COPRH Con
Colorado Pragmatic Research in Health Conference

Implementation Frameworks and Outcomes

Poster Symposium B
May 25, 2022

Fidelity Observations of Diabetes Shared Medical Appointments for the Invested in Diabetes Pragmatic Trial

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RESEARCH OBJECTIVE

Assess fidelity to the conceptual framework and protocol for the Invested in Diabetes study, a **pragmatic cluster-randomized comparative effectiveness trial** comparing two diabetes shared medical appointments (SMAs) delivery models (Kwan et al 2020).

Compare Standardized (STD) vs Patient-Driven (PTD) diabetes SMAs –

- Same 6-session skills-building curriculum (Targeted Training in Illness Management; TTIM)
- PTD includes multidisciplinary team delivering SMAs (peer mentors and behavioral health providers (BHPs))
- PTD allows patients to select topic order and emphasis

We expected PTD SMAs would show:

- Greater fidelity behavioral health components
- Less overall fidelity to protocol
- Increased autonomy and relatedness needs support as defined by **self-determination theory** (SDT; Ryan & Deci, 2000)
- Increased patient attendance

METHODS

Trained observers used a structured guide to evaluate ~8% of randomly selected SMA sessions, observed in-person or virtually, depending on session format (pre- and post-Covid-19). Attendance sheets were maintained by practices.

Structured fidelity observation guide:

- Session number and duration
- Patients and facilitators in attendance
- TTIM curriculum content covered
- # of patients completing prescribing provider visits
- Group facilitation style and skills (5-point bipolar scale)
  - Following the TTIM **script** verbatim vs paraphrasing
  - **Balance** of didactic vs group discussion
  - Demonstration of effective group facilitation **techniques**
  - Demonstration of SDT psychological needs support: **autonomy, competence, relatedness**

Practice attendance sheets

- Patient attendance records
- Staff personnel scheduled

Analysis:

- Descriptive statistics to assess fidelity elements, retention rates, and ratings
- T-tests to compare differences between PTD and STD

RESULTS

Table 1: Select Fidelity Observation and Attendance Data

	PTD	STD	P-diff
Fidelity Observation Data	N=30	N=38	
N(%) of classes observed with all topics covered	26 (87%)	32 (84%)	0.78
Mean (SD) time spent on observed session (out of 120min)	94 (24)	81 (21)	0.45
N(%) observed sessions with peer mentor present (PTD only)	16 (53%)	1 (2%)	--
Attendance Data			
	N=75	N=72	
N(%) peer mentor assigned to cohort (PTD only)	71 (95%)	0	--
N (%) BHP assigned to cohort (PTD only)	60 (80%)	0	--
N(%) evidence of topic selection present (PTD only)	57 (76%)	0	--
Average #(SD) sessions patients attended (out of 6)	3.90 (1.76)	3.96 (1.80)	0.58

Table 2. Ratings of diabetes SMA facilitation style overall and by study arm

	PTD arm M (STD)	**STD** arm M (STD)	P-diff
Script*	2.71 (0.81)	3.02 (1.01)	0.19
Balance†	2.86 (0.59)	2.61 (0.72)	0.16
Techniques‡	3.75 (1.08)	3.95 (1.05)	0.46

Table 3. Ratings of SDT needs supportiveness overall and by study arm

	PTD arm M (STD)	**STD** arm M (STD)	P-diff
Autonomy‡	4.18 (1.06)	4.41 (0.98)	0.38
Competence‡	4.57 (0.57)	4.51 (0.61)	0.70
Relatedness‡	4.52 (0.80)	4.64 (0.80)	0.56

*1=verbatim; 5=paraphrasing †1=didactic; 5=group discussion ‡1=low support; 5=high support

POPULATION STUDIED

Participating practices: 22 primary care sites (12 federally qualified health centers, 10 family and internal medicine commercial payer practices) with integrated behavioral health serving patients with Type II diabetes (20 sites included in this analysis).

PRINCIPAL FINDINGS

The distinguishing features of the PTD model (e.g., presence of peer mentor and BHP, topic selection) were inconsistently present, specifically peer mentor presence, suggesting challenges in maintaining fidelity to the PTD approach.

Existing primary care personnel delivered diabetes SMAs using a skills-building curriculum demonstrated excellent support for psychological needs for autonomy, competence, and relatedness – with little observed difference in facilitation style or needs support between SMA delivery models.

Attendance to classes was the same between conditions, indicating equal amount of patient engagement.

ACKNOWLEDGEMENTS

Research reported in this poster was funded through a Patient-Centered Outcomes Research Institute (PCORI) Award (IHS-1609-36322). The views, statements, and opinions presented in this work are solely the responsibility of the authors and do not necessarily represent the views of the Patient-Centered Outcomes Research Institute (PCORI), its Board of Governors or Methodology Committee.

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Qualitative Evaluation of Real-Time Provider Free-Text Responses to Interruptive Clinical Decision Support (CDS) for Opioid Prescribing

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WHAT WE LEARNED

The inclusion of a free text box on CDS can be used to identify areas for improvement in dissemination and user-education needs.

BACKGROUND

- Interruptive electronic health record (EHR) clinical decision support (CDS) alerts hold potential as an implemented strategy to support delivery of evidence-based practices.
- CDS dissemination and implementation can be challenging and resource intensive
- Collecting user feedback on CDS might inform iterative changes in implementation strategy

OBJECTIVES

- To evaluate user free-text responses in a new CDS to increase the use of the prescription drug monitoring program (PDMP) across an integrated health care system.

METHODS

- **Setting:** UCHealth system >500k ED visits, >130k admissions and >3.5m outpatient visits/year
  - Academic, community, urban/suburban/rural
- **Participants:** Healthcare providers randomized to one of three types of CDS alerts.
  1. Mandated: CDS fires for all controlled medication prescriptions, no risk criteria
  2. PDMP: CDS fires for high risk PDMP criteria
  3. PDMP + EHR: CDS fires for PDMP and/or EHR high risk criteria
- **Data:** User typed responses in a comment box embedded in a new CDS alert during the process of controlled medication prescribing (figure 1) were collected and thematically analyzed looking for common trends and patterns in responses.
  - Percentages of responses falling into identified themes based on implications for CDS.
- **Education/dissemination:** Disseminated via email and in-person meetings prior to deployment
  - Ongoing Outreach via email or EHR messaging for providers with >=8 bypasses AND <80% PDMP link utilization or providers with 3 or more alerts firing during a single patient encounter.
- CDS alerts comments between 1/19/21 and 10/24/21 were examined

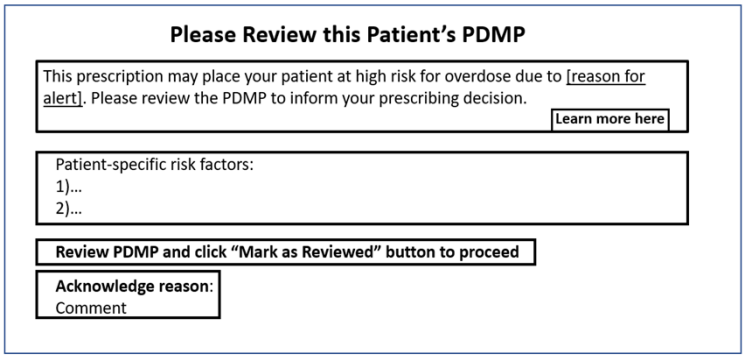

Fig 1. CDS Alert Message

RESULTS

- 1,893 unique providers saw a total of 54,516 alerts while treating 34,368 unique patients.
- 72% of alerts resulted in the desired action, checking the PDMP.
- The alert was bypassed 28% of the time, resulting in 15,461 entered comments. Utilization of the comment bypass reduced over the observation period.
- Written responses when the alert is bypassed: 83.9% were actual responses 16.1% were indiscernible strings of letters/numbers/spaces.
- Percentages of bypass response categories are fairly consistent across the three types of CDS alert.
- Response Categories:
  - **Accept Responsibility (58.7%)** explanations for the prescription, indications that the prescription is being changed, or will be checking the PDMP.
  - **Alert Functionality (35.4%)** providers indicate that they have already completed the suggested PDMP check or raise a concerns about CDS functionality.
    - In this category ~ 98% indicated they had completed the suggested PDMP check, 1% indicated frustration with CDS operation,1% disagreed a PDMP check is necessary
  - **Error (0.9%)** providers stated a mistake was made or there was a technical error preventing a PDMP check.
  - **Unknown (5.0%)** comments were given without sufficient context to understand the intent, such as none, meds, other, or PDMP.

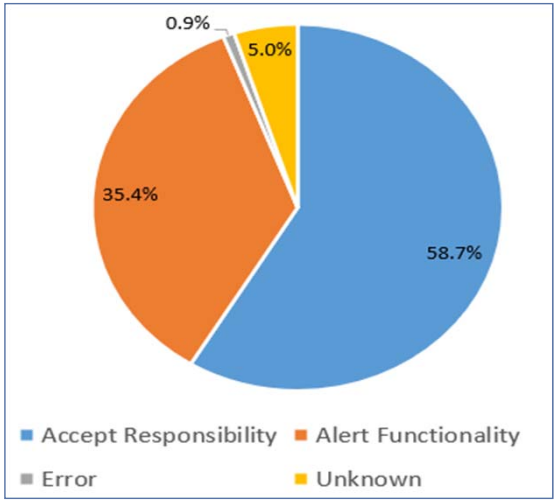

Fig 2. Response Categories (n=12,974)

LIMITATIONS

- We did not target providers for additional education based on their CDS comments. It is unknown if behavior change would result from this targeting.
- Single healthcare system and CDS alert that may not be generalizable to other systems.
- CDS alert was a homegrown alert specific for the local EHR

CONCLUSIONS

- Providers give thoughtful answers to CDS alerts when given the opportunity, CDS comment boxes can identify challenges for late-adopters.
- Utilization of a textbox during pragmatic CDS rollouts can provide additional opportunities to improve CDS to promote evidence-based practices.
- Monitoring real-time feedback on the CDS could:
  - Identify providers struggling to understand CDS purpose or navigate the CDS
  - Identify and inform changes that may be needed in CDS to better support providers in their workflow.

Grant support by: BJA Grant No. 2019-PM-BX-0008, ONC Advancing PDMP-EHR Integration

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Applying the CFIR Model to a Sexual Assault Prevention Program for High School Students

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BACKGROUND

- Sexual assault is a serious concern for youth.
- 56% of females and 48% of males in high school reported experiencing some form of unwanted sexual advances by a peer (Hill & Kearl, 2011).
- "Your Voice, Your View" (YVYV) is a sexual violence prevention program based in bystander intervention.
- The program was implemented in 26 Rhode Island high schools in the context of a CDC-funded research study.
- The purpose of this study was to apply the Consolidated Framework for Implementation Research (CFIR) to examine the context of program implementation across schools.

METHODS

Eight stakeholder interviews were conducted. Interview were analyzed in NVivo using the CFIR model (Damschroder et al, 2011).

The CFIR model uses five major constructs, with 26 subconstructs and 13 smaller nodes nested within.

Kappa statistics were utilized to determine consensus between coders.

Consolidated Framework for Implementation Research

Inner Setting

Outer Setting

Intervention Characteristics

Process

Characteristics of Individuals

RESULTS

Inner Setting

FACILITATORS
- Positive comments referencing compatibility consisted of 57% of the Inner Setting construct.

BARRIERS
- Of the references to networks and communication, 33% mentioned experiencing difficulties between school and intervention staff.

Outer Setting

FACILITATORS
- Patient needs and barriers outlined the call for sexual violence intervention programs in high schools (63%) to address rise in cases and lack of programming built into curriculum.

Intervention Characteristics

FACILITATORS
- Of the references to design quality and packaging, 88% were positive reactions to the content and materials.

BARRIERS
- Complexity of the program was mentioned in 18% of references to intervention characteristics.

Process

FACILITATORS
- Reflecting and evaluating reported positive aspects of the program, such as student engagement and program design.

BARRIERS
- Limitations highlighted in reflecting and evaluating included poor communication and lack of available resources during implementation.

Characteristics of Individuals

FACILITATORS
- Knowledge and beliefs (73%) of the program revealed active participation from students and instilling buy-in from staff.

BARRIERS
- 80% of references to self-efficacy reported confusion with instruction and communication between staff.

QUOTES

"Teachers, the advisors reported that the students were engaged. The students reported that they were engaged and liked the program, they asked when you were coming back!...I understood that there was overall active participation from the students, the teachers being present helps with that..."

"So we had done a lot of work as a social work team throughout all the buildings about dating violence...which was really interesting because we had just done our piece on dating violence and then they were hearing it from Your Voice Your View."

IMPLICATIONS

- Why use the CFIR model as a framework for analyzing interventions?
  - Using the CFIR model as an analytical tool can reveal areas of improvement, as well as advantageous factors within interventions.
- What did this model teach us about proper implementation of sexual violence prevention programs in high school settings?
  - Communication is key in the successful implementation of year-long interventions.
  - Using this model also provided insight into how to expand this programming to other ages/demographics.

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Measuring Use of the Joint Patient Safety Reporting System for Patient Safety at the VA: Perspectives from the Field

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RESEARCH OBJECTIVE:

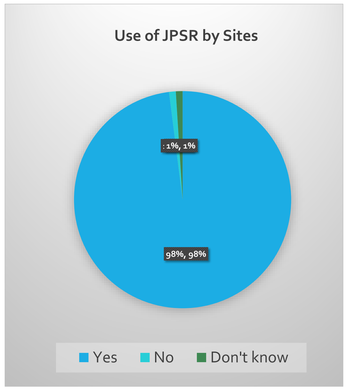
- The focus of the Department of Veteran Affairs' (VA) Center for Inpatient Medication Safety (CIMS) is to reduce medication errors for hospitalized Veterans.
- For the VA and the Defense Health Agency, the Joint Patient Safety Reporting (JPSR) system standardizes event capture and data management of medical errors and near misses.
- In collaboration with the VA Office of Pharmacy Benefits Management Services (PBM) and the VA National Center for Patient Safety (NCPS), we are interested in understanding how pharmacists use JPSR in the Pharmacy Service at their sites to monitor, track and report medication error related adverse events as well as close calls.

STUDY DESIGN:

- Pharmacists at all the VA sites..

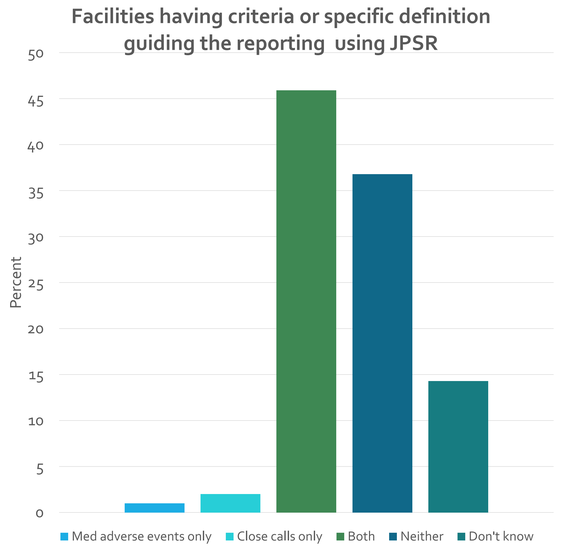
POPULATION STUDIED:

- In November 2021, jointly CIMS and PBM conducted a web-based survey.
- VISN (Regional) Pharmacy Executives at 18 VISNs were emailed a survey weblink to forward to the Chiefs of Pharmacy at all the sites within their own VISN who, in turn, identified a pharmacist with knowledge of the JPSR system at their site to complete the survey.
- The goal of the survey was to understand how pharmacists perceived the use of JPSR to report medication adverse events and/or close calls.
- Survey response rate was 67.12% (N=98).



PRINCIPAL FINDINGS:

- Majority of the respondents (pharmacists) self-reported their primary role as Pharmacy Manager (49.5%), Patient/Medication Safety Pharmacist (21.6%), Clinical Pharmacy Specialist (8.2%), Chief of Pharmacy (6.2%), Quality Management Pharmacist (3.1%), Staff Pharmacist (2.1%), and Pharmacoeconomist (2.1%). Remaining pharmacists (7.2%) identified themselves singularly (1.0%) in each of the remaining 7 primary roles.



How often JPSR reports are viewed by the following	
Patient Safety Managers/Officers	18.4%
Pharmacy Managers	13.8%
Pharmacy and Therapeutics Committees	12.5%
Chiefs of Pharmacy	11.5%
Patient Safety Committees	10.6%
Medication Safety Pharmacists/Officers	9.8%
Medication Safety Committees	9.3%

CONCLUSIONS: Pharmacists perceive the JPSR system as valuable and useful to report medication error related adverse events and/or close calls to manage medication safety for Veterans.

FUNDING: This quality improvement initiative is supported by the US Department of Veterans Affairs QUERI Program.

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Formative Evaluation of VA Adverse Drug Event Reporting System for Next Steps to Improve Patient Safety

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RESEARCH OBJECTIVE

- The Department of Veteran Affairs (VA) has developed the VA Adverse Drug Event Reporting System (VA ADERS) an integrated web-based application available in all VA facilities.
- The VA ADERS provides a standardized method for VAs to report and review adverse drug events.
- The VA Medication Safety (MedSafe) QUERI Program, in collaboration with the VA Office of Pharmacy Benefits Management Services (PBM) is interested in understanding how pharmacists at VA sites use VA ADERS with a focus on adverse drug events related to intended or unintended use of medications.

STUDY DESIGN

- Pharmacists at all the VA sites.

POPULATION STUDIED

- In November 2021, the MedSafe QUERI Program and PBM jointly conducted a web-based survey. VISN (Regional) Pharmacy Executives at 18 VISNs were emailed a survey weblink to forward to the Chiefs of Pharmacy at all the sites within their own VISN who, in turn, identified a site pharmacist having experience with VA ADERS to complete the survey.
- The goal was to understand how VA sites are currently using VA ADERS to report adverse drug events. Survey response rate was 67.1% (N=98).

FUNDING: This quality improvement initiative is supported by the US Department of Veterans Affairs QUERI Program.

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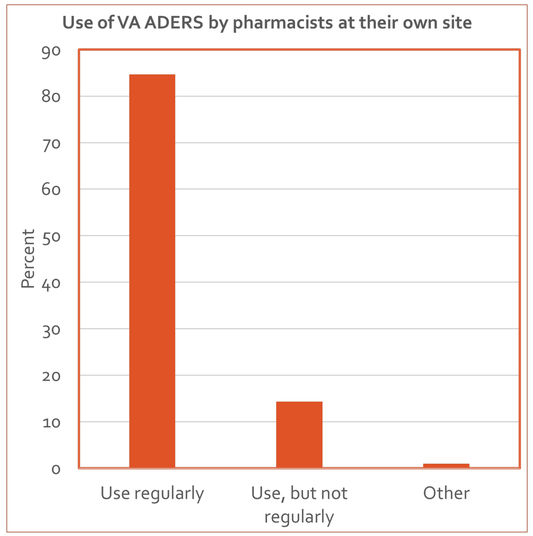
PRINCIPAL FINDINGS

- The majority of respondents (pharmacists) reported their primary role as Pharmacy Manager (32.0%), Patient/Medication Safety Pharmacist (20.6%), Clinical Pharmacy Specialist (17.5%), Pharmacoeconomist (7.2%), Chief Of Pharmacy (6.1%), Clinical Specialty Pharmacist (5.2%) and Staff Pharmacist (3.1%).
- The remaining pharmacists (8.2%) identified themselves singularly (1.0%) in each of the remaining 8 primary roles.

Three most common ways regarding the timeliness of reporting and review of adverse drug events (ADEs) in VA ADERS
1. **Reported as soon as possible (25.2%).**
2. **Collected and reported by assigned staff once a month (24.4%).**
3. **Reporting was a combination based on staff reporting and draft created from the Allergy/Adverse Reaction Tracking System (ARTS) reports (20.0%).**



Most commonly employed strategies for reporting ADEs in VA ADERS at each site were:
- **One person coordinating report entry, but multiple staff enter reports (30.3%).**
- **One person primarily responsible for entering reports (20.0%).**
- **Residents do the reporting (27.7%).**

Pharmacists reported sharing local safety issues identified in VA ADERS:
- **With others within their own site (50.0%)**
- **Within Pharmacy Service at their own site (34.7%)**
- **Within their own VISN (13.1%)**
- **Outside their own VISN (2.3%).**

CONCLUSIONS

VA ADERS is perceived by pharmacists as a valuable system for their sites to report adverse drug events and to share local safety issues for patient safety.