How to Develop and Implement a Data Governance Program from a Local Public Health Informatics Perspective

MECKLENBURG COUNTY
Public Health Informatics Program

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Session Goals

- Review roadmap for developing and implementing a data governance program

- Introduce data quality during early stages of implementation

- Identify framework for data standardization

- Overcome implementation roadblocks

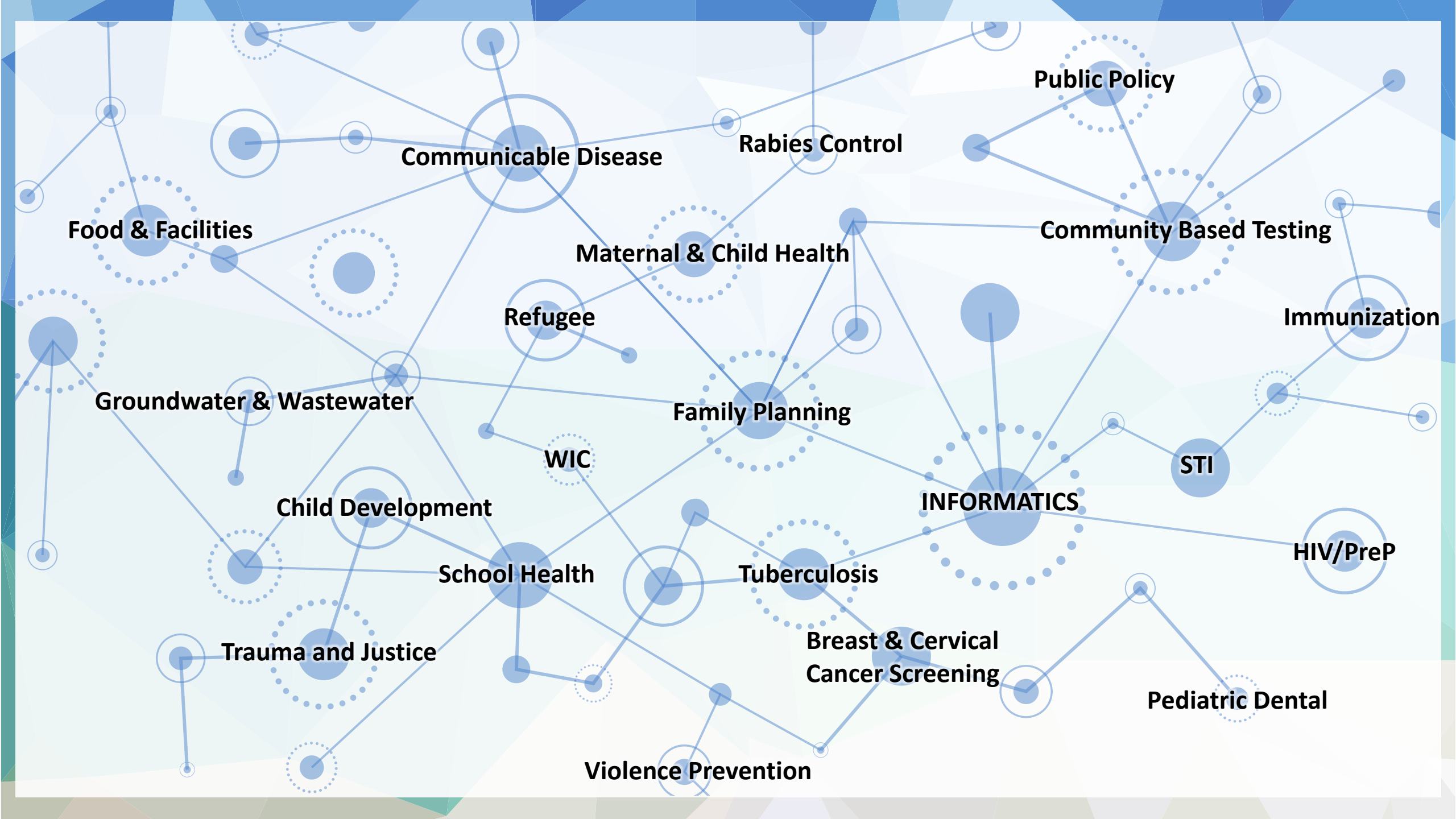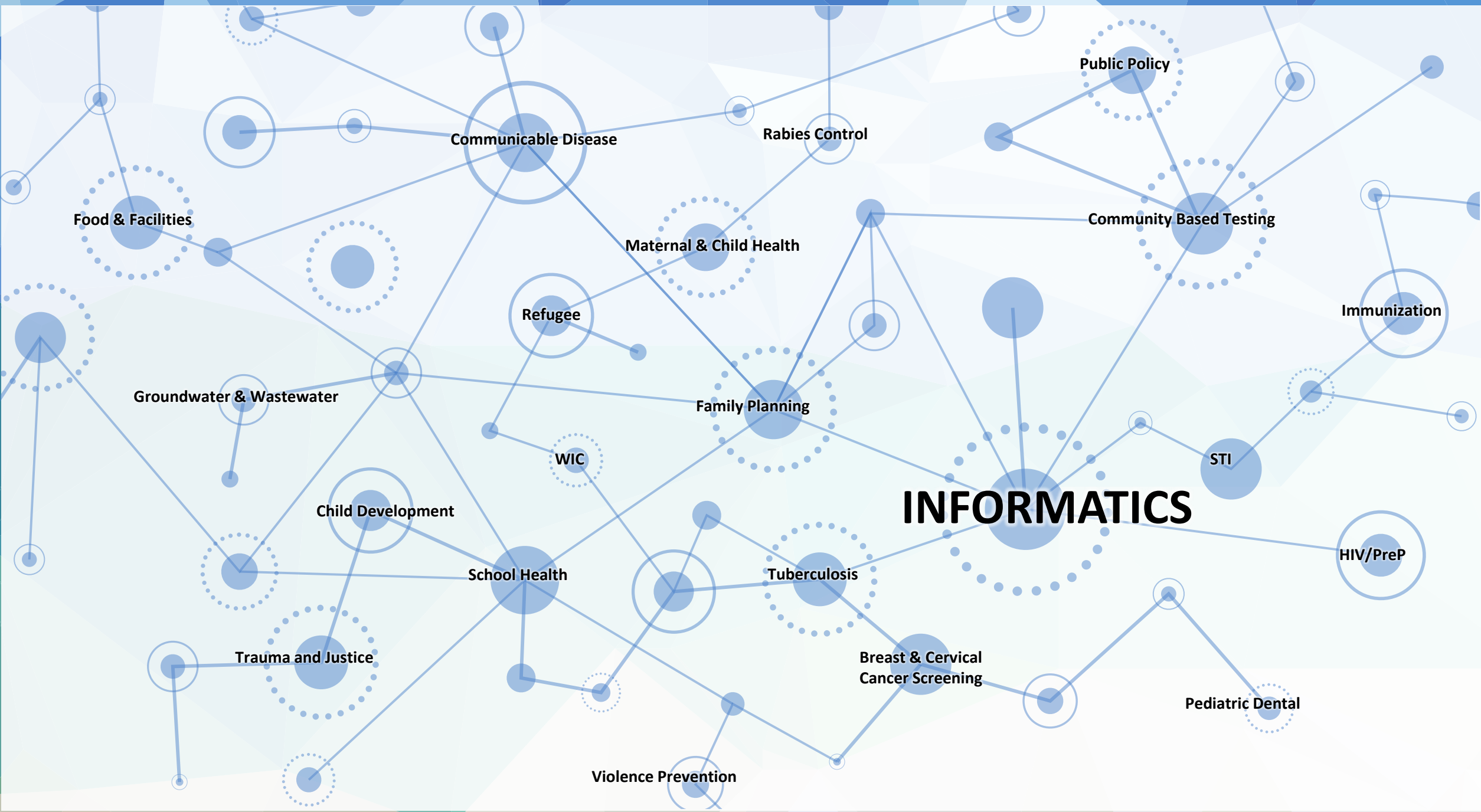- Tools and recommendations for a data governance

- Q&A

About Us

Mecklenburg County Public Health Dept.

- MCPH **located in Charlotte, North Carolina** is one of the four departments that make up the Mecklenburg County Health and Human Services Agency.

- Has a total population of **1,110,356 residents, MCPH employs 1040 employees (FT/PT).**

- Protects the health of county residents by providing range of services such as:
  - Immunizations, HIV/STI Testing and services, and other clinical services
  - Investigating potential cases of infectious diseases
  - Conducting restaurant, lodging, and nursing home inspections
  - Staffing over 150 Charlotte-Mecklenburg Schools with nurses

Data Governance Journey

Data Inventory

Data Reporting

COVID

- Precursor to data governance
- Understanding what we have and what needs to be controlled
- COVID was great learning period for data governance – handling internal data from various sources meshed in with data from state departments and local hospitals
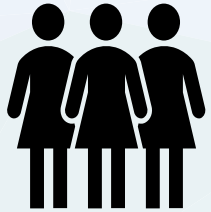
The Importance of High-quality Data In Healthcare

In healthcare, its expected to have the highest quality data…

…because it allows for the best healthcare and service to be provided to patients and clients.
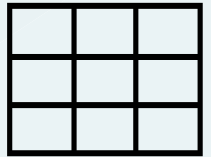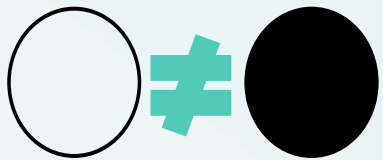
The Ugly Truth of Data Quality

Data is often riddled with various issues and concerns like:

Duplicate patient profiles

Missing data

Lack of data standardization across data assets

31%

*of data stewards across programs indicated that there are **no established data standards or practices** for their respective program.*

How did we develop and implement a data governance program?

Build a Road Map

Technical Infrastructure

Do not buy technology, assess what you have.

Strategic Business Alignment

Get executive buy-in by introducing DG within your Strategic Business Plan.

Data Governance Research

Research, research, and research.

Program Brainstorming

What works for other organizations, may not work for you.

Informational Sessions

Launch data literacy program.

Recruitment

Recruit and engage.

Technical Infrastructure

- Assess your organization's current technical infrastructure and identify any gaps or limitations that need to be addressed to support effective data governance.

- Consider scalability and flexibility of the infrastructure to accommodate future data growth and changing business needs.

- Determine the necessary tools and technologies required for data management, data quality, data security, and data integration.

Strategic Business Alignment

- Establish a clear understanding of the organization's strategic objectives and how data governance aligns with those goals.

- Engage key stakeholders from different business units to gain their support and participation in data governance initiatives.

- Identify the critical business processes and systems that generate or consume data and assess the impact of data governance on those processes.
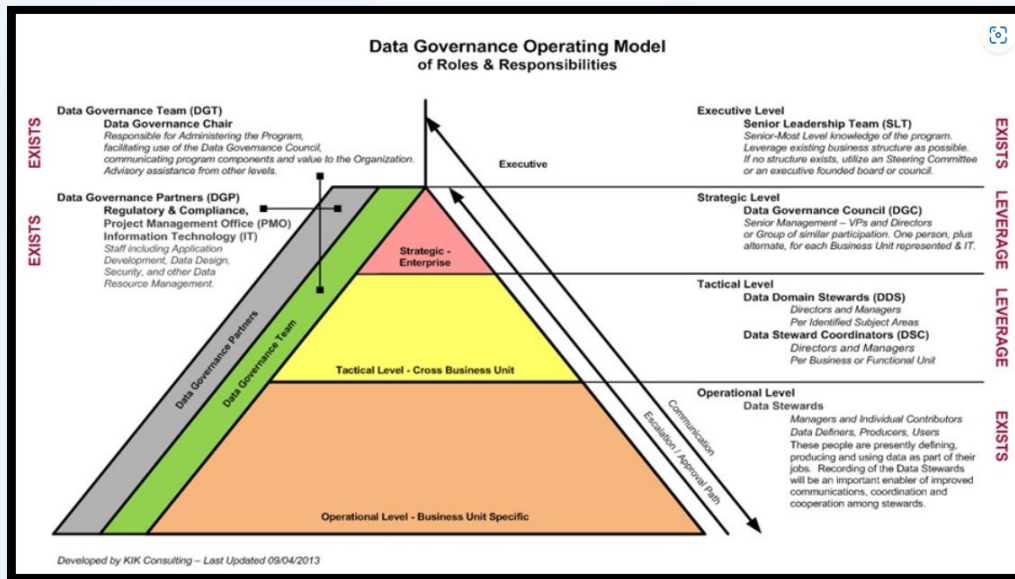
Data Governance Research

- **Performed extensive program and topic research**
  - Built knowledge of data governance, data quality, data standardization, etc.
- Research examples:
  - Researched data standardization for Public Health data elements
    - Elements such as: Patient name, Race/Ethnicity, Gender/Gender Identity/Sexual orientation
  - Collaborated with UNC Charlotte to develop blueprint for data governance/data sharing -> research based
  - Attended the Data Governance & Information Quality conference
    - Helpful Session: Getting Started with Data Governance
  - Attended a variety of webinars
    - Especially webinars with a focus on initial program development and data literacy i.e Dataversity
  - Looked into various data governance tools
    - Started building a data glossary
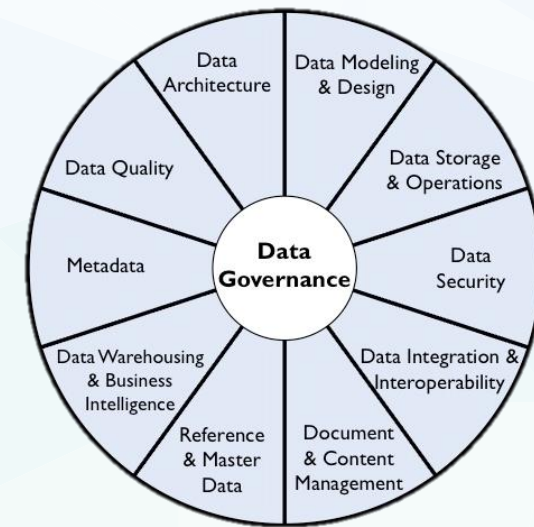
Program Brainstorming

Asked ourselves: How do we develop a data governance program that best fits our organization?

Program Structure Reference: Data Governance Operating Model

- Developed by KIK Consulting

- Provides an elaborate breakdown on all **key roles and responsibilities** and how communication and work should flow

Copyright 2017 DAMA International

Program Framework: The DAMA Wheel

- Developed by The Data Management Association (DAMA) International

- Data management framework that **illustrates how different subjects are interconnected**

- Consists of **11 knowledge areas** and highlights how DG is connected to every data management activity

Developing Our Data Governance Structure

- **Decided to Start Small**
  - Structure will include a governance council and a stewardship program

- **Reason Behind This Decision**
  - Needed to start with the key players first
  - Don't have an overwhelming need for all the roles and responsibilities outlined

- **Advantage of this Approach**
  - Properly dedicate the focus and energy to build out these 2 groups
  - When/If the need arises, can scale up

MECKLENBURG COUNTY PUBLIC HEALTH
Data Governance Council

MECKLENBURG COUNTY PUBLIC HEALTH
Data Stewardship Program

How Our Program Groups Work Together

MECKLENBURG COUNTY PUBLIC HEALTH
Data Stewardship Program

- Discusses and investigates known issues/concerns

- Brainstorms and aligns new/improved data standards, policies, and/or procedures across programs

Brainstormed a list of issues and concerns troubling the various programs

MECKLENBURG COUNTY PUBLIC HEALTH
Data Governance Council

- Reviews proposed recommendations

- Works with our policy committee to implement new data standards, policies, and/or procedures

What They Have in Common:
- Advocate for and promote data governance efforts
- Developing, implementing, and enforcing standardized policies/practices
- Participate in data literacy

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Prioritized the list of issues and concerns

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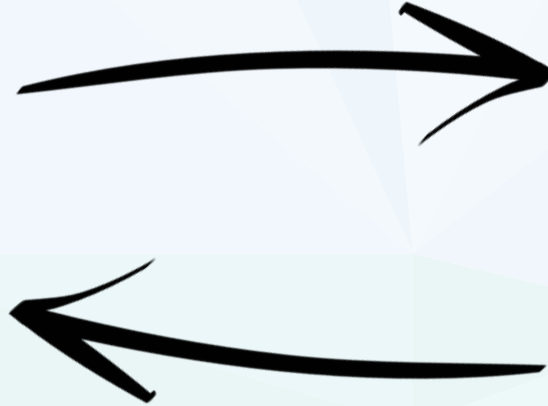- Participate in data literacy

How Our Program Groups Work Together

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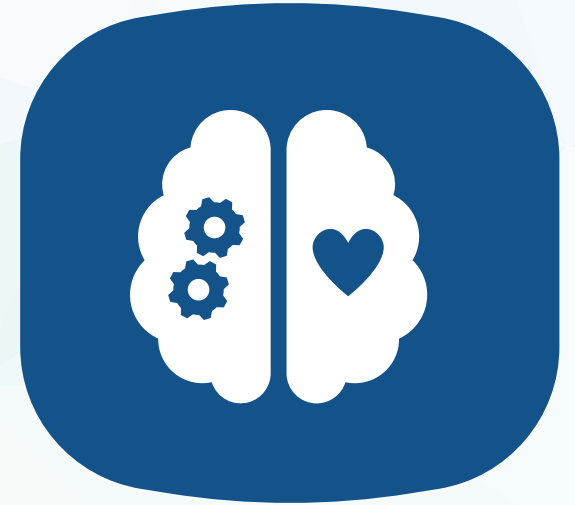## Data Governance Council

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Hosting Series of Information Sessions

- **Purpose:** Create awareness, establish interest and garner buy-in from all levels of leadership and staffing

- **Approach:**
  - Upper leadership -> Middle managers -> Staff

- **Audience-based session materials:**
  - Overview of data governance
  - Reasoning for pursuing to est. data governance
  - Relevant examples of how data governance relates to programs
  - Hands-on activity to better understand governance activities

Program Recruitment

- **Clearly identify roles and responsibilities**
  - Provide transparency in terms of time commitment, work to be done, etc.

- **Develop job descriptions and criteria for each role** *optional*
  - Outline necessary skills, qualifications, and experience

- **Define the recruitment process**
  - List out the steps and provide details in terms of how to apply/indicate interest in group membership to notification of acceptance

- **Provide training and on-boarding**
  - Group specific training to teach or familiarize individual to the organization's data governance framework and processes
  - Offer extra educational materials geared towards training topics

Build a Road Map

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Align with Strategic Business Plan

- Introduce and identify key business objectives and metrics that are critical to the success of the organization. Focus on the most important data and business needs.
- This can include automated validation checks, as well as manual review and approval of processes to ensure that data is accurate and consistent.

Develop Partnerships

- Partnership with the academia and industry experts
- Access to expert knowledge and resources; research and development opportunities; and enhanced reputation and visibility.
- The academe are usually the forefront of innovation and fresh perspectives – drive innovation and creativity.
- Partnerships with programs across Public Health

Establish Data Literacy Pathway

- Data Crunch series – ongoing training to enhance and excite organization staff at all levels on data (analysis, quality, and governance)
- Education of stakeholders across the organization about the importance of data quality
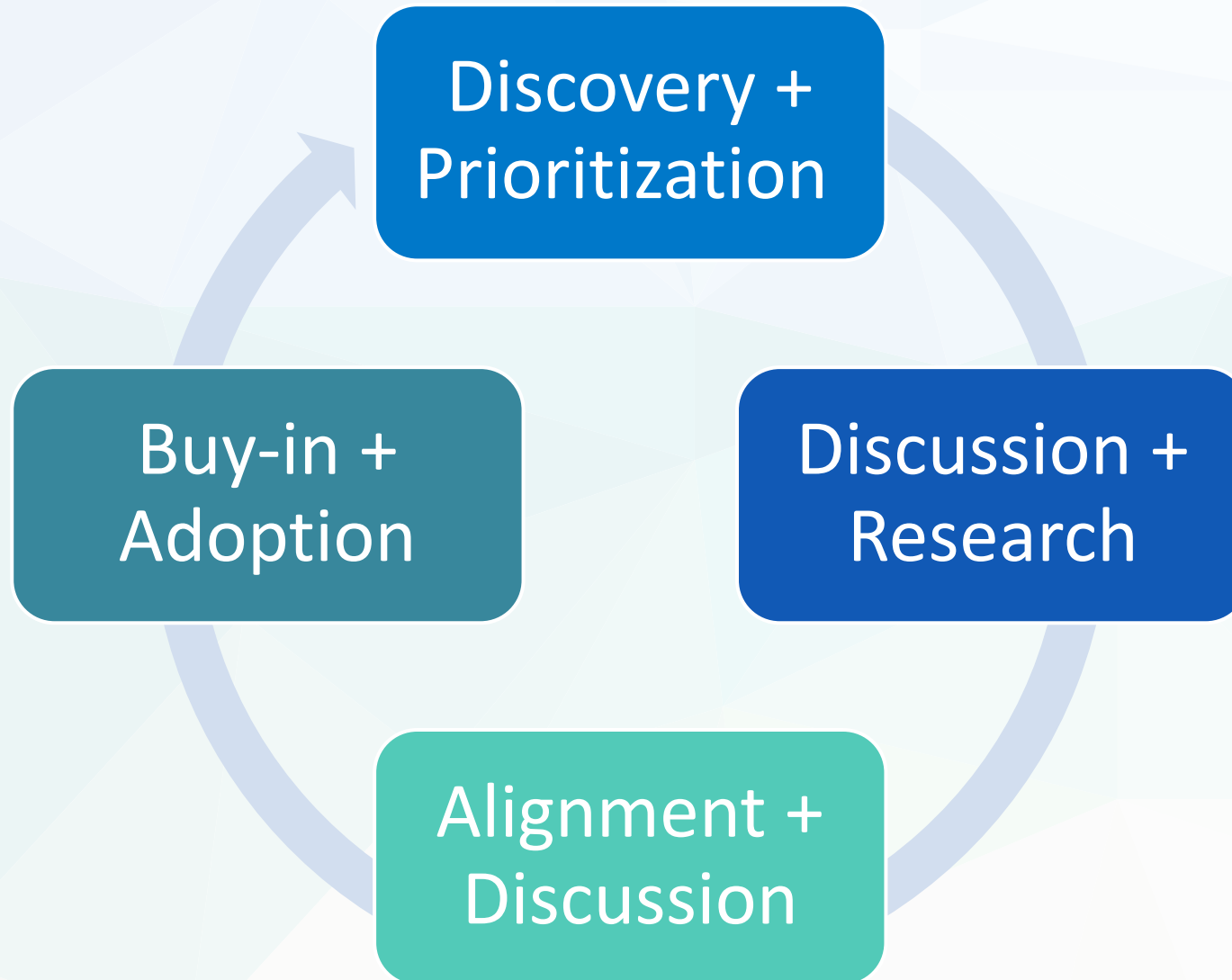
How to establish standards to improve data veracity and reliability?

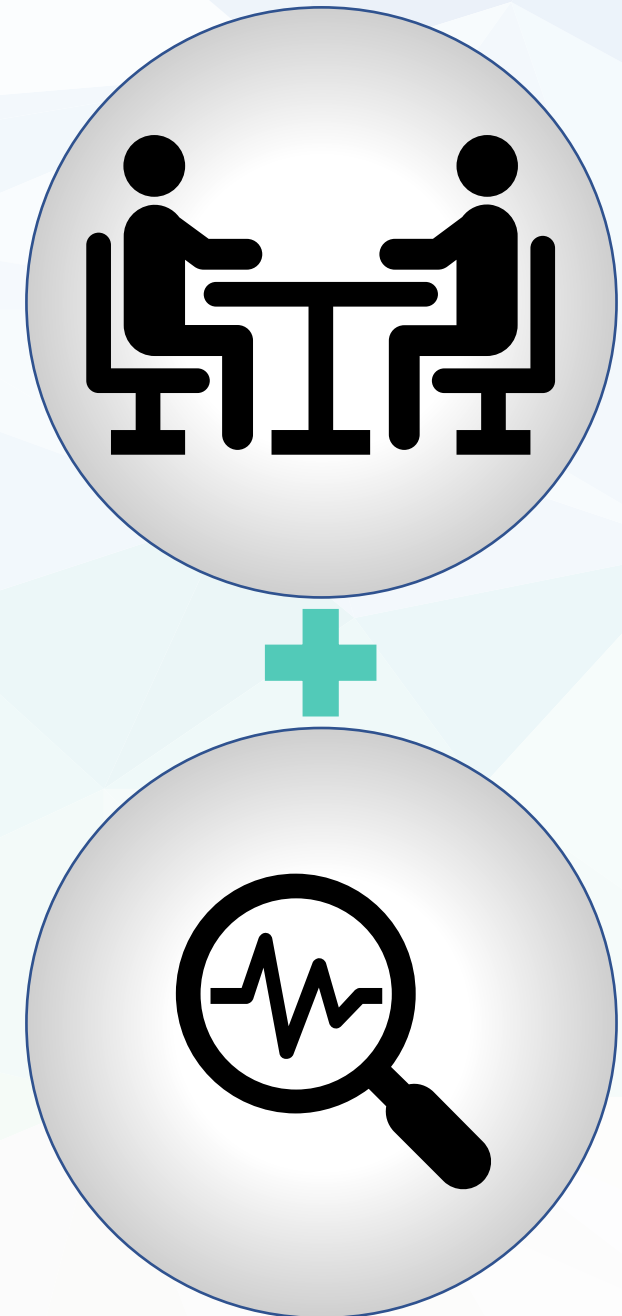# MCPH Framework for Establishing Standards

Discovery + Prioritization

- **Perform initial research and exploration** of standards and policies for your line of business
- **Brainstorm a list of data issues and concerns** plaguing the various teams and programs
  - Have concerns broken up by category
    - Ex. data collection, data storage, data analysis and reporting
  - To be performed by the Stewardship program and/or the Governance Council
  - Review and summarize the list as needed
- With the list, have the Governance Council assign a **priority level for each item on the list**
  - Once completed, the list should be provided to the stewardship program to start working to address

Discussion + Research

- **Provide background reading and resources** to prepare stewards for future discussion regarding the issue
  - Ensures adequate time to think and learn more about topic
  - Helps establish the tone for the meeting and ensure proper background knowledge
- **Survey stewards prior to meeting** to gather insight to the topic and issue being addressed
  - Allows time to review current work across programs and enables you to provide a high overview summary to stewards to keep in mind during the meeting discussion
- **Present first issue for discussion** to the Stewardship program **and open the floor for discussion**
  - Some individuals to think individually and discuss with small groups - some individuals think best when provided time to first gather their own thoughts
- Ex. Patient demographics
  - Delegate responsibilities to stewards to research standards in respective areas

Alignment + Discussion

- After initial discussion, ask stewards to recommend their **best suggestion for all team/programs to ask/collect/store** the selected topic of data
  - Ex. Patient demographics
    - How is gender being asked/collected?
      - Gender at birth vs gender identity vs sexual orientation
    - How is gender being inputted/stored in various programs

- Have stewards discuss **how to best align their recommendations** across the entire division

Buy-in + Adoption

- **Pass the proposed recommendation(s) to the Governance Council for review**
  - **Option 1: Adopt** -> Send the proposed data standard to the Policy committee to review and make final determination on adoption from all Public Health program perspectives
    - Council will work with the Policy committee to develop recommendation into a policy
  - **Option 2: Return recommendations to Stewardship Group** -> Council will suggest areas for revisions and/or request additional research and discussion to flesh out ideas
- **Ensures formal and informal buy-in across various stakeholders**
  - Makes sure everyone is properly informed of goal, work of the data gov program, what to expect going forward
- Buy-in Examples:
  - Presentations to various levels of leadership, programs and project teams
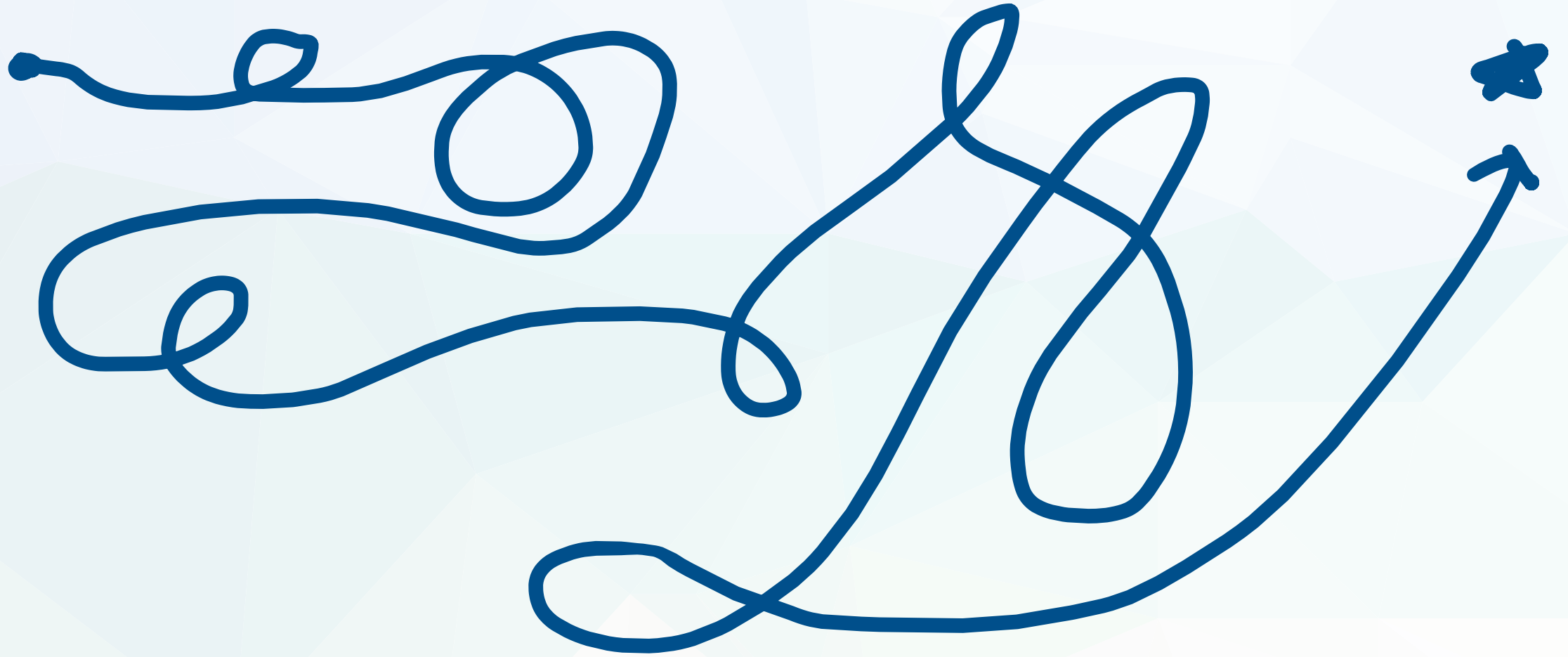 - Intent forms
  - Lunch & learns

Overcome data governance implementation roadblocks through data literacy.

Data Literacy is a Journey

Data Literacy is an actual Journey

Data Literacy Journey

Understand the Why

Create Desire for Change

Engage People

- Utilize the **ADKAR** Model
  - Awareness, Desire, Knowledge, Ability, and Reinforcement
  - Model promotes employee engagement and increases the likelihood of successful change adoption
- Understand the why
  - Set clear vision of data governance from all levels of the organization
  - Creating awareness of the need for change, ensures everyone understands the reasons behind it

Understand the Why

- Acknowledge the expertise on data from staff
  - Understand the benefits and positive outcomes of this process
  - Address concerns or resistances regarding the process
  - Fear is typically associated with the change

Create Desire for Change

- Provide necessary knowledge and information about the process

- Develop the skills and abilities

- Ongoing support, recognition and reward to sustain new behaviors for long-term adoption

- Data Literacy Program
  - Varying levels (ranges from 101 for Front Line Staff to 301 for Epidemiology team)
  - Academic Partnership
  - Data Crunch Series (lunch and learn)

Engage People

Data Literacy Pathway

- Utilize the **ADKAR** Model
  - Awareness, Desire, Knowledge, Ability, and Reinforcement (Monitor)

- Understand the why
  - Set clear vision of data governance from all levels of the organization
  - Acknowledge the expertise on data from staff

- Address the change
  - Data governance requires a high level of data literacy among employees
  - Create educational opportunities to empower staff

Tools for Data Governance

Tools for Data Governance

❑People are your primary tools

❑Data Integration Tools – capture data from various sources

❑Data Quality Tools – assessing and improving quality of data

❑Data Cataloging Tool – creates inventory of data sources

❑Data Security and Access Control – enforcing data security policy

❑Master Data Management (MDM) – consistency and accuracy of critical data entities

❑Metadata Management – capturing and documenting information about your data, relationships and structure

❑People are your primary tools

Data Dictionary Example

Schema Name	Table Name	Expire On	Load Frequency	Priority Table	Table Description	Data Steward
hlth_sandbox_cer	phip_person_table_last_update_Combined	TBD	Weekly	Yes	This table includes data information about EMR person name, gender, ethnicity, and race details.	Bernard Doe
hlth_sandbox_cer	phip_person_table_last_updatev2_Staging	TBD	Weekly	No	Created weekly for staging to import data into matching production table in database.	Bernard Doe
hlth_sandbox_cer	phip_problem_list_activity_MAIN	TBD	Weekly	No	This table includes data information about person problem name and activity details.	Bernard Doe
hlth_sandbox_cer	phip_problem_list_last_update_MAIN	TBD	Weekly	No	This table includes data information about person problem name and activity details.	Bernard Doe
hlth_sandbox_cer	phip_problem_list_last_updateV2_MAIN_Y	TBD	Weekly	No	Created weekly for staging to import data into matching production table in database	Bernard Doe

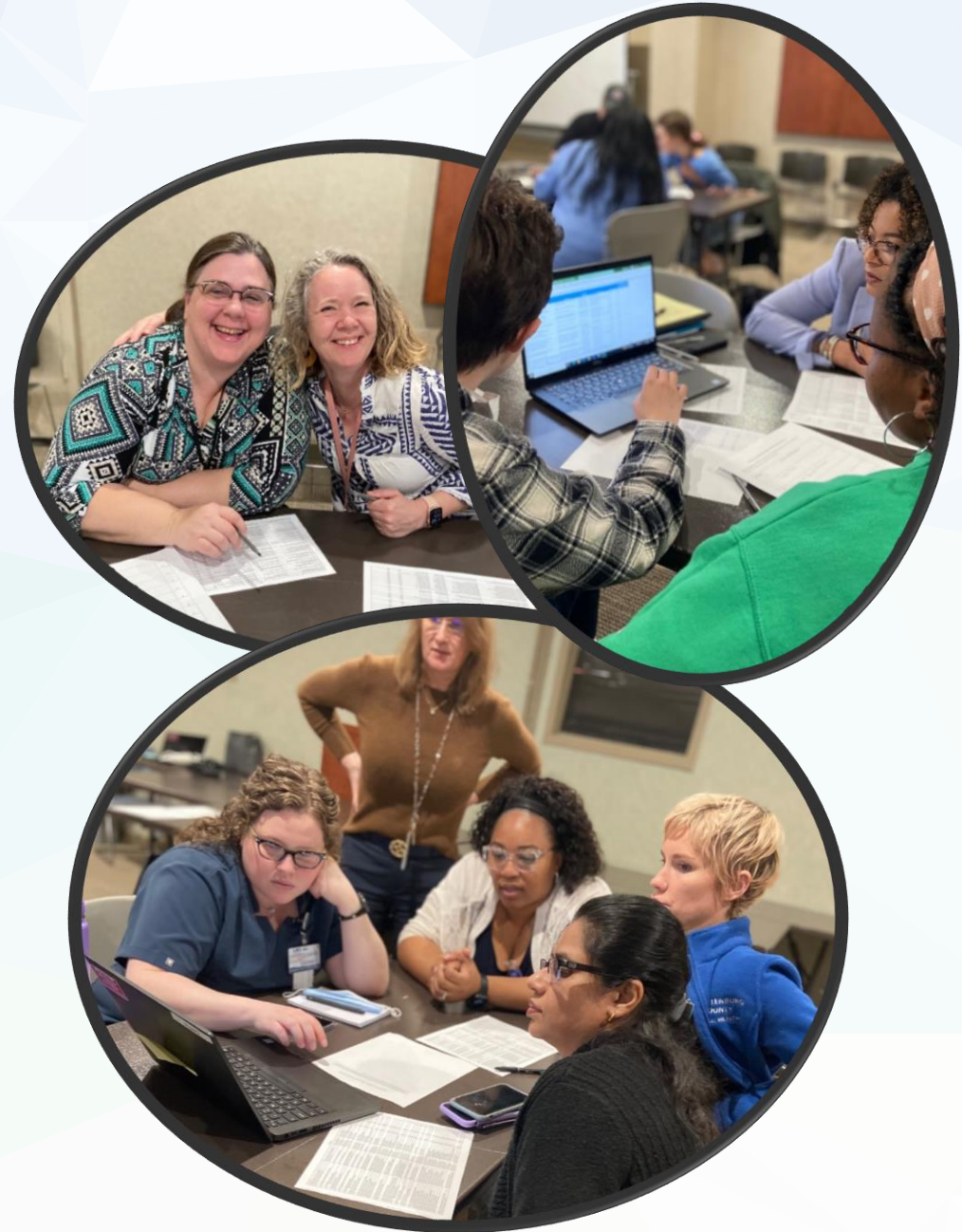# Recommendations to Jumpstart Your Data Governance Program

Recommendations to Jumpstart Your Data Governance Program

- **Make Sure:** Data Governance is aligned and defined in your SBP

- **Do Your Research -> Ask yourself:** What is applicable to your organization?
  - Acquire the foundational knowledge on:
    - DAMA, Industry standards, best practices, etc.
  - Determine framework that will best serve you to establish and maintain data governance

- **Establishing a Data Literacy Pathway**
  - Educating staff on data governance

- **Build and Foster Your Community**
  - Data Stewardship + Data Governance Council

Don't focus on buying technology solutions with the mindset of "It will govern itself"

In summary…

- At the end of day, data governance followed the Public Health Informatics guideline of ***"understanding and aligning people, processes, policies, and data to produce useful information"***

- You can have all the latest and most popular tools, software, technologies, etc. but unless you create an environment where people feel comfortable and safe to speak, you can't expect your data governance program to be successful

Mentioned Resources

- United States Core Data for Interoperability (USCDI)
  - USCDI V4
    - A standardized set of health data classes and elements.
  - USCDI+
    - A public health domain specific data element list created with federal and industry partners
    - ONC is currently updating the list and will be released later in 2023.

- American Health Information Management Association (AHIMA)
  - Naming Policy
    - Resource utilized to better understand how to capture and record patient information.