Pharmacists Impact *C. diff* Infection Rates Using AI Predictive Surveillance

Wolters Kluwer

CLOSTRIDIOIDES DIFFICILE *(C. DIFF)* INFECTIONS ARE A PROBLEM IN YOUR HOSPITAL

About **500,000** ***C. diff*** **infections** each year are responsible for **29,000 deaths**

C. diff is responsible for **$4.8 billion** in **costs** each year

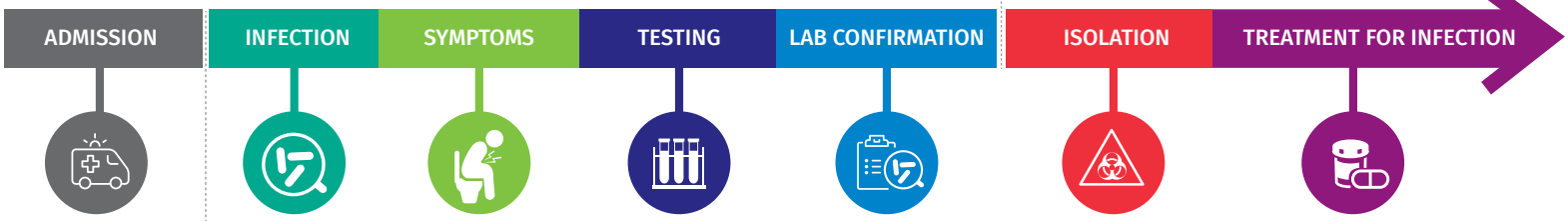
786 hospitals have been **penalized** under the HAC reduction program in 2020, and ***C. diff*** is a leading culprit

PREDICT AT-RISK PATIENTS SOONER TO IMPROVE PREVENTION AND TREATMENT

BEFORE AI: Patients at high risk of *C. diff* infection (CDI) are difficult to detect, and patients with CDI can go undetected by clinicians until days later.

CURRENT PRACTICE:
REACTIVE Patient Management

Timeline of *C. diff* Infection



PREDICTIVE SURVEILLANCE:
PROACTIVE

TODAY, WITH AI: Having a CDI Risk Score as a factor in assessing a patient's risk for *C. diff* will direct clinicians to begin the appropriate care for the patient, and the appropriate protection for staff and families, as soon as possible.

Target Modifiable Risk Factors

- PPI—proton pump inhibitors
- High-risk antimicrobials
- Laxative use

Negative Impacts of Hospital-Acquired CDI:

FOR PATIENTS:

- Longer lengths of stay
- Higher mortality
- Higher readmission rates
- Higher total cost of care

AND HOSPITALS FACE POTENTIAL FINANCIAL PENALTIES AND PRESSURES:

- Hospital-Acquired Condition Reduction Program
- Value-Based Purchasing Measures

ARTIFICIAL INTELLIGENCE—A GAME CHANGER FOR TARGETING *C. DIFFICILE* INFECTIONS IN HOSPITALS

An AI model that works requires clinical expertise (AMS pharmacists, epidemiologists and physicians) and data science innovation to identify and validate key patient variables (labs, vitals, dosage, duration, etc.).

AI has the power to continually assess a range of interactions between key variables to come up with a more precise CDI Risk Score that updates in real time as a patient status changes during hospitalization.

Once scores are calculated and high-risk patients are prioritized, clinicians receive evidence-based recommendations to begin treating those high-risk patients.