed exchange)
- Patient ability to access and share their health information is at the core of patient-centered health care
- Patients are important validators of the accuracy of their health information
- Only patients know who all their providers are and when they are seeing them
- Patients with specific privacy concerns can manage what information is shared and with whom



VA Health Summary

- Expanding current VA Health Summary (C32) to a more robust health summary aligned with Meaningful Use criteria (CCDA: Consolidated Clinical Document Architecture), and field testing ability to send securely via Direct Messaging (Meaningful Use View/ Download/ Transmit)
- Defining requirements for bidirectional consumer mediated health information exchange
- Finalizing agency policy for eligible recipients

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VA Health Summary Data Classes (CCDA)

- Person Information
- Support/Contact Information
- Healthcare Providers
- Insurance Providers
- Allergies
- Problems
- Medications
- Advanced Directives (list)
- Immunizations
- Vital Signs
- Results
 - Lab Test Results
 - Radiology Reports
 - Pathology Reports
- Encounters
 - Outpatient Encounters and Associated Progress Notes
 - Consult Notes
 - History & Physical Notes
 - Discharge Summaries
- Procedures
 - Surgical Procedures and Associated Procedure Notes
 - Clinical Procedure Notes
- Plan of Care
 - Future Appointments
 - Future Lab Test Orders
 - Future Radiology Orders
- Social History (Smoking Status)

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Veteran Initiated Electronic Care Coordination (VIECC)

National multi-site, multi-agency collaboration

Online reference links:
[Transforming Veterans' Care in Rural Practices Using Health IT](#) (March 2014)
[Health Summary important for coordinating care with non-VA providers](#) (September 2015)

Veteran Initiated Electronic Care Coordination (VIECC)

Participant Characteristics & Engagement

- ✓ 628 Veterans trained to generate a VA Health Summary and share with their community provider
 - Primarily male, average age 66, with at least one chronic health condition
 - 64% endorsed they are responsible for how information is communicated between their VA and community providers.
- ✓ 78% of patients indicated using the health summary will help them be more involved in their health care
- ✓ 86% indicated they plan to share their health summary regularly with their community providers

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Patient Experience

"Everything happened so suddenly. I had all these things to worry about and did not know how I would keep everything straight. I remembered the VA Health Summary and printed it. I would not have been able to remember [my husband's] allergies and medications without the summary. Having it there helped me talk through his medications and conditions with the doctors. The doctors found it very useful." - Constance M.

Program Evaluation – Community Providers

Community Providers reviewing a VA Health Summary reported:

- 95% Confidence in the accuracy of the information
- 95% Interest in receiving summary again in the future
- 88% Improved ability to have an accurate medication list and make treatment decisions about medications
- 49% Approximately half did not order some laboratory tests or other procedures because of information available on the summary.

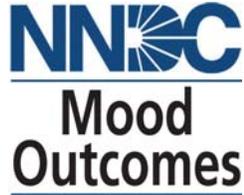
Note: Information has primarily been hand carried to community providers as transmit is in field testing. When feasible patients trained to provide through a local or state HIE patient portal.

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Community Provider Experience

"I was really pleased to see the VA Health Summary. I think it made me more confident of my data in terms of information about the patient. So . . . I was shocked because I never get any information from the VA, so pleasantly shocked, and hopeful for the future. I really think it's refreshing to actually get information from the VA routinely."

National Network of Depression Centers



Mood Outcomes Program Overview

The primary objective of the NNDC Mood Outcomes Program is to provide a clinical program that will improve the care provided to patients with mood disorders. To achieve this, the Mood Outcomes Program will:

- Promote measurement based care of patients with mood disorders by collecting four brief self-rated assessments from patients at each clinical visit followed by a review with their clinicians during the visit to monitor their progress
- Provide decision support tools for clinicians to help them tailor treatment to the needs of their patients, and
- Create a platform to facilitate quality improvement at the clinic and population level, while reducing overall data collection burden, by providing reports of aggregate data indicating the types of patients seen at the clinics, how they are doing as a group over time, and what care management strategies are most effective.

New Patient Questionnaire

The UIHC Adult Psychiatry Clinic offers a variety of outpatient psychiatric and mental health services. Please complete the following to assist us in your evaluation.



PHQ 9

79100010



Patient Questionnaire

Over the last 2 weeks, how often have you:

Had little interest or pleasure in doing things

- Not at all
- Several days
- More than half the days
- Nearly every day



Over the last 2 weeks, how often have you:

Had trouble with feeling down, depressed or hopeless

- Not at all
- Several days
- More than half the days
- Nearly every day

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Over the last 2 weeks, how often have you:
Had trouble falling or staying asleep or sleeping too much

Not at all Several days More than half the days Nearly every day

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Over the last 2 weeks, how often have you:
Had trouble concentrating on things such as reading the newspaper or watching TV

Not at all Several days More than half the days Nearly every day

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Over the last 2 weeks, how often have you:
Had thoughts that you would be better off dead or of hurting yourself in some way

Not at all Several days More than half the days Nearly every day

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Outpatient Psychiatric Medication Management Note

Joe Smith, 48-year-old male
Follow-up Visit

Over the last 2 weeks, how often have you been bothered by any of the following problems?	Not at all	Several days	More than half the days	Nearly every day
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling tired, fatigued, or sluggish	0	1	2	3
3. Trouble falling or staying asleep, or sleeping too much	0	1	2	3
4. Feeling bad or having little energy	0	1	2	3
5. Poor appetite or overeating	0	1	2	3
6. Feeling bad about yourself — or that you are a failure or have let yourself or your family down	0	1	2	3
7. Trouble concentrating on things, such as reading the newspaper or watching television	0	1	2	3
8. Moving or speaking so slowly that other people could have noticed? Or the opposite — being so fidgety or restless that you have been moving around a lot more than usual?	0	1	2	3
9. Thoughts that you would be better off dead or of hurting yourself in some way	0	1	2	3

If you checked off any problems, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?

Not difficult at all Somewhat difficult Very difficult Extremely difficult

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Mood Outcomes Clinical Repository

Clinician Dashboard, with access to patient:

- Self-rated scales in real time
- Longitudinal data trends
- Diagnosis history

"Vital Signs" — Baseline and Follow-up Scales

- PHQ-9 Patient Health Questionnaire
- GAD-7 Generalized Anxiety Disorder Assessment
- ASRM Altman Self-Rating Mania Scale
- C-SSRS Columbia Suicide Severity Rating Scale

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Feasibility, Validity, and Clinical Value

- Will patients complete these forms using the kiosk?
 - Clinic workflow
 - Technical usability
- Will the measures be valid?
 - Prior research demonstrates that measures have same internal structure **but benchmarks and thresholds shift**
- Will both providers and patients find value in these assessment?
 - We live in a too much information age
 - Just because we *can* collect the data does not mean we *should* collect the data.

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Turvey et al. 2012
Journal of Telemedicine and Telecare

Compared standard administration Of PHQ-9 to Interactive Voice Response Administration.

IVR administration less sensitive to greater severity of depressive Symptoms.

Optimal threshold for further assessment was 5, not 10 on the PHQ-9.



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Feasibility

Initial 561 Outpatient Psychiatric Visits where Assessments were "Assigned"

- 45% completed all assigned assessments
 - If started, patients complete all assessments
 - Although automatically placed in the clinic note, there was variable use of results in session
- 47% completed none of their assigned assessments
 - Slight association of non-completion with age ($r=0.14$) Age range 18-86.
 - Gender NOT associated with completion
 - Not integrated into workflow

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Psychometric Properties and Validity

- PHQ-9 Coefficient alpha=0.90 (Excellent)
 - Mean 10.11 SD=7.0 Median 9
 - Range 0-27
- GAD-7 Coefficient alpha=0.93 (Excellent)
 - Mean 9.6 SD=6.6 Median 9
 - Range 0-21
- Correlation between depression and anxiety =0.80

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Next Steps

- Validation study comparing standard administration to kiosk and patient portal administration.
- Addition of patient centered assessments
 - Treatment burden and side effects
 - Intrinsic motivation to manage illness
 - Shared goals with provider
 - Functioning

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Conclusions

- Patient facing technologies can increase patient engagement.
- Implementation of patient facing technologies must balance patient burden with patients perception of the value of the technology.
- Methods for evaluating feasibility, validity, and value of patient facing technologies in increasing patient engagement are currently being developed.

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QUESTIONS?

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