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ASSESSING CLINICAL, ECONOMIC AND QUALITY OUTCOMES FOR CRITICALLY ILL PATIENTS

Safe Medication Use:

Medication Error & Adverse Drug Event (ADE) Prevention

Pharmacovigilance & Large Databases:

Medication Error & Adverse Drug Event (ADE) Detection

Drug Related Kidney Diseases and Disorders

Implementation Science & Medication Safety to Ensure Adoption of Evidence Based Guidelines



SAFE MEDICATION USE: PREVENTION

- Coined term drug related hazardous condition (DRHC) - the steps before an adverse drug reaction results in injury
 - DRHC definition: “*deviations in biochemical, physiologic, or clinical status caused by medications, portending further injury*” *J Trauma* 2005; 59:1457-1462.
- Received AHRQ grant funding to transform the medication regimen review process with the incorporation clinical decision support and telemedicine to provide patient-centered communication. R18HS02420
 - There was an increase in pharmacist’s interventions and reduction in the incidence of post-admission, alert-specific adverse drug vents compared to usual care.
 - Kane-Gill SL et al. *J Am Geriatric Soc* 2021;69: 530-538.





PHARMACOVIGILANCE AND LARGE DATABASES: DETECTION

- Understanding systematic causes of medication errors and ADEs allows for future prevention strategies
- Used clinical decision support to detect adverse events for better management
- Conducted post-marketing surveillance using the FDA ADE reporting system containing millions of medication reported events
- Several publications using this large databases for signal detection

DRUG RELATED KIDNEY DISEASES AND DISORDERS

- Secured NIDDK grant funding to support research:
 - The Pittsburgh Scientific and Data Research Center for the **Caring for Outpatients after Acute Kidney Injury (COPE-AKI) Consortium** – Pitt-SDRC U01DK130010
 - **Multicenter Implementation of an Electronic Decision Support System for Drug-Associated AKI (MEnD-AKI)** R01DK121730
- Developed a **classification framework** for drug related kidney injury. *Crit Care*. 2023;27:435. PMID: 37946280.
- Used **novel biomarkers** for early detection of possible drug associated AKI events. *Am J Health Syst Pharm* 2023 Mar 21;80:423-429.
- Provided the context and definition for **nephrotoxin stewardship**. *Crit Care Clin* 2021;37:303-320.
- One of four pharmacists to join the ADQI group
- Member of the Kidney Disease Improving Global Outcomes (KDIGO) group developing international AKI guidelines (2023-2025)



IMPLEMENTATION SCIENCE AND MEDICATION SAFETY TO ENSURE ADOPTION OF EVIDENCE BASED GUIDELINES

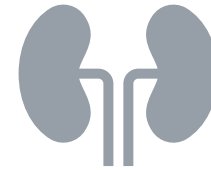


Advancing medication safety in clinical practice means using implementation science to ensure best practices resulting in optimal patient care and patient safety.



We **developed** (BEAR – BEHavior and Acceptance fRamework) that bridges the gap between behavioral change and technology acceptance aspects of the implementation of clinical decision support

J Med Internet Res 2020 22:e18388



I **developed** a theory-informed behavior change intervention to overcome the barriers to appropriate management of medications in patients with kidney disease.

Ann Pharmacother 2021;55:1474-1485.