

Informatics Support for Quality Improvement

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Healthcare Provider Behavior**

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VA Quality Improvement

- **VA's computer system both enhances and constrains quality improvement**
 - Computer system advanced and sustains current quality
 - Improvements require substantial investment in IT (Liu et al, HSR, 2006)
 - Improvements that are not fully embedded in VA computer systems are lost with migrations

QI Projects Currently Face Dilemmas

- **Use web-based and other external computer programs or use CPRS**
 - Doesn't require as much VA IT support
 - Enables use of features not supported in VistA/CPRS
 - Path to incorporation in VA is constrained
- **Use VistA/CPRS**
 - Develop within VA computer system constraints
 - Potential for incorporation enhanced

Purpose of This Talk

- **Summarize Translating Initiatives in Depression into Effective Solutions (TIDES) IT**
 - TIDES used only CPRS/VistA
 - Many iterations (PDSA) across 4 large VISNs (2002 – 2010)
 - Clinical applications coordinators across the country assisted
- **Identify needs for enhancements**
 - Primary care/mental health integration
 - Patient-centered medical home

TIDES-Based Examples

- **TIDES goal: implement evidence-based depression care**
 - used evidence-based quality improvement methods (EBQI) methods
- **Key features of TIDES affecting IT**
 - Longitudinal telephone based f/u of depressed vets referred after PC screening
 - Collaboration between MHS & PC
 - Systematic, tool-based assessment
 - Reporting capabilities

Evidence-Based Quality Improvement IT Needs

- Case finding
- Evidence-based care management
- Patient tracking/panel management
- Workload capture
 - Facilitating and documenting collaboration
- Producing reports

Examples from TIDES & Primary Care/Mental Health Integration

TIDES Collaborative Care Management for Depression (MH QUERI) & Primary Care/Mental Health Integration Initiative (Patient Care Services)

- <http://vaww.portal.gla.med.va.gov/sites/Research/HSRD/ClinicalPart/default.aspx>



Translating
Initiatives for
Depression into
Effective
Solutions



<http://vaww.portal.gla.med.va.gov/sites/Research/HSRD/ClinicalPart/default.aspx>

In the TIDES depression care model, a nurse depression care manager (DCM) uses evidence-based strategies to help primary care clinicians assess and manage patients with uncomplicated depression. The DCM works under the supervision of a staff psychiatrist and facilitates collaboration between mental health and primary care. Veterans receiving depression care management express a great deal of satisfaction and demonstrate very positive outcomes. 90% of those who begin six months of care management complete it. 80% of those followed in primary care show a significant reduction in depressive symptoms and an increase in functional status. They keep 92% of their follow-up clinic appointments and 74% of those on antidepressants are medication compliant. “This is the best I’ve felt in years” is a typical comment.

Problem #1: Screening for Depression Generates No Health Factors

- **For effective action, need to develop registries based on**
 - Patients screening positive
 - Patients diagnosed/treated
 - Screening data is now stored in Mental Health Assistant (MHA)
- **Solution: Programmed reports for MHA**
 - Depression, alcohol, PTSD
- **Limitation: Active in one site; not exportable**

Solution #1: desk-top, web-based reports

The screenshot shows a Windows Internet Explorer browser window titled "MENTAL HEALTH REPORT OPTIONS". The address bar contains a URL starting with "https://vha22cfp1.v22.med.va.gov/irm/itshared/MentalHealth/visitDataFY09QTR1.cfm". The page content includes a header with "***** SENSITIVE INFORMATION *****" and a logo of the United States flag next to the title "Mental Health Report Options".

Instrument Test Data

- » » AUD-C, AUDCR, PHQ-2, & PC PTSD Scores (xls); 'Date Given' >= 10/14/2009 to 10/14/2009 Submit *
- » » PHQ-9 Scores (xls), 'Date Given' >= 10/14/2009 to 10/14/2009 Submit *
- » » AUDIT-C Scores For FY08; xls (includes race/ethnicity/gender)

Health Factors

- » » SRA HF and MH Instrument Tests (xls); Test 'Date Given' >= 10/14/2009 to 10/14/2009 Submit *

Clinic Data: MH Clinic Visits, Patients and Providers

- » » LAOPC:
 - FY09, 1st QTR; xls (Visit status = 'checked-out') **
 - FY09, 2nd QTR; xls (Visit status = 'checked-out') **

The browser's taskbar at the bottom shows the Start button, several open applications including "Sent Items - Micr..." and "MENTAL HEALTH ...", and the system tray with the time "2:05 PM" and date "Wednesday".

Case-Finding: Immediate Desktop Results for the Clinician/Researcher

AUD-C, AUDCR, PHQ-2, AND PC PTSD SCORES FOR 'DATE GIVEN' BETWEEN 10/01/09 AND 10/07/09

******* SENSITIVE INFORMATION *******

PATIENT	LAST4	DOB	DATE GIVEN	INSTRUMENT	LOCATION	SCORE
ZZTest, One	Z1234	1/14/1989	10/05/09 08:52	AUDC	WLA-CR Silver	0
ZZTest, One	Z1234	1/14/1989	10/05/09 08:52	PHQ-2	WLA-CR Silver	0
ZZTest, Two	Z2345	10/21/1987	10/06/09 14:04	AUDC	WLA-Gold-Lee	4
ZZTest, Two	Z2345	10/21/1987	10/06/09 14:04	PHQ-2	WLA-Gold-Lee	3
ZZTest, Three	Z3456	9/23/1945	10/07/09 08:19	AUDC	WLA-CR Silver	6
ZZTest, Three	Z3456	9/23/1945	10/07/09 08:19	PHQ-2	WLA-CR Silver	3
ZZTest, Three	Z3456	9/23/1945	10/07/09 08:19	PC PTSD	WLA-CR Silver	2
ZZTest, Four	Z4567	2/10/1957	10/05/09 10:13	AUDC	WLA-Gold-NP Jones	2
ZZTest, Four	Z4567	2/10/1957	10/05/09 10:13	PHQ-2	WLA-Gold-NP Jones	0

Problem #2: Standardized Assessment & Outcomes Reporting

Solution #2: Assessment Protocols Using Reminder Dialogs (Class I)

- Templated to promote model fidelity
- More flexible than templated CPRS notes
- Automatically collect health factor data
- Provide a way to verify fidelity through reports
- **Limitation:** Used in about 10 sites, takes time to load & DCMs may not get IT support

TIDES Initial Assessment Reminder Dialog

VistA CPRS in use by: Vivell,Susan (10.180.9.3)

Reminder Dialog Template: TIDES INITIAL ASSESSMENT

DEPRESSION/TIDES INITIAL ASSESSMENT

Patient evaluated as a result of the TIDES depression care manager assessment consult request. Summary findings and recommendations are immediately below, followed by full assessment findings.

Referring provider: If indicated, please summarize depression treatment (including any medications) you have ordered in an addendum to this note. Nurse care managers can assist with referrals but cannot order medication. Treatment decision support given below is based on Medical Center and TIDES care management algorithms and should be modified by your clinical judgment as needed.

How was the patient contacted?

Patient contacted by phone on:
 Patient contacted in person on:

ENTER DATE BELOW:
Enter date: * December 17 2008 ...

Begin assessment

Declined/unable to do assessment
 Depression Assessment (start with PHQ-9)

PHQ-9

PHQ-9 screen in the Mental Health package <<<PHQ-9 IN MH PKG>>>

PHQ-9

Perform PHQ9

**** PHQ-9 SCORE: <<<PHQ-9 SCORE (TIDES)>>>

PHQ-9 not done
 PHQ-9 score: + 20

**** Initial Symptom Difficulty if PHQ-9 > 0

Initial symptom difficulty

Not difficult
 Somewhat difficult

start

My Documents '08 National Training '08 QUERI Meeting

CPRS - Patient Chart Screen Shots 12-17-0...

'07 TIDES Website Search Desktop

3:07 PM Wednesday 12/17/2008

Sample TIDES Progress Note Generated by Reminder Dialog

Vista CPRS in use by: Vivell,Susan (10.180.9.3)

File Edit View Action Options Tools Help

ZMSHTSDIHT_GULYJDT Z Visit Not Selected SEP-RED 05 / Zakzook,Sami I

101-28-3521 Dec 12,1967 (40) Current Provider Not Selected

Flag VistaWeb Remote Data ? No Postings

Last 100 Signed Notes Visit: 10/29/08 TIDES INITIAL ASSESSMENT, 1GLA-AMB CPRS (NON BILLABLE), SUSAN VIVELL (Oct 29,08@08:21)

All signed notes
 Nov 05,08 TIDES
 Oct 29,08 TIDES
 Oct 27,08 TIDES
 Oct 20,08 TIDES
 Oct 10,08 TIDES
 Oct 06,08 TIDES
 Oct 06,08 TIDES
 May 22,08 TIDES
 May 21,08 TIDES
 Apr 10,08 TIDES
 Apr 07,08 TIDES
 Mar 05,08 TIDES
 Jun 01,00 SACC

LOCAL TITLE: TIDES INITIAL ASSESSMENT
STANDARD TITLE: MENTAL HEALTH CLINICAL NOTE
DATE OF NOTE: OCT 29, 2008@08:21 **ENTRY DATE:** OCT 29, 2008@08:21:04
AUTHOR: VIVELL,SUSAN **EXP COSIGNER:**
URGENCY: **STATUS:** COMPLETED

DEPRESSION/TIDES INITIAL ASSESSMENT
 (TIDES = Translating Initiatives for Depression into Effective Solutions)

Patient evaluated as a result of the TIDES depression care manager assessment consult request. Summary findings and recommendations are immediately below, followed by full assessment findings.

Referring provider: If indicated, please summarize depression treatment (including any medications) you have ordered in an addendum to this note. Nurse care managers can assist with referrals but cannot order medication. Treatment decision support given below is based on Medical Center and TIDES care management algorithms and should be modified by your clinical judgment as needed.

Patient contacted in person on:
 Date:
 Enter date: October 29, 2008

DEPRESSION SCREENING:
 PHQ-9 score:
 13
 Initial symptom difficulty: somewhat difficult

ASSESSMENT SUMMARY AND EVIDENCE-BASED RECOMMENDATIONS:
 Probable Depression DSM (Diagnostic and Statistical Manual of Mental Disorders):
 Probable major depression (PHQ-9 greater than 9) or incipient relapse (PHQ-9 is 5-9 with history of depression). Patient prefers watchful waiting.
 Care plan suggestions:
 Watchful waiting

Patient Educations: DEPRESSION-CAUSES OF DEPRESSION, DEPRESSION-PATIENT SELF-MANAGEMENT, COMMUNITY RESOURCES
 Health Factors: WEIGHT-RECENT GAIN (TIDES), SERVICE ERA-KOREA (TIDES), MH SPECIALTY REFERRAL-PT REFUSES, TIDES DEPRESSION INITIAL ASSESSMENT DONE, FEELING DOWN,DEPRESSED,OR HOPELESS (2w), OVEREATING (2w), TROUBLE CONCENTRATING ON THINGS (2w), FIDGETY OR

Cover Sheet Problems Meds Orders Notes Consults Surgery D/C Summ Labs Reports

start My Documents '08 National Training '08 QUERI Meeting 8:32 PM Tuesday 11/18/2008

Inbox - Microsoft Out... \\vhagfla2\HomeUse... TIDES Informatics.ppt CPRS - Patient Chart '07 TIDES Website

Problem #3: Proactive Telephone Follow-up

- **Requires following up to 150 pts in various phases**
 - Each day, which pts need assessment? Follow-up? Relapse prevention? Discharge?
 - In prior studies, done with card files or extensive computer programs
- **Solution #2:** SharePoint Tracker or ACCESS
- **Limitation:** SharePoint piloted but not approved for PHI/PII

Patient Tracking & Panel Management

[http://vaww.portal.gla.med.va.gov/sites/
TPM_Demo/default.aspx](http://vaww.portal.gla.med.va.gov/sites/TPM_Demo/default.aspx)

The TIDES Tracker demonstration is open
to all VA users.

Patient Tracking & Panel Management on SharePoint

TIDES-TRACKER - Microsoft Internet Explorer

File Edit View Favorites Tools Help

View: All Items

Referred By	Clinic	Consult Date	Consult Target	Consult Closed	Consult Result & Treatment Plan	Next Call	Attempts	Care Manager Notes	Status
King	Alpha Team	8/23/2008	9/6/2008	8/31/2008	Enroll in Care Mgmt	1/7/2009 10:30 AM	5	patient has been compliant with m	
Arcia	Delta Team	9/17/2008	10/1/2008	10/25/2008	Pt not reached in 5 attempts			patient has been sent a letter	
Chelini	Charlie Team	11/3/2008	11/17/2008	11/3/2008	Enroll in Care Mgmt	2/1/2009 10:00 AM		ask if he has been spending time with grandchildren	Active
omez	Bravo Team	11/4/2008	11/18/2008	11/7/2008	Consult Mental Health				
King	Alpha Team	11/6/2008	11/20/2008	11/7/2008	Enroll in Care Mgmt	3/8/2009 10:00 AM		May leave message for patient with wife	Active
Der	COBC A	11/7/2008	11/21/2008	11/8/2008	Enroll in Watchful Waiting	2/9/2009 7:00 AM		patient is out of town ans will return 12/0908	Active
Arcia	Delta Team	1/7/2009	1/14/2009			2/1/2008 7:00 PM	4	left message	
vis	COBC B	11/12/2008	11/26/2008	11/24/2008	Consult Mental Health				
lson	COBC B	11/12/2008	11/26/2008	12/4/2008	No F/U Needed at this time				
vis	COBC B	1/13/2008	1/27/2008	1/30/2009	Enroll in Care Mgmt	2/9/2009 2:00 PM	1	Pt prefers calls on cell phone	Active
lson	COBC B	1/2/2009	1/16/2009	1/7/2009	Pt Refused Assessment		2		Active
Der	COBC A	12/9/2008	12/23/2008	12/23/2008	Enroll in Care Mgmt	2/25/2009 3:00 PM	1		
tterson	Delta Team	5/13/2008	5/27/2008	5/19/2008	Enroll in Care Mgmt		3	Does not want meds and cannot afford to commute to counselling	Discharged-Care Mgmt Complete 12/19/2008
rders	Bravo Team	7/9/2008	7/23/2008	7/10/2008	Enroll in Care Mgmt				Discharged-Care Mgmt Complete 12/11/2008
rders	Bravo Team	8/7/2008	8/21/2008	8/26/2008	Enroll in Care Mgmt	2/18/2009 7:00 PM			Active
tterson	COBC B	9/2/2008	9/16/2008	9/2/2008	Consult Mental Health		1	patient seen in Women's health clinic	

TIDES Tracker Calendar

TIDES-TRACKER - Microsoft Internet Explorer

GLA SharePoint Portal > TIDES Panel Management DEMO

Welcome Vivell, Susan | My Site | My Links

TIDES Panel Management DEMO

This List: TIDES-TRACKER

Home

TIDES Panel Management DEMO > TIDES-TRACKER

TIDES-TRACKER

New Actions Settings

View: Calendar of Schedule...

New Item
Add a new item to this list.

Expand All Collapse All | Day Week Month

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1 10:00 AM A3456	2 7:00 PM E5678 7:00 PM G1234	3 5:00 PM D5678	4	5 10:00 AM F6789	6 12:00 AM Young	7
8	9 7:00 AM A6789 11:00 AM White 2:00 PM B3456 ▾ 1 more item	10 7:00 AM C7890	11	12 4:00 PM E6789	13 5:00 PM V1234	14
15	16	17	18 7:00 PM C1234	19	20 3:00 PM D2345	21
22	23	24	25 3:00 PM B5678	26	27 9:00 AM W1234	28

Today is Tuesday, February 17, 2009

View All Site Content

Documents

- Shared Documents

Lists

- Calendar
- Tasks
- TIDES-TRACKER

Discussions

- Team Discussion

Sites

People and Groups

Recycle Bin

Problem #4: IT Support for Collaboration

- **MHS/PC/Care manager collaboration is at the heart of PC-MHI integration**
 - MHS is supposed to supervise care manager for 1 hr per week, reviewing caseload, pt outcomes, and problem patients
 - No method for giving credit/documenting caseload review
- **Solution:** Group Notes
- **Limitation:** None known

Documenting Collaboration and Supervision Workload (Group Notes)

The screenshot shows a web application interface for managing group notes. The window title is "Group Notes in use by: Vivell,Susan (vista.gla.med.va.gov)". The interface includes a menu bar with "File" and "Help", a "Patient List" section with radio buttons for "Providers", "Clinics", "Team/Personal", "Specialties", "All", and "Wards", and a "Patients (all)" list. The list contains names such as "Zztesttides,Alexander Appier", "Zztesttides Donner,Regis", "Zztesttides Donner,Regis", "Zztesttides Dresser,Richard", "Zztesttides Effinger,Samuel", "Zztesttides Fallows,Jesse", "Zztesttides Faring,Xavier", "Zztesttides Gaines,Ethan", "Zztesttides Gasper,Scott", "Zztesttides Hagberg,James", "Zztesttides Haining,Robert", "Zztesttides Harper,Nicholas", "Zztesttides Hawk,Elliott", "Zztesttides Hinds,Hap", "Zztesttides Janzen,Erik", "Zztesttides Jewell,Dennis", "Zztesttides Kast,Roger", "Zztesttides Kazinsky,Louis", "Zztesttides Kelemen,David", "Zztesttides,Alan Anders", "Zztesttides,Alexander Appier", "Zztesttides,Brian Albert", and "Zztesttides,Bruce". The "Zztesttides,Alexander Appier" entry is selected. To the right, a detailed view for "Zztesttides,Alexander Appier" shows "Group Encounter Provider: Austin,Colletta - CONSULTANT", "Group Visit Location: WLA-TRAINING CPRS", "Group Visit Date/Time: Jun 10,2010@13:40", "SSN: 000-00-9525", "DOB: Feb 02,1965", "Male", and "Veteran". Below the patient list is a table titled "Patient list for group notes/encounters" with columns for Name, SSN, Age, Sex, Location, Admission, Primary Team, and Primary Provider. The table contains five rows of patient data. The Windows taskbar at the bottom shows the Start button, search bar, and several open applications including "Microsoft Powe...", "TIU-based Note...", "CPRS - Patient ...", and "CPRS - Group N...". The system clock shows "1:42 PM Thursday 6/10/2010".

Group Notes in use by: Vivell,Susan (vista.gla.med.va.gov)

File Help

Patient List

- Providers
- Clinics
- Team/Personal
- Specialties
- All
- Wards

Patients (all)

- Zztesttides,Alexander Appier
- Zztesttides Donner,Regis
- Zztesttides Donner,Regis
- Zztesttides Dresser,Richard
- Zztesttides Effinger,Samuel
- Zztesttides Fallows,Jesse
- Zztesttides Faring,Xavier
- Zztesttides Gaines,Ethan
- Zztesttides Gasper,Scott
- Zztesttides Hagberg,James
- Zztesttides Haining,Robert
- Zztesttides Harper,Nicholas
- Zztesttides Hawk,Elliott
- Zztesttides Hinds,Hap
- Zztesttides Janzen,Erik
- Zztesttides Jewell,Dennis
- Zztesttides Kast,Roger
- Zztesttides Kazinsky,Louis
- Zztesttides Kelemen,David
- Zztesttides,Alan Anders
- Zztesttides,Alexander Appier**
- Zztesttides,Brian Albert
- Zztesttides,Bruce
- Zztesttides,Christ...

Group Encounter Provider: Austin,Colletta - CONSULTANT

Group Visit Location: WLA-TRAINING CPRS

Group Visit Date/Time: Jun 10,2010@13:40

Zztesttides,Alexander Appier

SSN: 000-00-9525

DOB: Feb 02,1965

Male

Veteran

Inquiry

Remove Remove All

Name	SSN	Age	Sex	Location	Admission	Primary Team	Primary Provider
ZZTESTTIDES DONNER,REGIS	000-00-3472	47	M				
ZZTESTTIDES GAINES,ETHAN	000-00-3501	62	M				
ZZTESTTIDES HAWK,ELLIOTT	000-00-3512	47	M				
ZZTESTTIDES KAST,ROGER	000-00-5471	42	M				
ZZTESTTIDES,ALEXANDER A...	000-00-9525	45	M				

start

My Documents '08 DCM Calls

Search Desktop

1:42 PM Thursday 6/10/2010

Microsoft Powe... TIU-based Note... CPRS - Patient ... CPRS - Group N...

'07 TIDES Website

Problem #5: Care Manager Workload Capture

- **Addenda and historical visits not captured in workload reports**
- Attempts at telephone contact not documented
 - Early errors in multiple visit documentation
- **Solution:** Program to capture and clean workload
 - Verified MUMPs/KB SQL/notes accuracy
- **Limitation:** Works well, not exportable

Capturing/Clarifying Workload

TIU Extract by Author or DSS Identifier

- **Author**
- **Note Title Service Category (includes addenda & historical events)**
- **Date Encounter Providers (up to 4)**
- **Clinic Location**
- **Primary DSS**
- **Secondary DSS**
- **ICD9 #1 ICD-9 #10**
- **ICD-9 #1-ICD-9 #10 Name**
- **CPT #1 - CPT #15**
- **CPT #1 - CPT #15 Name**
- **1st Five Lines of Progress Note Text**

Problem #6: Program Performance Reporting

- A necessity for ensuring program quality, management buy-in, care manager self-assessment
- In TIDES, quarterly reports generated using de-identified Excel
 - Time consuming for DCMs
- Solution: KB SQL reports under development

Summary

- Many solutions to QI problems can be accomplished through VistA/CPRS
- Limitations in approval process for such solutions inhibits their development and spread
 - Is it better to do web-based and other solutions outside of CPRS? (these are currently being approved, albeit slowly)

Goal: Better, more economical use of electronic data for local QI

Enhancement: A quick review method for quality improvement (QI) routines that

- use only approved software
- have been tested at more than one site

Goal: Proactive engagement of health services researcher/QI partnerships in development and testing of new IT applications.

Enhancement:

- HSR&D involvement in pilot testing, verification of standard OI&T development efforts
- HSR&D involvement in QI innovations

Links:

TIDES ToolKit:

<http://vaww.portal.gla.med.va.gov/sites/Research/HSRD/ClinicalPart/default.aspx>

TIDES Tracker:

http://vaww.portal.gla.med.va.gov/sites/TPM_Demo/default.aspx

REQUEST FROM SUSAN VIVELL [susan.vivell@va.gov]:

- [PDF OF MUMPS DSS/Note Author Extract](#)
- [TIDES Tracker Template \(Send to SharePoint Portal Administrators Only\)](#)