

IMPROVE PATIENT CARE

with health care data, AI and machine learning

You are inundated with data from inside and outside your organization. Putting it to work can help answer complex questions using statistical and data-science oriented tools that query, extract and transform data sets into research-ready formats, build complex models and algorithms, and validate findings.

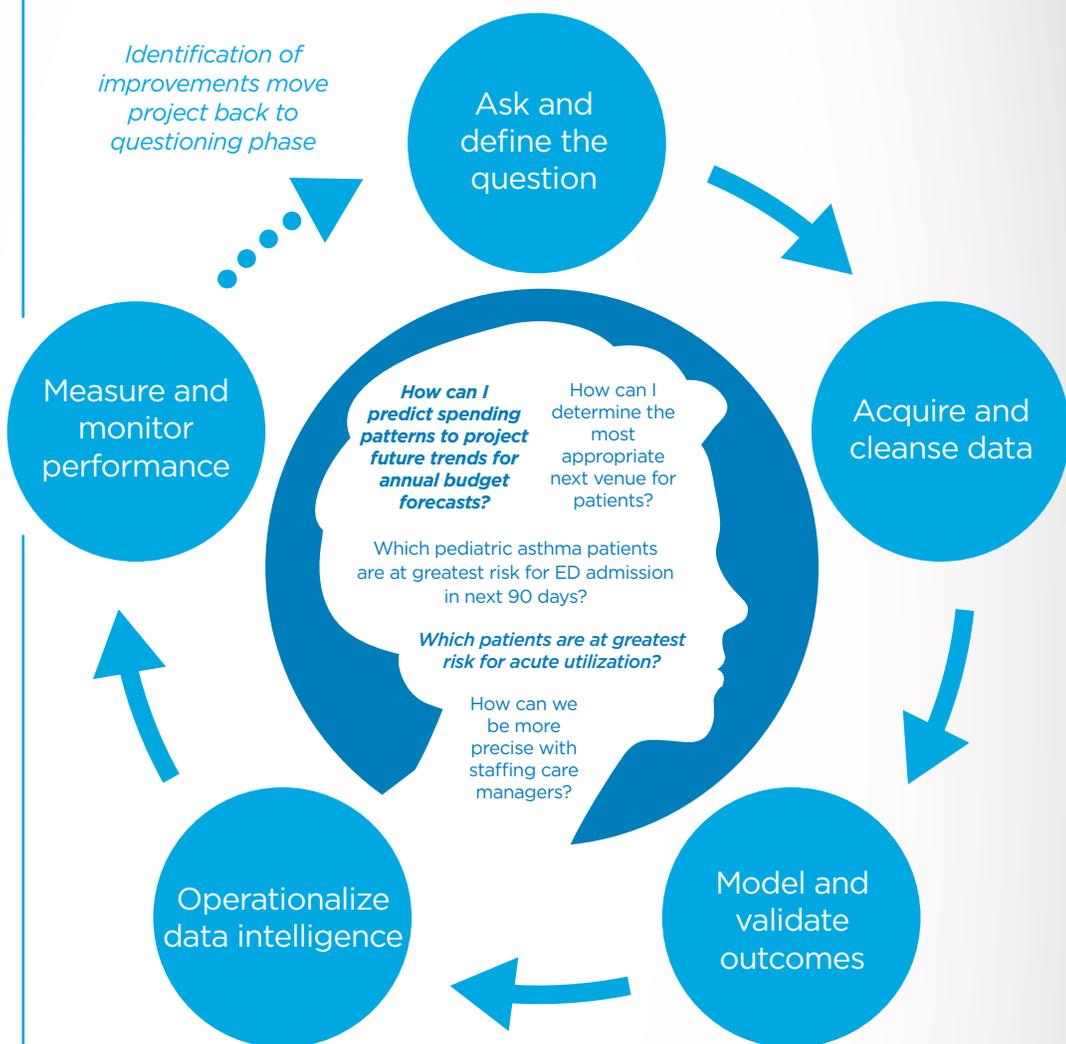
How much?

- **1100 terabytes** of exogenous determinant data is generated by each person during their lifetime¹
- **0.4 terabytes** of medical/clinical determinant data is generated by each person during their lifetime¹
- **6 terabytes** of genetic determinant data is generated by each person during their lifetime¹
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- Cerner manages data for **245M+** **longitudinal records**²

¹Source: The Digitalization of Healthcare: New Challenges and Opportunities by Loick Menvielle, Anne-Françoise Audrain-Pontevia, et al., 2017

²Includes historical lives; information current as of Feb. 2020.

Leveraging these data, the data science lifecycle can help turn complex questions into action.



HealthDataLab™ offers the scalability of Amazon Web Services (AWS) and provides encrypted PHI for confidentiality and compliance of HIPAA privacy regulations. Users can complete data sets, utilize popular toolkits and content libraries, and create custom algorithms to derive actionable insights.

Real-world outcomes



Advocate Aurora Health achieved a **25% reduction in acute encounters** for heart failure patients.³

³ Comparing the 12 encounters for 76 patients who did not receive treatment through the program to 9 encounters for 76 patients who did receive treatment through the program. Measured from April 2017 to January 2018 after implementing HealthDataLab and taking other actions including creating a care management program.



Before implementation of HealthDataLab, CHOC Children's AUC⁴ for 30-day readmission rate stood at **0.79**. After implementation, the AUC rose to **0.82**.

⁴AUC (area under the curve) is a measure used to assess the performance of a predictive model. Good models have an AUC close to one and incremental improvements, even by one-hundredth, is difficult to attain.



• All Client outcomes were achieved in respective settings and are not representative of benefits realized by all clients due to many variables, including solutions scope, client capabilities and business and implementation strategies.