MISSOURI DEPARTMENT OF
HEALTH &
SENIOR SERVICES

The Office of Epidemiology (OOE):

Using Data to Inform Policy, Programs, and Practice

Anthony Belenchia
Chief, Office of Epidemiology

Office of Epidemiology Structure

- 1/3 of the data and informatics unit (along with BHCADD and BDMI)
- OOE comprises nearly 50 talented professionals, including epidemiologists, research & data analysts, and public health program specialists.
- Organized into six specialized teams led by senior epidemiologists.

Karen Harbert	Kate Cleavinger	Joseline Hernandez	Elizabeth Semkiw	Tanya Toebben	Anthony Belenchia
Senior Maternal and Child Health Epidemiologist	Senior Communicable Disease Epidemiologist	Senior Cancer Epidemiologist and PHIG Evaluator	Senior Environmental Public Health Epidemiologist	Reportable Conditions Data Team Lead	Bureau Chief and Senior Chronic Disease Epidemiologist

Office of Epidemiology Mission and Purpose

To protect and improve the health of Missouri residents by providing timely, accurate, and actionable epidemiologic data, analysis, and expertise that inform public health policy, guide programs, and support disease prevention and promote health across Missouri.

Office of Epidemiology Core Functions

Surveillance and Data Stewardship

Collect, manage, and analyze data from public health surveillance systems:

- BRFSS
- CLS
- YRBS
- PRAMS
- Disease Registries

Program and Policy Evaluation

Support the development of evaluation plans and performance measures; conduct evaluations to assess the effectiveness, reach, and impact of public health programs and policies.

Outbreak Investigation and Response

Lead or support investigations of disease outbreaks, clusters, or unusual patterns of illness, and assist with coordinated response and containment strategies.

e.g. cancer inquiries, case tracking

Data-to-Action Translation

Generate reports, visualizations, and evidence summaries that:

- inform decision-making
- support grant applications
- guide interventions
- shape policy development

Technical Assistance and Consultation

Provide expert guidance to internal DHSS bureaus, local public health agencies, and community partners on epidemiologic methods, data interpretation, and research design.

*Needs assessments and landscape/gap analyses

Surveillance and Data Stewardship

OOE Data Sources

Vital Statistics

Missouri Vital Statistics

National Vital Statistic System

CLS

Missouri County Level Study

BRFSS

Behavioral Risk Factor Surveillance System

YRBS

Youth Risk Behavior Surveillance System

PAMR

Pregnancy-Associated Mortality Review

MCR

Missouri Cancer Registry

PRAMS

Pregnancy Risk Assessment Monitoring System

NSCH

National Survey of Children's Health

HIV/STD/AIDS

DHSS HIV/Hepatitis and STI Dashboards

EPHT

Environmental Public Health Tracking

Program Evaluation and Planning

Program Evaluation

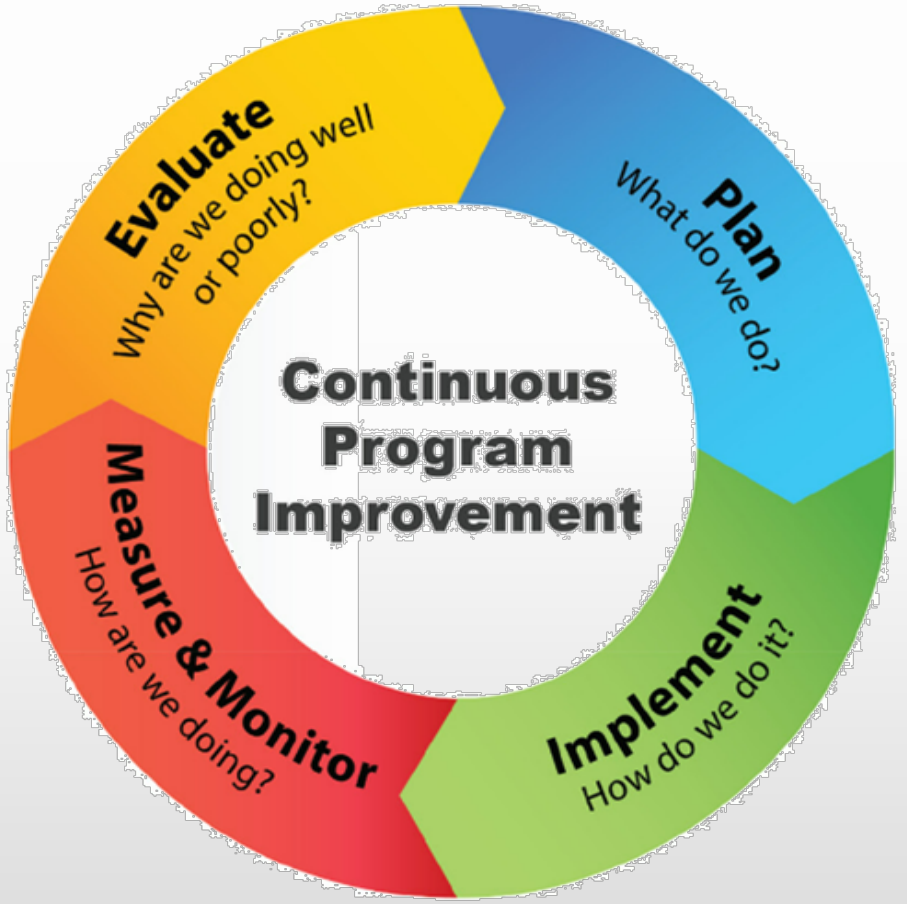


Figure 2. The continuous program improvement cycle, used internally by the Centers for Disease Control and Prevention Program Performance and Evaluation Office. The parts of the cycle operate together to iteratively implement, test, and refine program approaches for maximum effectiveness.

Source:
https://www.cdc.gov/publichealthgateway/publichealthservices/essentialhealthservices.html

Program Evaluation

- Program evaluation focuses on addressing whether the intervention is working.
- Evaluation includes questions related to how and if a program is working as it was intended and if there are any unintended consequences
- Types of evaluation:
  - Formative
  - Process
  - Impact
  - Outcomes or Summative Evaluation
- Research seeks to prove, evaluation seeks to improve.

Michael Quinn Patton, Founder and Director of Utilization-Focused Evaluation

Program Evaluation

Multiple state and federal data sources to monitor progress towards identified priorities
Examples include, but not limited to:

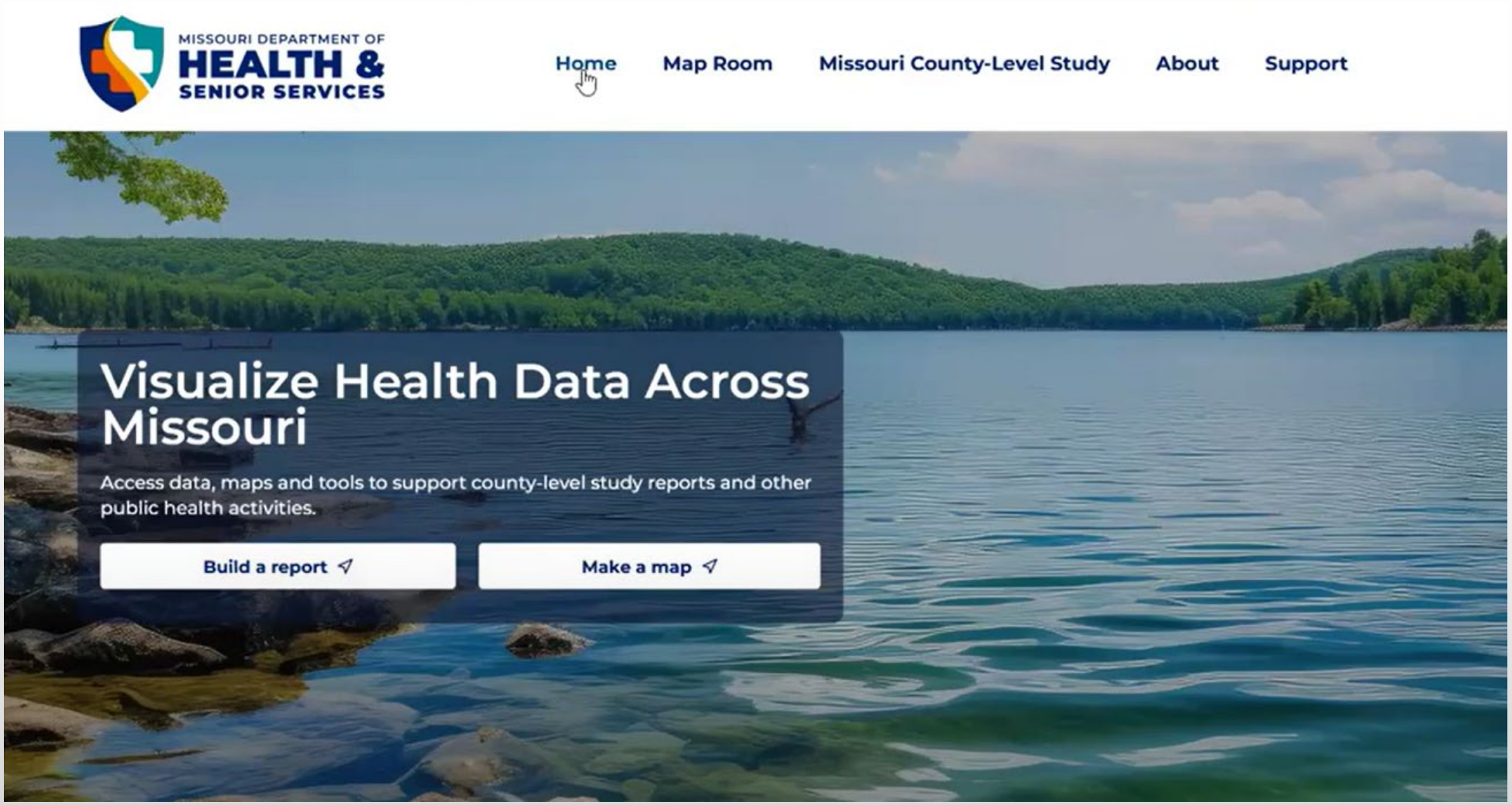
- Missouri Public Health Information System (MOPHIMS) – Centralized Data Dissemination Tool
  https://healthapps.dhss.mo.gov/MoPhims/MOPHIMSHome
- PRAMS, BRFSS, County Level Study
- Communicable Disease Data (STIs)
- American Community Survey (ACS) – Census Bureau
  https://www.census.gov/programs-surveys/acs
- National Center for Health Statistics (NCHS)
  https://www.cdc.gov/nchs/nvss/index.htm

Program Planning

“Needs Assessment is a systematic process to acquire an accurate, thorough picture of the strengths and weaknesses of a state’s public health system that can be used in response to the preventive and primary care services needs for ALL pregnant women, mothers, infants (up to age one), children including children with special health care needs.”

Data-to-Action Translation and Data Accessibility

MOhealthdata.org



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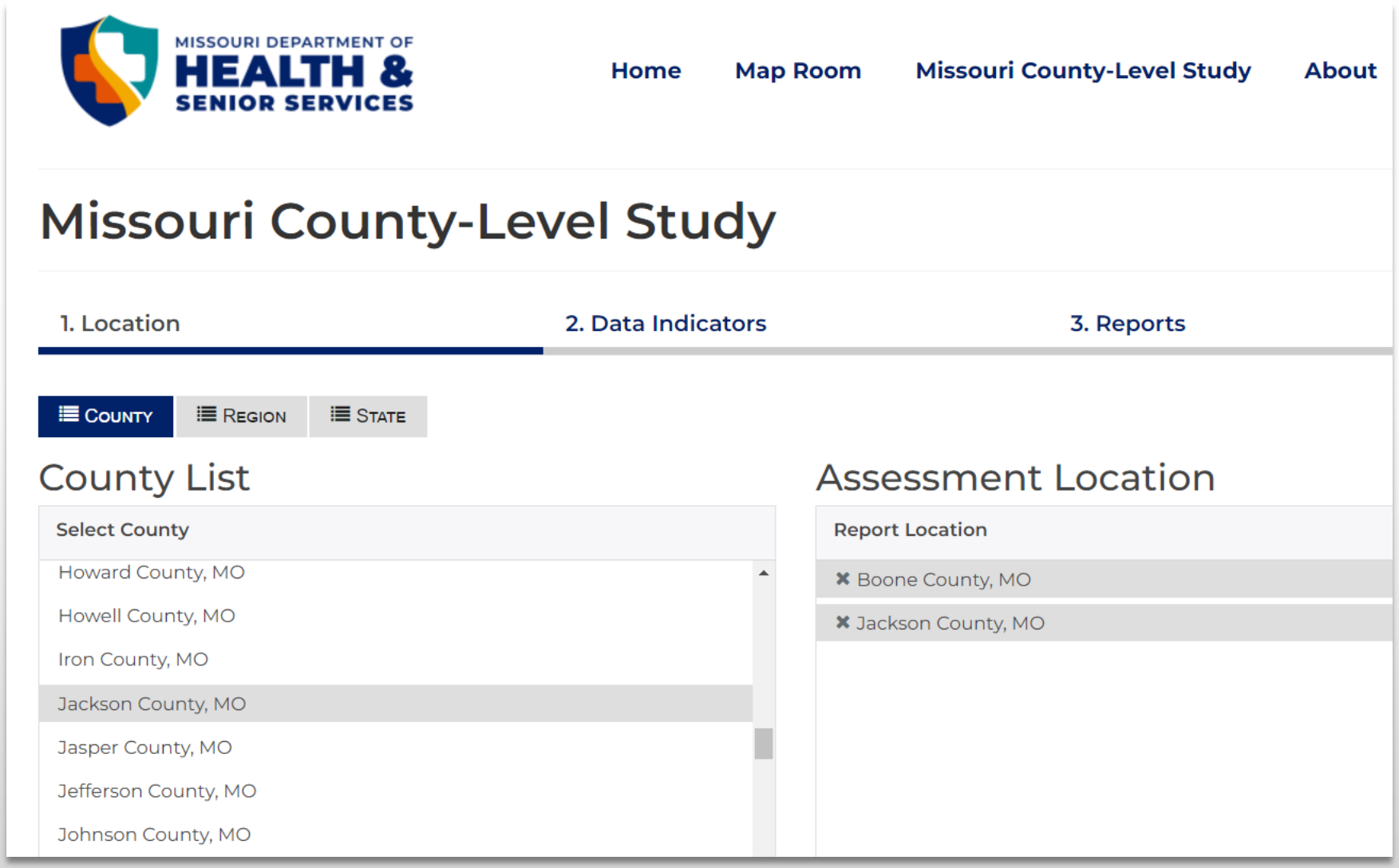

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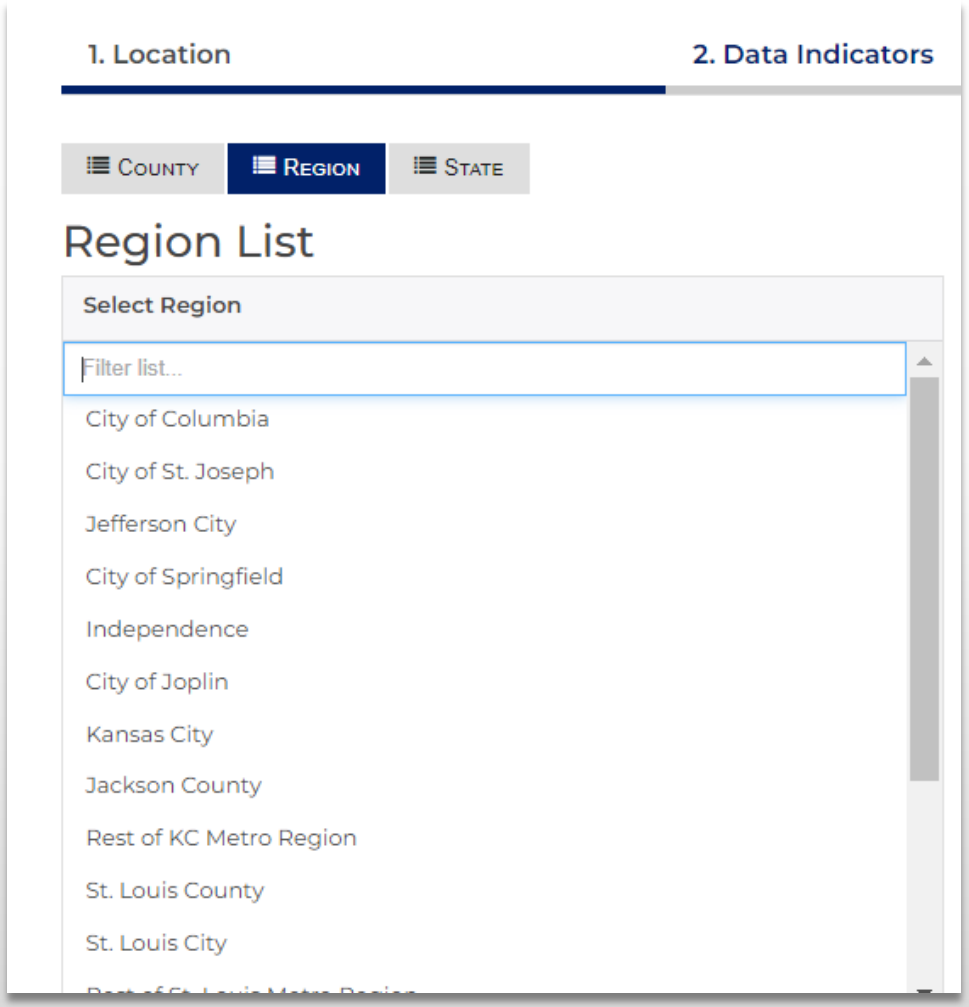

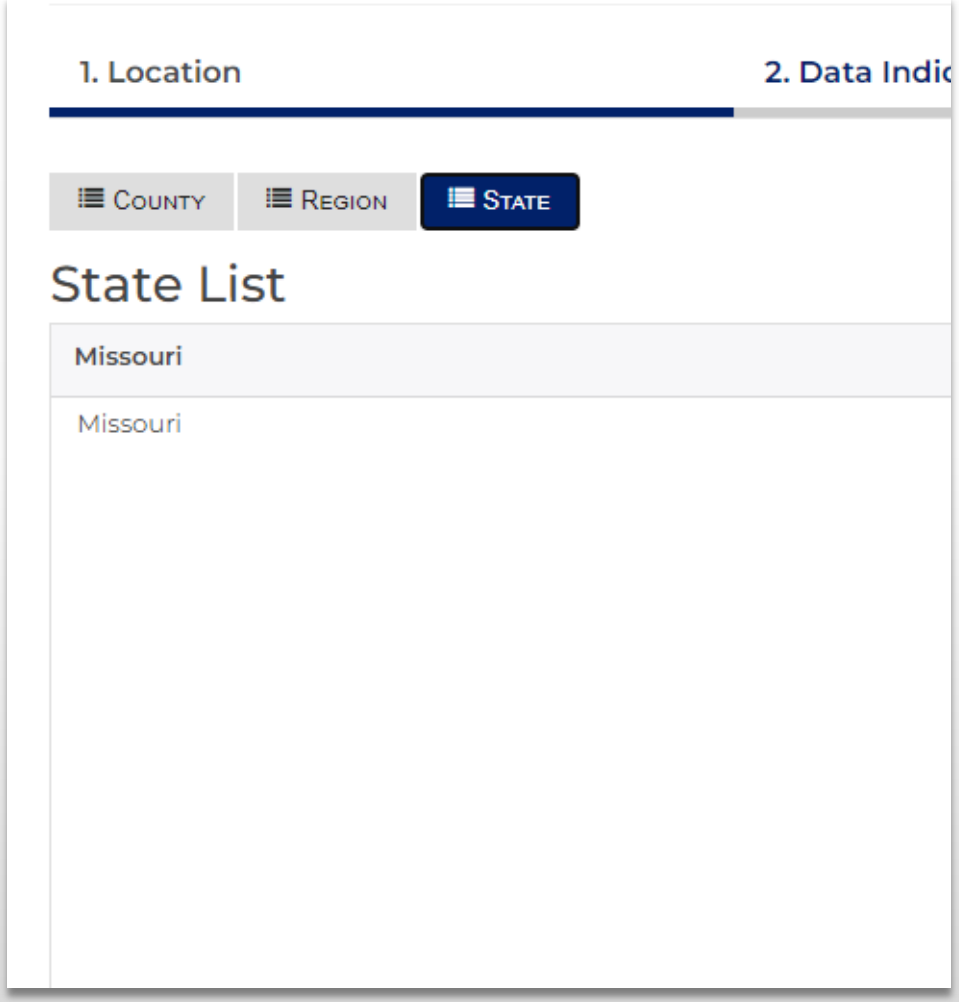

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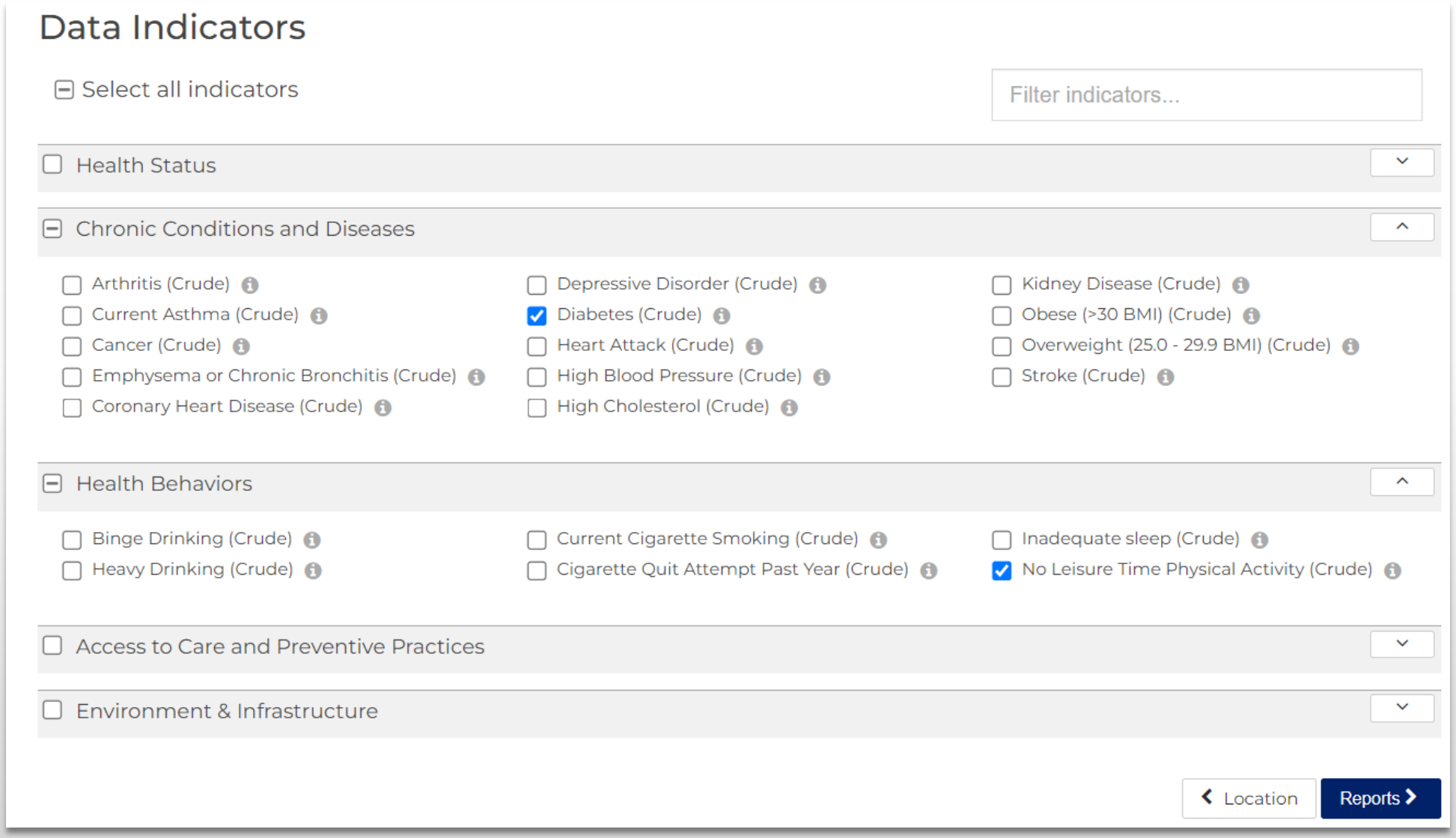


MOhealthdata.org

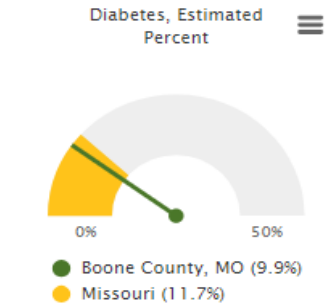
Diabetes (Crude)

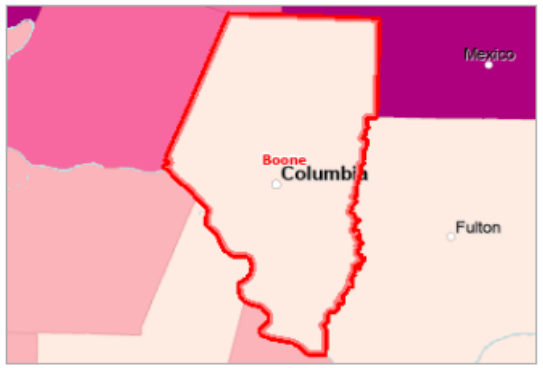
In the report area, the estimated percentage of adults aged ≥ 18 who reported ever having diabetes is 9.9%. The value for this area is lower than the statewide rate of 11.7%. Data for this indicator are derived from the question: *(Ever told) you have diabetes (If ´Yes´ and respondent is female, ask ´Was this only when you were pregnant?´. If Respondent says pre-diabetes or borderline diabetes, use response code 4.).*

Report Area	Diabetes, Estimated Count	Diabetes, Estimated Percent	State Comparison
Boone County, MO	1,287	9.9%	Not Significant
Missouri	50,899	11.7%	-

Note: This indicator is compared to the state average.

Data Source: Missouri Department of Health and Senior Services, Missouri County-Level Study (CLS). 2022. → *Show more details*





View larger map

Chronic Conditions and Diseases: Has Diabetes (Crude), Estimated Prevalence Rate by County, Missouri CLS 2022

- 16.1% - 22.9%
- 13.2% - 16.1%
- 10.9% - 13.2%
- 6.9% - 10.9%
- Insufficient Data (<25 Survey Responses)
- Boone County, MO

Jump to...

Chronic Conditions and Diseases

Diabetes (Crude)

Health Behaviors

No Leisure Time Physical Activity (Crude)

Diabetes Estimates by Gender

The table and chart below report data for this indicator by self-reported gender.

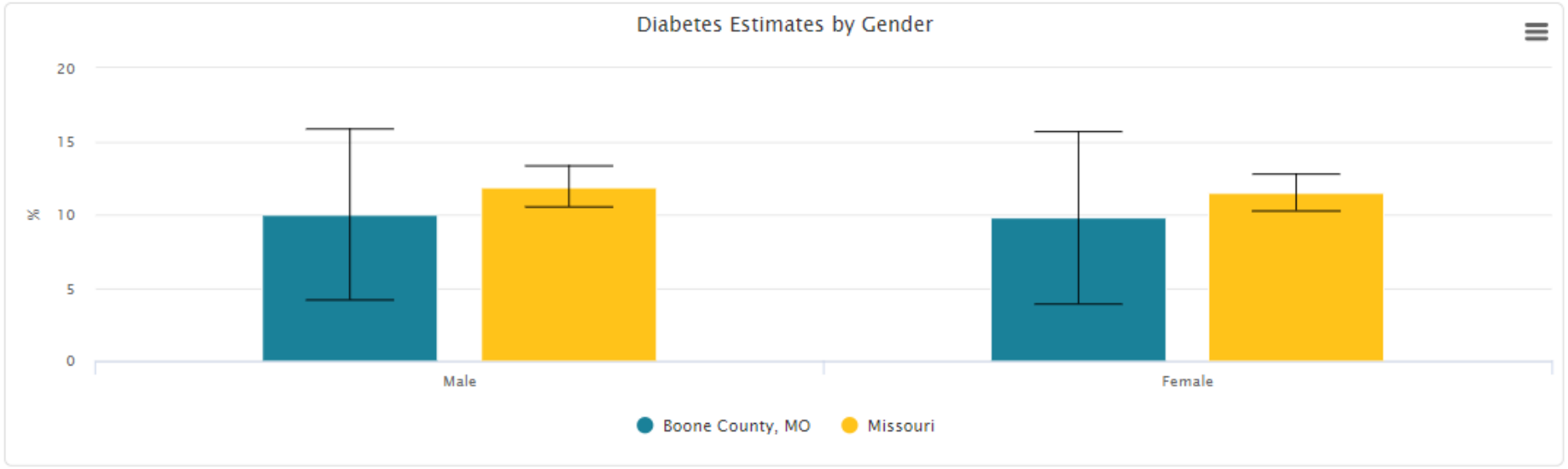
Mohealthdata.org

Diabetes Estimates by Gender

The table and chart below report data for this indicator by self-reported gender.

Report Area	Male	Female
Boone County, MO	10.00%	9.80%
Missouri	11.90%	11.50%

Data Source: Missouri Department of Health and Senior Services, Missouri County-Level Study (CLS). 2022. → *Show more details*



Data-to-Action Translation and Data Accessibility

The Operational Gap

How Requests Came In

Issues This Created

- Incomplete request details
- Multiple follow-up conversations
- Unclear ownership between bureaus
- Inconsistent routing
- Prioritization and tracking gaps

The Efficiency Gap

Too much time was being spent:

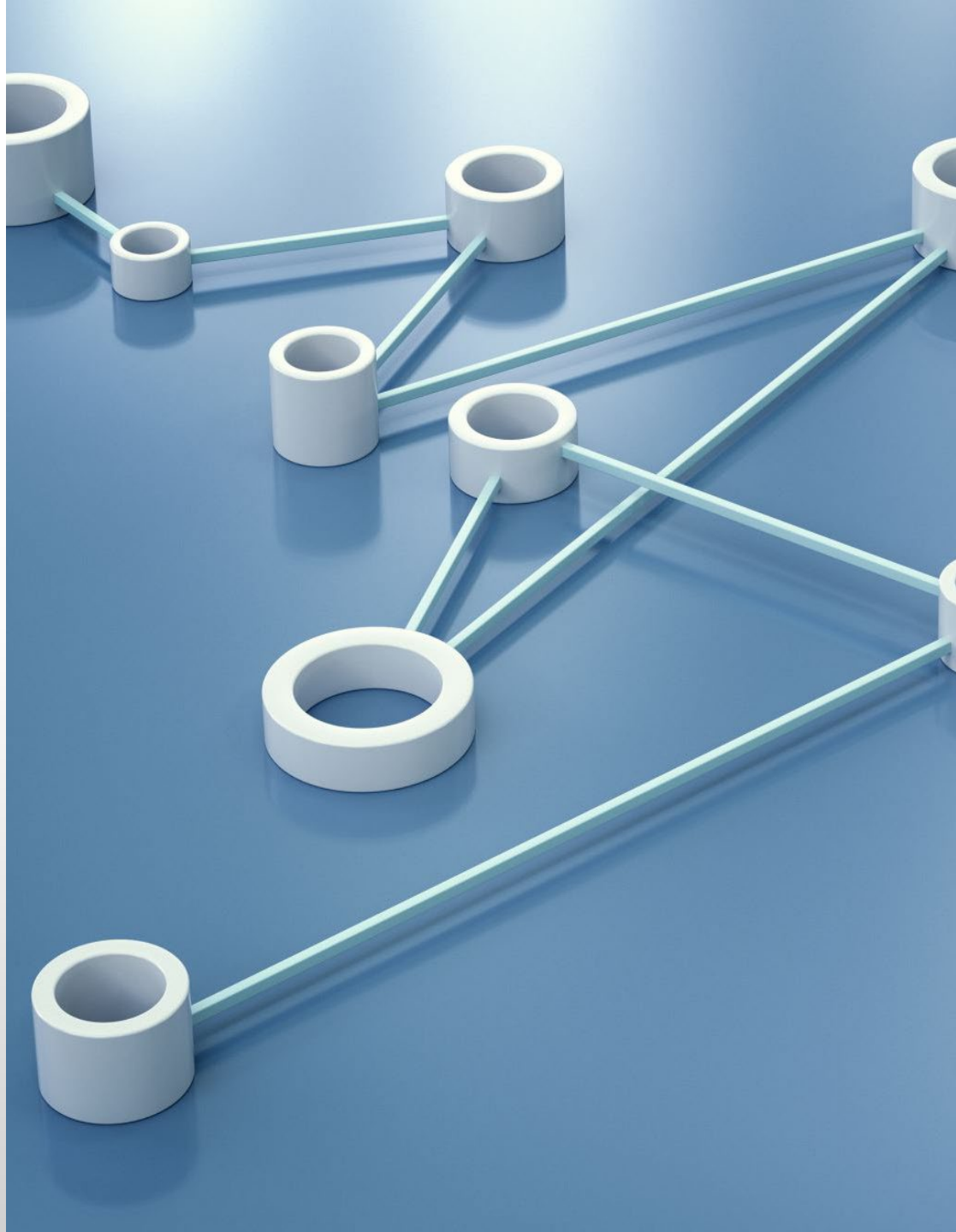
1. Clarifying the details of the data or product request
2. Routing the request to the proper or available individuals
3. Tracking the status of requests

- **Prolonged the timeline for getting data or products back into the hands of the requestor**

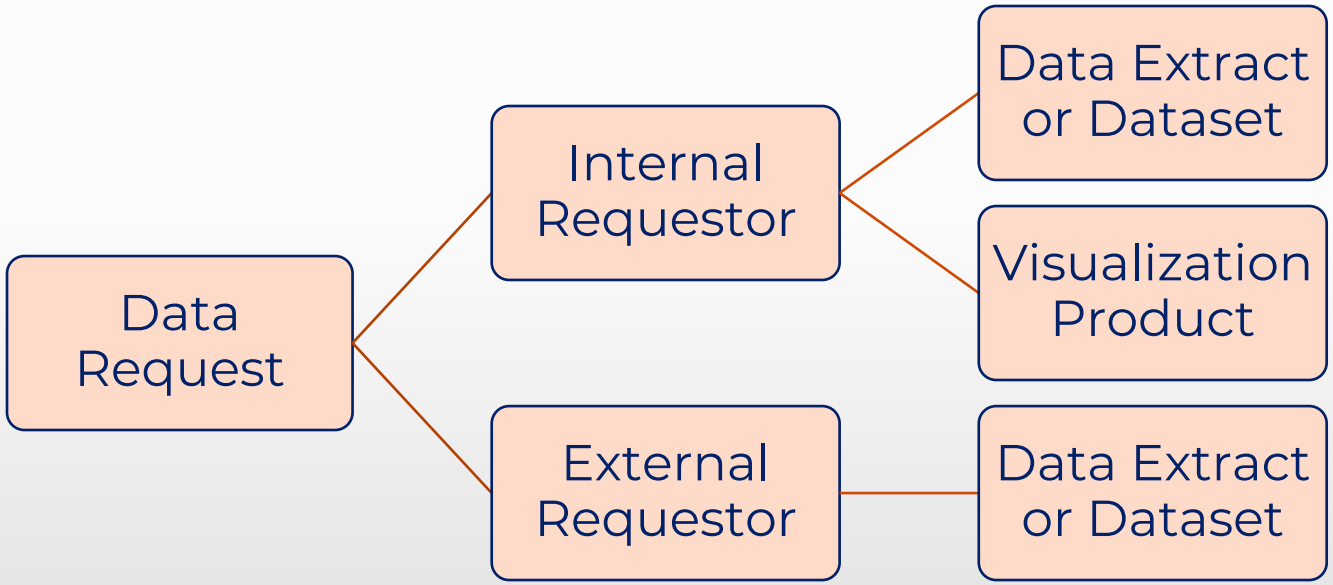
New Health Informatics Unit Data Request Platform

Our Build Objectives

- Create a single intake point for data requests coming into the unit
- Improve the routing of requests and simplify communication between staff fulfilling the request
- Create a scalable process that grows with demand and could handle other tasks in the future
- Track fulfillment metrics



Request Survey Structure (Qualtrics)

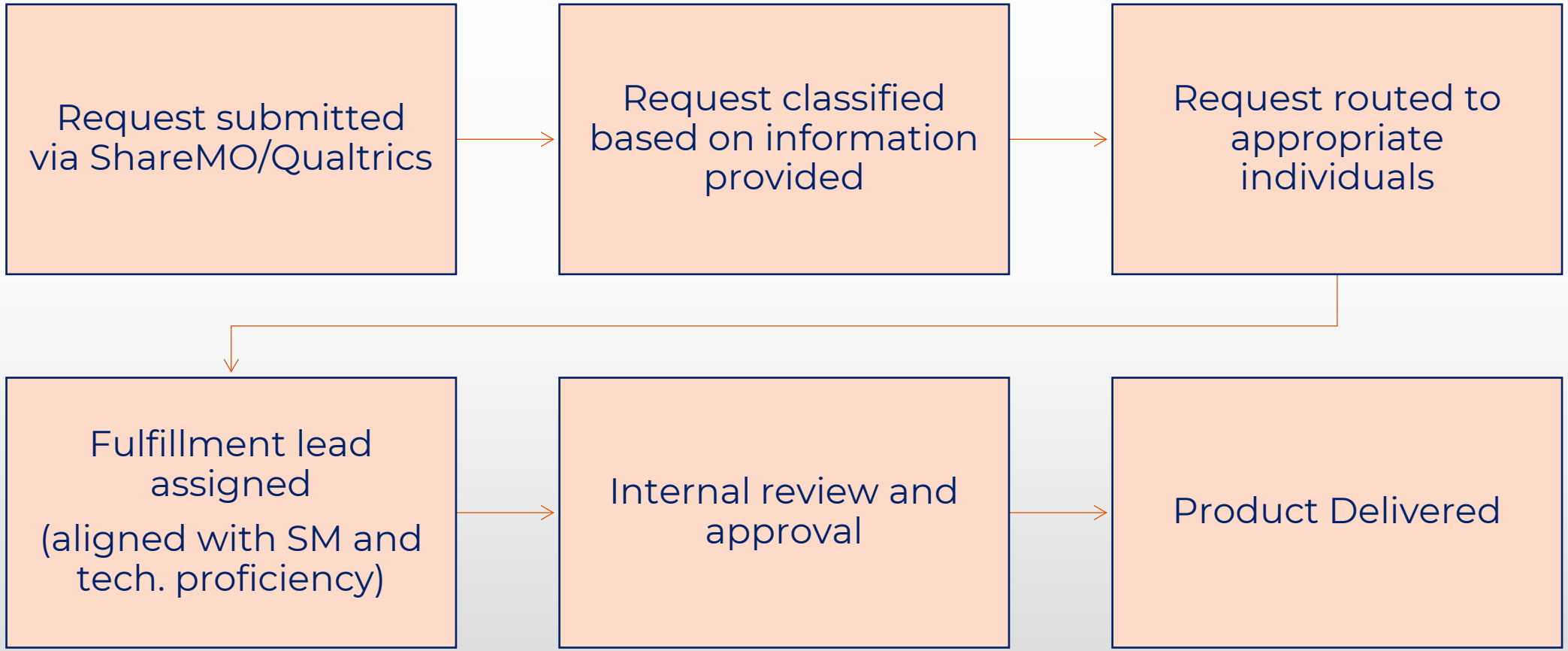


(1) General Questions
Requestor Information
Project title
Target audience
Due date

(2) Routing Questions
Data Source
Indicators, conditions, demographic
Product Type
Example files
Planned data linkages

(3) Planning Questions
Grant deliverable
Recurring (e.g. dashboards)
Need consultation
IRB/DUA

How the Request Process Works



Thank You / Questions?

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