Preventing Adverse Drug Events Corinne Hohl

Priority Goals:

Prevent ADEs

Improve ADE

treatment

identification and

Long Term Goals:

provincial ADE

Develop Canada's 1st

surveillance program

• Integrate ActionADE

with PharmaNet to im-

prove ADE reporting

Situation:

Medications to prevent and treat illnesses are used more and more frequently. As a result, adverse drug events (ADEs), their unintended and harmful events, have become common, and affect primary seniors with complex comorbidity and those with mental health and additions.

ADEs cause over 275,000 emergency department (ED) visits and 80,000 admissions in BC annually. Yet, 70% could be avoided.

Vision:

To reduce adverse drugs events using novel information technology and evidence-based interventions.

Stakeholders:

- UBC DEM
- Ministry of Health
- Health Authorities
- BC SUPPORT Unit
- CIHR
- MSFHR
- College of Pharmacists

British Columbia

- ISMP Canada
- Canada Health Infoway
- Connected Displays Inc.
- BC PSQC

Inputs

Activities

- Principal Investigator
- Research coordinator
- Research assistants
- Trainees

Personnel

Grant Funds

- CIHR grant funding
- MoH & VCHA support
- MSHFR HPI support

Partnerships

- Connected Displays
- Ministry of Health
- VCHA
- College of Pharmacists
- Accreditation Canada

Technologies

- PharmaNet
- Cerner

Patient Partners

3 patient partners

Epidemiological studies to identify risk factors for ADEs and develop targets for intervention

ADE Clinical Decision Rule Studies to help clinicians identify high-risk patients, stan-dardize referrals to clini-cal pharmacists, and reduce missed ADEs

Qualitative research

identifying barriers to ADE reporting, and iteratively refine and pilot test ActionADE to facilitate ADE reporting and information sharing

RTC to determine the clinical and cost effectiveness of implementing Action-ADE in hospitals, and integrate ActionADE with PharmaNet and other health IT systems

Outputs

Publications

Presentations, Workshops, KT Materials

- Plain language summaries
- Briefing notes
- Training materials

Clinical Tools

- Automated ADE Clinical Decision Rule
- ActionADE software, an electronic ADE documentation & communication platform that can be integrated with PharmaNet and electronic medical record (EMRs) provincially
- Integrated KT through clinician engagement in research process
- Stakeholder engagement through shared decision making through our Steering Committee and subcommittees
- Implementation studies
- Participation in provincial and health authority safety committees

Outcomes

Long Term (2-3yrs)

Anticipated Impact

Increased awareness among physicians, pharmacists, nurses and stakeholder organizations

Short Term (<1 yr)

Validated ADE Rule disseminated and integrated into clinical practice by nurses in BC EDs to identify high-risk patients

Increased awareness of risk factors to derive automated ADE Rule, saving nursing time & standardizing ADE screening across BC

Increased awareness of barriers to ADE documentation and reporting reflected in ActionADE's design to ensure end-user uptake

Implementation of automated ADE **Rule** to identify high-risk patients,

and standardize referrals to clinical pharmacists to improve ADE recognition and treatment

Pilot implementation of ActionADE at

VCH to reduce re-exposures to culprit medications, prevent repeat ADEs and enable hospitals to meet federal ADE reporting standards (Vanessa's Law).

ActionADE's implementation will generate new high-quality data on ADEs that we will use to develop a provincial ADE surveillance program and for drug safety

research

Improved identification of patients at high-risk of ADEs

Standardized patient referrals to clinical pharmacists

Fewer misdiagnosed **ADEs**

Fewer unintentional re-exposures to

Fewer repeat ADEs

culprit medications

Fewer ADE related admissions

Fewer ADE-related **ED** visits

Reduced health care costs

Assumptions and External Factors

Front-line care providers are motivated to adopt clinical practice changes that are integrated into their work flows, and improve patient safety. By engaging with diverse stakeholder groups (e.g., physicians, pharmacists, nurses) in the design of the interventions we develop, we integrate knowledge translation (KT) into the research process and enhance the feasibility and adoption of the interventions we develop. The scope of ActionADE's planned provincial implementation will depend on its clinical and cost effectiveness.

Significant Challenges:

ActionADE's evaluation will proceed using a minimum viable product which may not fully reflect its capability. Lack of project management funding within the ActionADE team puts the software's implementation at VCH at risk.