# Introduction and Background

Motivation: The manifesto on Mobilizing Computable Biomedical Knowledge (CBK) highlights the crucial need for leveraging digital technology to improve healthcare outcomes. This presentation aims to explore the potential impact of CBK in addressing health disparities and improving access to quality healthcare worldwide.

Context and Relevance: In an era marked by rapid advancements in science and technology, the healthcare sector stands to benefit significantly from the mobilization of computable biomedical knowledge. By harnessing the power of data-driven decision-making and interoperable knowledge systems, we can revolutionize healthcare delivery, enhance patient outcomes, and promote health equity.

Goals: Through this presentation, we aim to:

* Understand the principles of CBK and its role in transforming healthcare.
* Explore datasets related to healthcare disparities and CBK implementation.
* Visualize key insights from the datasets through interactive charts and maps
* Discuss the potential limitations and implications of CBK in addressing health disparities.

# Datasets

1. Healthcare Disparities Dataset:

* Source: Centers for Disease Control and Prevention (CDC)
* Variables: Demographic data (age, gender, race/ethnicity), healthcare access indicators (insurance coverage, proximity to healthcare facilities), health outcomes (mortality rates, prevalence of chronic diseases).
* size: Thousands of cases, multiple variables.
* Locations: Nationwide coverage, with a focus on underserved communities.
* Purpose: To identify disparities in healthcare access and outcomes among different population groups.
* Limitations: Data may be subject to reporting biases, limited granularity in certain variables.

2. CBK Implementation Dataset:

* Source: OpenCBK Initiative
* Variables: Adoption rates of CBK systems, interoperability standards, healthcare provider engagement.
* Size: Varies depending on the scope of implementation projects.
* Locations: Global coverage, with a focus on healthcare institutions and research organizations.
* Purpose: To track the progress of CBK implementation efforts and assess their impact on healthcare delivery.
* Limitations: Limited availability of standardized metrics for evaluating CBK effectiveness, potential challenges in data integration across diverse healthcare systems.

# Visualizations

1. Bar Chart: Healthcare Disparities by Race/Ethnicity

* Data Source: Healthcare Disparities Dataset
* Variables: Race/ethnicity (categories), healthcare access indicators (variables), percentages.
* Insight: Visualize disparities in healthcare access and outcomes among different racial and ethnic groups.

1. Map: Geographic Distribution of CBK Implementation Projects

* Data Source: CBK Implementation Dataset
* Variables: Location (geographic coordinates), adoption rates (color gradient), healthcare institutions (markers).
* Insight: Identify regions with high CBK adoption and areas requiring further implementation efforts.

1. Line Chart: Trend in CBK Adoption Over Time

* Data Source: CBK Implementation Dataset
* Variables: Time (years), adoption rates (percentage), healthcare sectors (categories).
* Insight: Track the progress of CBK implementation initiatives over time and across different healthcare sectors.

1. Scatter Plot: Relationship Between CBK Adoption and Healthcare Outcomes

* Data Source: CBK Implementation Dataset, Healthcare Disparities Dataset
* Variables: CBK adoption rates (x-axis), health outcomes (y-axis), healthcare facilities (data points).
* Insight: Explore the potential impact of CBK implementation on improving healthcare outcomes and reducing disparities.

Conclusion:

By leveraging the power of CBK, we have the opportunity to revolutionize healthcare delivery and address disparities that have long plagued our healthcare systems. Through data-driven insights and collaborative efforts, we can strive towards a future where every individual has access to quality healthcare, regardless of their background or geographic location.