The need for predictive analytic governance

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Ensuring predictive analytics coordination and integration

Key stakeholders:

- Hospital Executive Leadership
- Regional Directors
  - Hospital Operations
  - Hospital Quality
  - Hospital Performance
- KP HealthConnect Leadership
- Internal Analytics Consulting
- Division of Research

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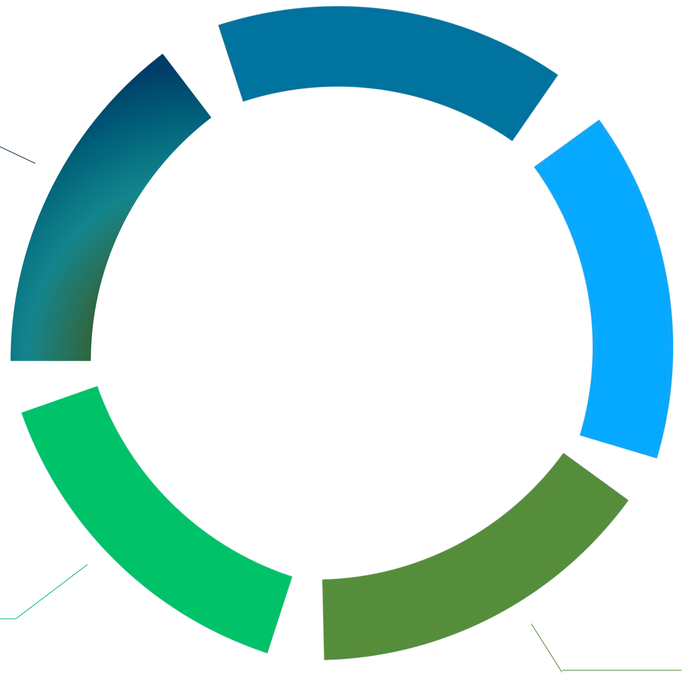
The lifecycle of a predictive model



Assessment
Landscape survey
Buy versus build

Development
Technical implementation
Calibration/customization
Internal validation

Deployment
Playbook development
Workflow alignment
End-user interface

Evaluation
Outcomes assessment
Balancing measures
Model maintenance

Prioritization
High-value targets
Modifiable outcomes

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Case example: Advance Alert Monitor

A predictive model to reduce adverse hospital outcomes

Meet Roger…

- 60 years old, with diabetes and COPD
- ED Chief Complaint: Confusion, Back Pain

- Temp 101º
- Lactate: 2.7

- Repeat lactate normalized
- Admitted to telemetry with disorientation, otherwise stable.

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Roger's Hospital Course – 4 years ago

- Overnight: Roger is "stable" on telemetry
- 8 am: Unchanged from yesterday?
- 3 pm: Code Blue called to Roger's hospital room
  - CPR in progress
  - Cathy, Roger's wife, is at the bedside
  - Roger's goals of care are quickly discussed during CPR
- 3:47 pm: CPR continues until Roger is pronounced dead

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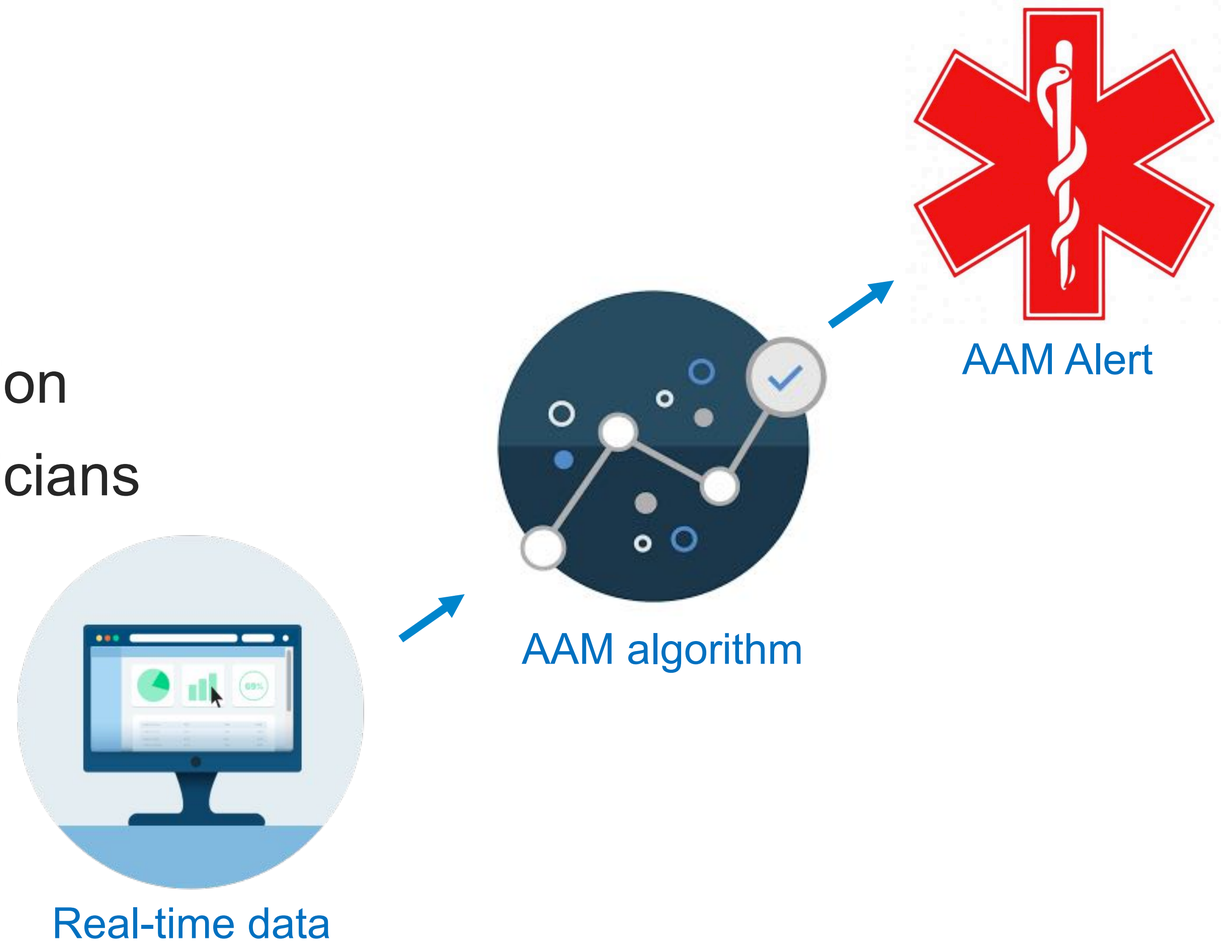
Principles guiding the development of Advanced Alert Monitor

Patient-centered and clinician-aligned prioritization

Principles for AAM development:

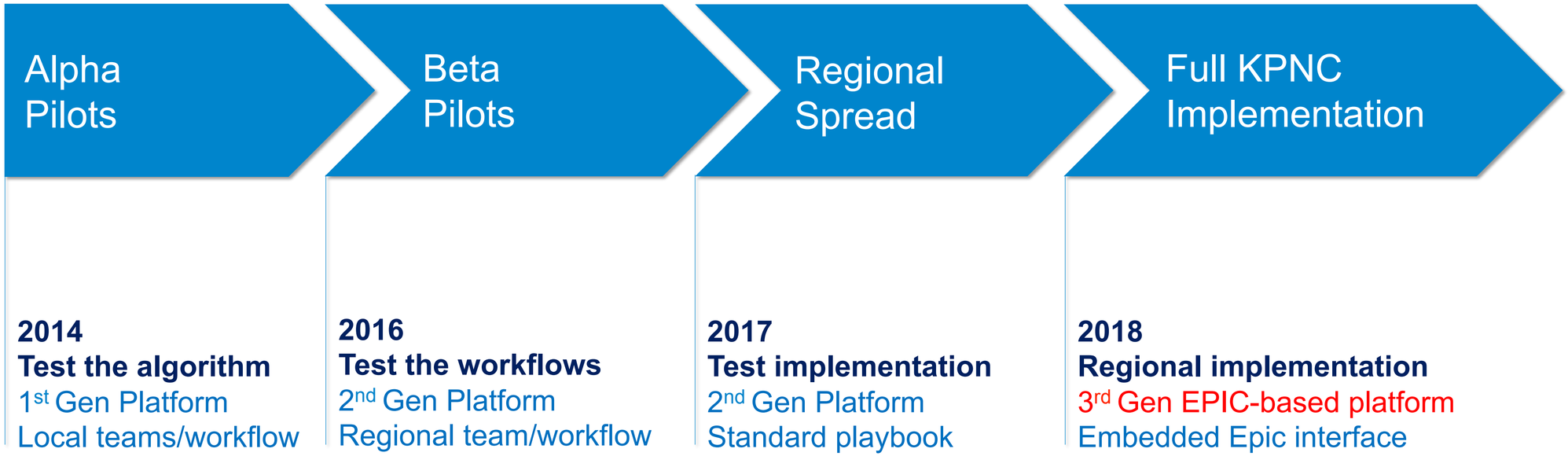
1. Identify the highest-risk inpatients
2. Respect patients' goals of care
3. Give clinicians enough time for action
4. Minimize false alarms for busy clinicians



ADVANCE ALERT Monitor

Overview: Path to Implementation of AAM across 21 KPNC hospitals

Building a clinical program by redesigning workflows, teams, and technology



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