QUERI-HIV

Tablet audio computer-assisted patient interview tool to assess antiretroviral adherence

VA SAN DIEGO HEALTHCARE SYSTEM

A Division of VA Desert Pacific Healthcare Network

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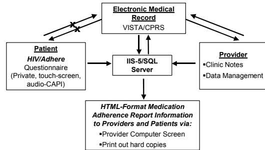
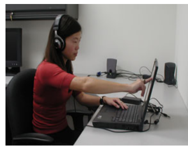
Background & Objectives

- Providers need good information about patient adherence to antiretrovirals
- VA Healthcare has clinical informatics systems that can link to a patient focused approach
- Audio Computer-Assisted Patient Interview (audio-CAPI) may help identify nonadherence, and assess patient medication problems
- We implemented and feasibility-tested an audio-CAPI system – *HIV/Adhere*sm – that can:
  - identify patient medication errors and adherence barriers
  - feed back real-time information about adherence to providers and patients

VA San Diego Healthcare System Secure LAN/Intranet





Audio assisted touch-screen computer interview

Methods

- Single-cohort prospective feasibility and implementation study of the *HIV/Adhere* audio-CAPI system
- 72 patients using combination ARVs at VA San Diego HIV clinic, 12/04 – 4/05
- Provider estimates of patient adherence interaction were collected based on usual clinical interaction, and then providers were given clinical adherence information from *HIV/Adhere*

***HIV-Adhere* assessment:**

- Patient ARV medication errors
- Patient self-reported ARV adherence
- Patient reasons for missing ARV doses
- Adherence Barriers, including depression, alcohol and drugs

Real-time Provider Report:

- Alert provider about potential medication errors
- Tailored messages to improve adherence
- Alert provider about adherence problems

Medication Errors

Medication Adherence

Provider Report

Patient Report

Results

Demographics and Clinical Factors		
Ethnicity	**N**	**%**
Black	11	15
White	45	63
Hispanic	11	15
Mixed/Other	5	7
Education	**N**	**%**
< 11th grade	4	6
High School	23	32
Some College	29	40
College Graduat	16	22
Age	**N**	**%**
18-49 years	35	49
> 50 years	37	51
ARV Regimens	**N**	**%**
PI-based	47	65
NNRTI-based	19	27
Other	6	8
CD4 Cells	**N**	**%**
< 200/mcl	10	14
200-499/mcl	31	43
> 500/mcl	31	43
HIV Load	**N**	**%**
< 50/ml	53	74
51 - 400/ml	9	13
401 - 3000/ml	3	4
> 3001/ml	7	10

Reasons for nonadherence	N	%
Simply forgot	20	31
Ran out of pills	9	14
Away from home	7	11
Busy with other things	6	9
Changed schedule/work routine	5	8
Fell asleep/slept through dose	5	8
Scared of getting side effects	2	3
Don't want people to see me take pills	1	2
Felt down/depressed	1	2
Felt good, didn't think it was needed	1	2
Felt like the drug was toxic	3	5
Was getting side effects	2	3
There were too many pills to take	0	0
Drunk or high on drugs	2	3

Adherence and Psychosocial Factors		
3-day Adherence	**N**	**%**
95-100%	45	63
80-94%	9	13
34-79%	13	18
0-33%	5	7
30-day Adherence	**N**	**%**
95-100%	34	47
80-94%	13	18
34-79%	19	26
0-33%	6	8
Medication Error	**N**	**%**
Any Error	26	36
Incorrect Med	12	17
Incorrect Dose	23	32
Incorrect Pills	23	32
Depression-CESD	**N**	**%**
None (< 15)	48	66
Mild-Moderate (15-21)	9	13
Major (> 22)	15	21
Substance Use	**N**	**%**
Alcohol Use	30	42
Illicit Drug Use	15	21

Provider Adherence Judgment Compared to *HIV/Adhere* Patient Self-Report Adherence (>95%)

Provider	*HIV/Adhere* Adherence			
	30-day adherence		3-day adherence	
Judgment	No	Yes	No	Yes
No	22	**17**	17	**18**
Yes	**16***	17	**10***	27

*Patients for whom provider failed to identify non-adherence.

- Provider judgment of adherence was wrong in 45% (33/72) of cases for 30-day adherence and 39% (28/72) for 3-day adherence.
- Nonadherence was more often missed in patients >50 years (OR 3.4 vs <35; p<0.05), and college graduates (OR 9.0 vs some high school; p<0.05)
- Patients required average of 9.2 minutes to complete *HIV/Adhere* (minimum 3.2, maximum 27.9 minutes)

Tailored adherence counseling messages (N=63)	N	%
Provide encouragement (I am confident that you can learn the skills to mangage your medications)	13	21
Provide resources (Would you like to meet with someone who could help you remember your medications?)	13	21
Empathize with difficulty of adherence (It's hard to remember your pills all the time)	13	21
Review reminder strategies and devices (How do you organize your pills? What do you do to remember to take them?	13	21
Ask about side effects (Are you having symptoms that you think are caused by your medications?)	2	3
Offer palliative measures (e.g., medications, eating patterns)	2	3
Discuss the possibility fo changing the regime (We may need to try a different combination)	2	3
Suggest ways of coping (e.g., reframing side effects, relaxation techniques)	2	3
Normalize the issue (Only you can decide when it feels safe to let other people know that you're positive)	1	2
Empathize with dilemma (Worrying about being found out can take up a lot of energy. Is this true for you?)	1	2
Develop a plan (What can you do to take your pills even when you don't want others to find out you're taking medication?	1	2

Conclusions

- *HIV/Adhere* audio-*CAPI* is accepted, feasible, and clinically useful
- *Patients who are making significant medication errors and who are non-adherent to ARVs can be identified*
- Nonadherence was more often missed by providers in *older, and more educated nonadherent patients*
- Tailored adherence counseling messages and patient reasons for missing doses may help providers communicate with patients about ARVs
- Depression and substance use are often detected using *HIV/Adhere* screening

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