



So, You Want an Epi

How to Set Up Your Program for Success

Massachusetts Health Officer Association

2024 Conference

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Contract Epidemiologist, Cape & Islands





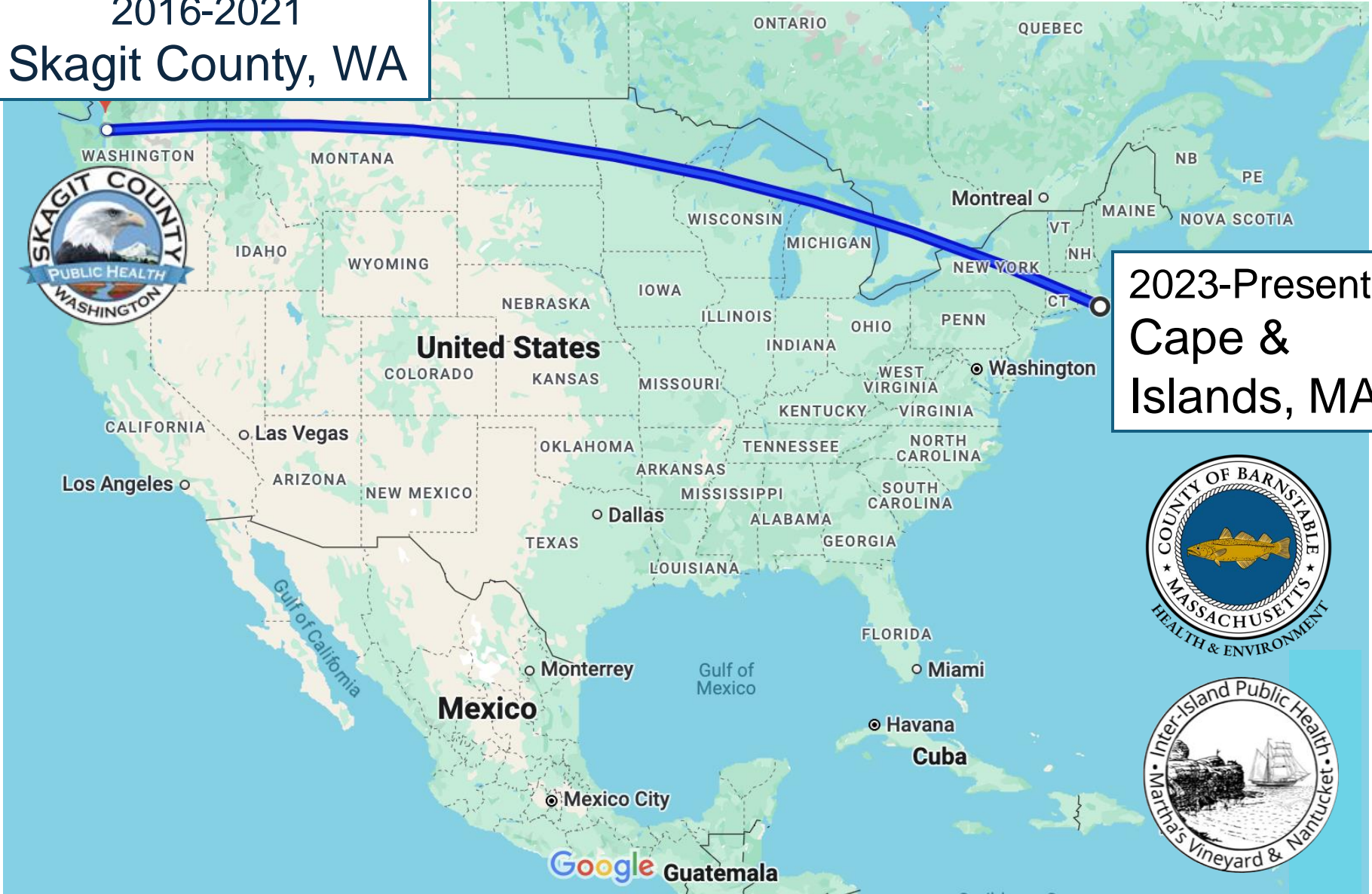
**About
You**

About Me



- 8 Years in Local Public Health epidemiology
- Built programs from scratch, twice
- Washington State Public Health Association Public Health Excellence 2019 Award
- Currently a contract epidemiologist, working with Barnstable County Health & Environment and Inter-Island Public Health Excellence Collaborative

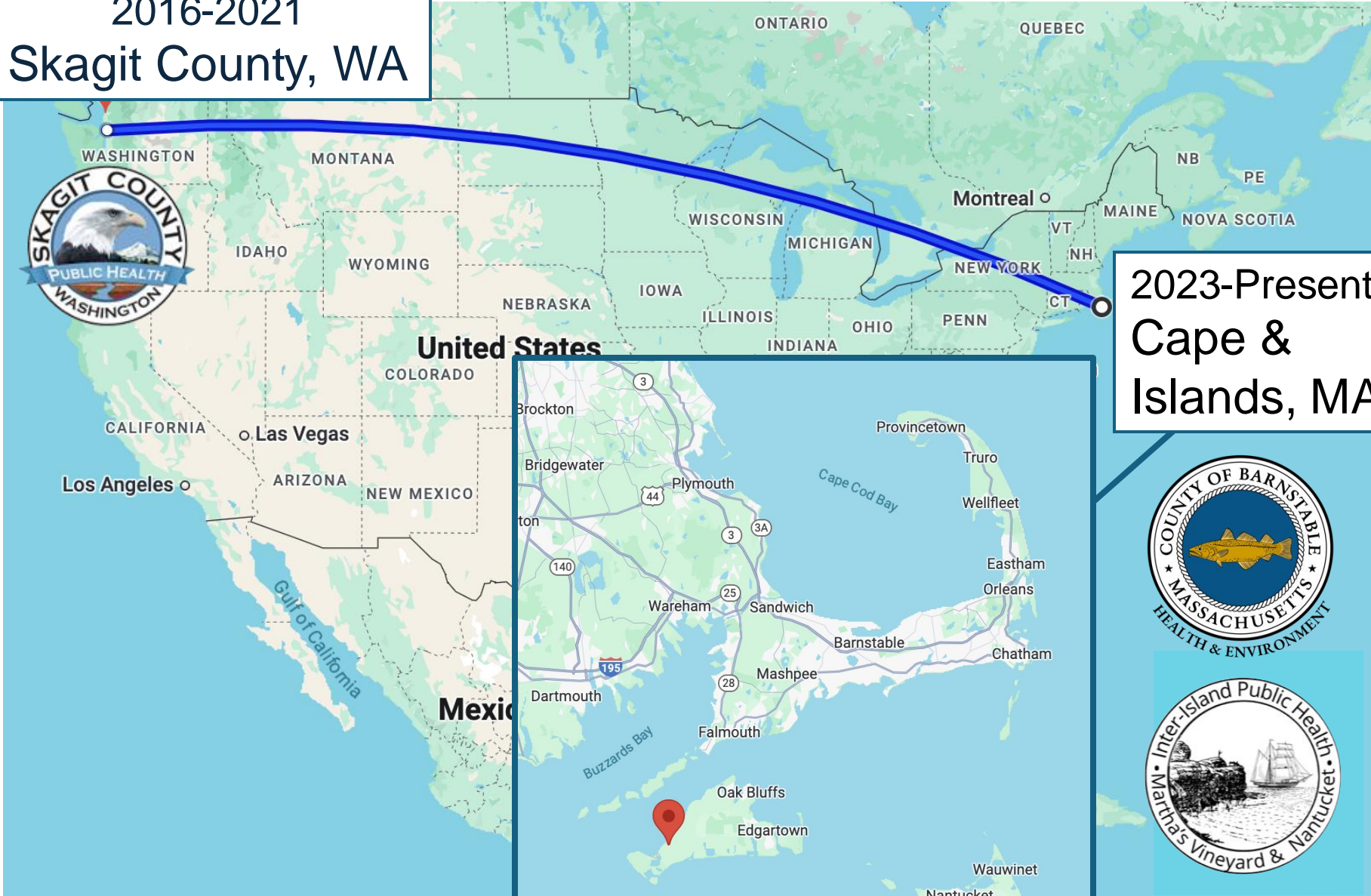
2016-2021
Skagit County, WA



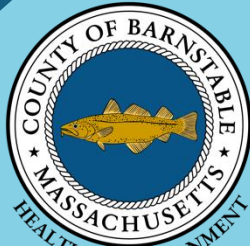
2023-Present
Cape &
Islands, MA



2016-2021
Skagit County, WA

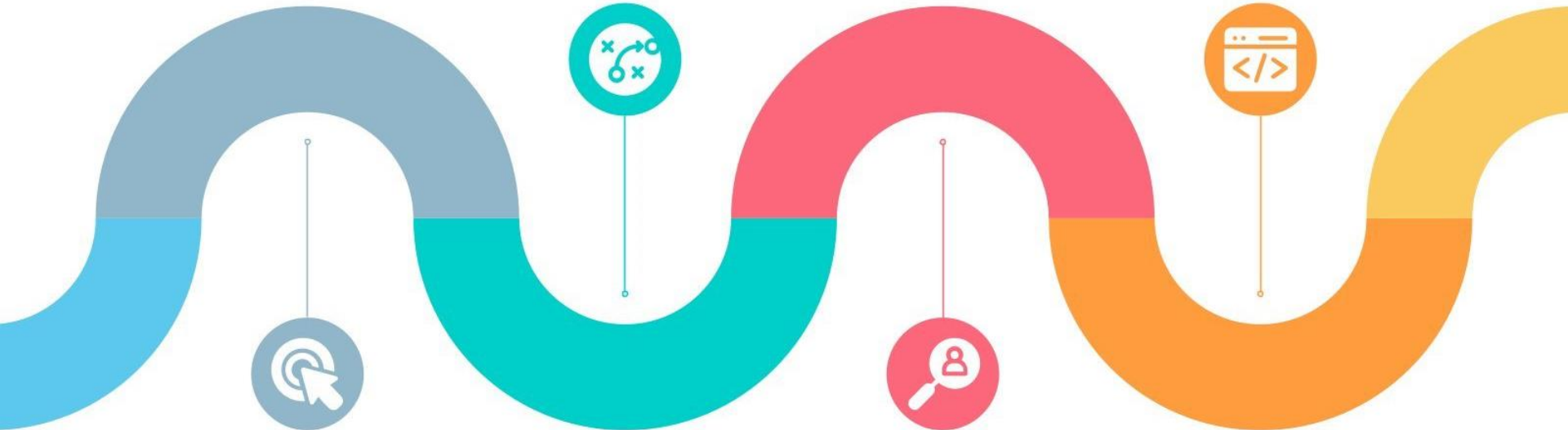


2023-Present
Cape &
Islands, MA



Roadmap

1. Value of a local epidemiologist
2. Skills local epis need
3. Pillars of a program
4. Getting started on the right foot



Origins of Epidemiology (1854)



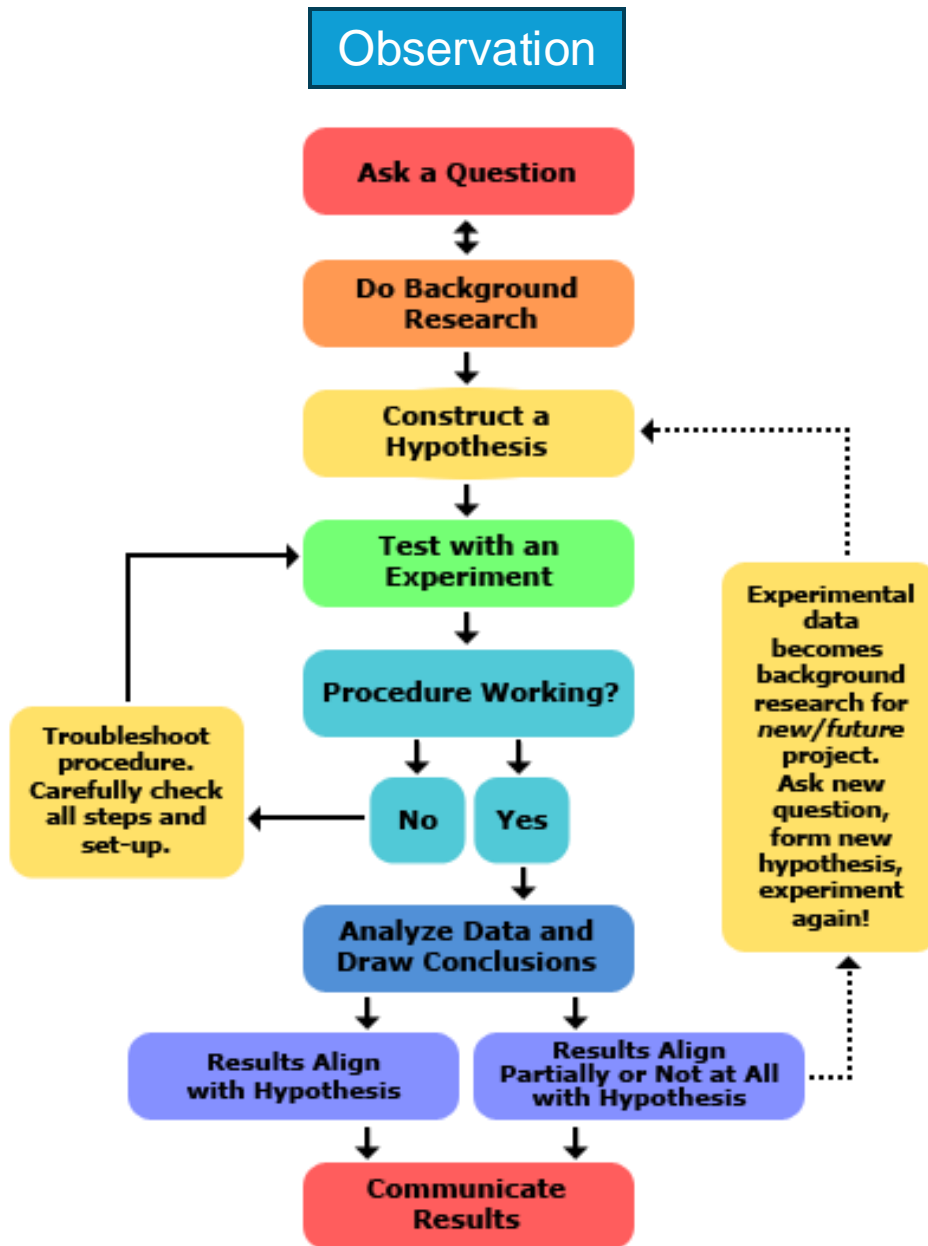
Origins of Epidemiology (1854)

Descriptive Epidemiology:
Who, When, & Where

Field Epidemiology:

Field epidemiology is the practice of using epidemiology to investigate and respond to unexpected health problems that require a quick on-site response.

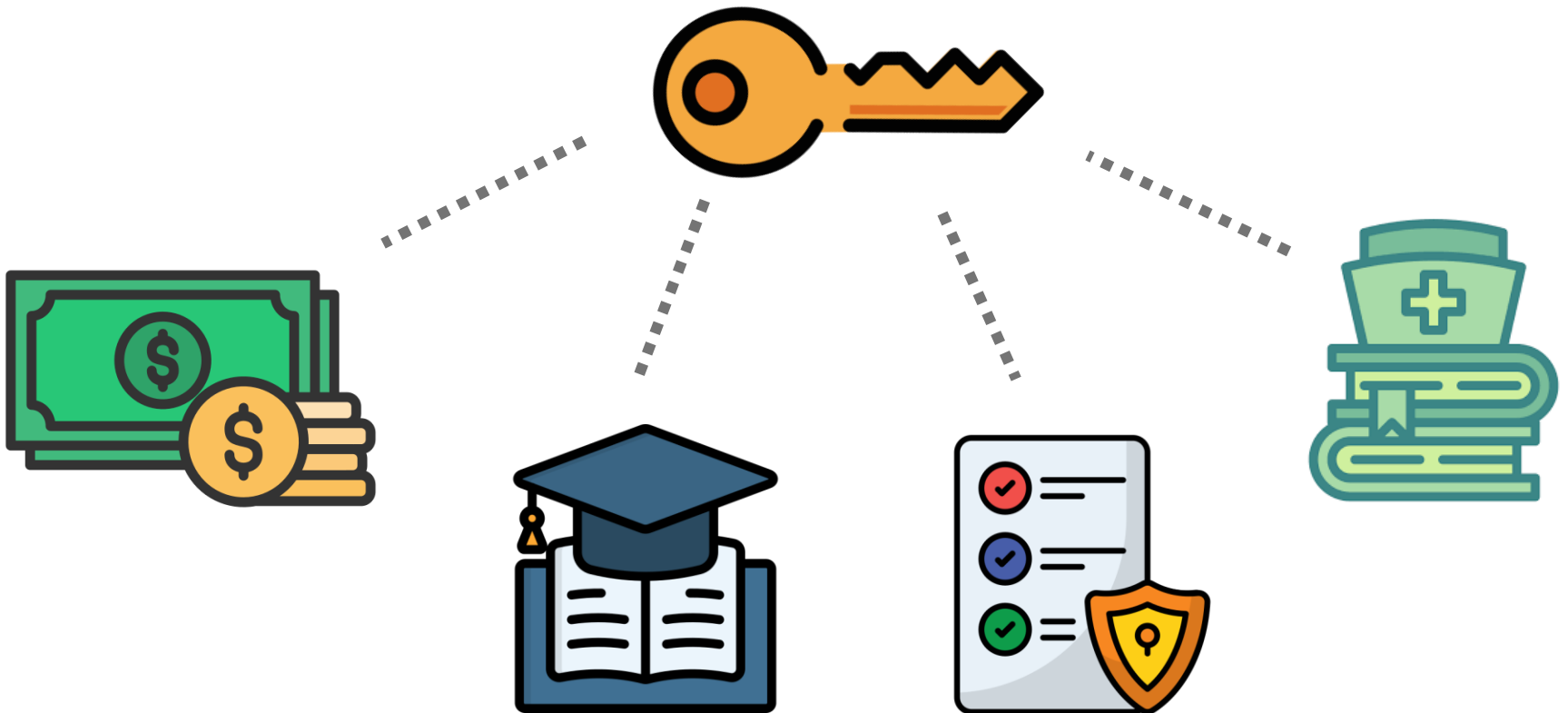
Epidemiology is the Science of Public Health



“Epidemiology is a cornerstone of public health, and shapes policy decisions and evidence-based practice by identifying **risk factors for disease** and targets for preventive programs and healthcare.”

Why Have a Local Epi?

Information is **valuable**



What does a local Epidemiologist do?



What can your local Epidemiologist do for you?

Like a state Epidemiologist, local Epi's can provide population level clinical guidance and support!

Your Epidemiologist can provide...

- MAVEN coverage (i.e. case investigation/contact tracing)
- Data analysis (i.e. creating reports from MAVEN or other town specific resources)
- Data visualization (i.e. creating infographics)
- Health communication and education
- Community Health Assessments
- Survey creation
- Data collection
- Leading research
- Assist with immunization clinics and provide support with COLOR + MIIS
- Identify, apply, and provide research support for securing grants
- Provide expertise on disease transmission and prevention

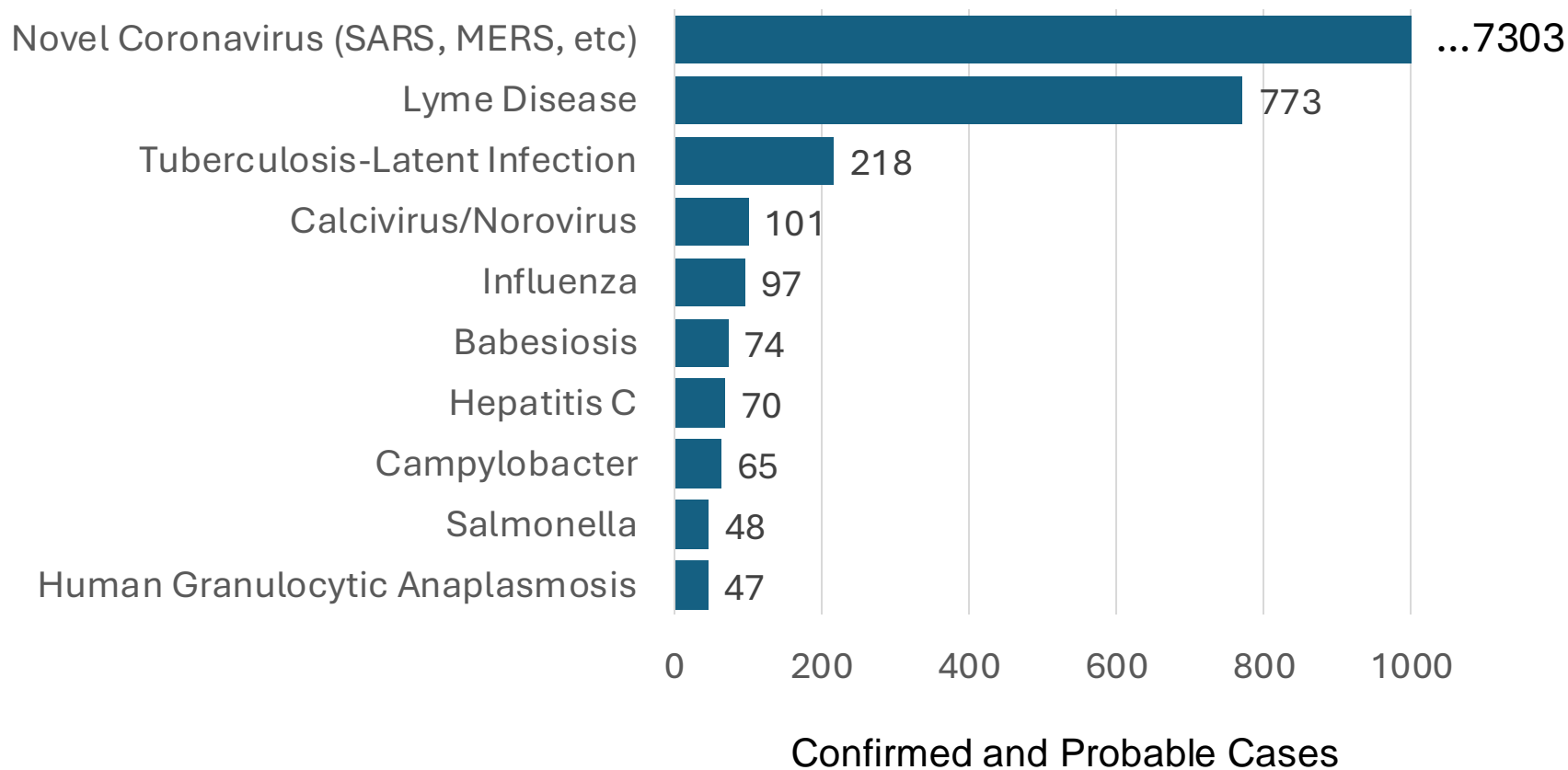
From Data

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1	CaseID	Disease	Disease Cls	Event Date	Create Date	First Name	Middle Name	Last Name	County	CP_ACKNO	CRF_COMP	CRF_COMP	CRF_COMP	CRF_COMP	CRF_REVIEW	CRF_REVIEW	DATE_BECA	DATE_CON	DATE
2	100002308	SARS	CONTACT	1/4/2023	1/4/2023	Barbara		Covid	Norfolk County								1/4/2023	1/4/2023	
3	100003532	POW	SUSPECT	1/9/2023	9/18/2023	Paula		Lambart	Norfolk County										
4	100002344	SARS	CONTACT	1/20/2023	1/20/2023	Carl		Covid	Norfolk County								1/20/2023	1/20/2023	
5	100002348	SAL	CONFIRME	1/24/2023	1/24/2023	Salmonella		Test	Norfolk County										
6	100002894	CAMP	PROBABLE	1/24/2023	7/19/2023	Cam		Spec	Norfolk County										
7	100002354	MEAS	CONTACT	1/27/2023	1/27/2023	Emily		Smith	Norfolk County										1/27/2023
8	100002940	CAMP	PROBABLE	1/27/2023	7/20/2023	Shige		Campy	Norfolk County										
9	100002938	SHIG	PROBABLE	1/27/2023	7/20/2023	Shige		Campy	Norfolk County										
10	100002913	CALI	CONFIRME	2/1/2023	7/19/2023	Noro		Vir	Norfolk County										
11	100002930	GIAR	PROBABLE	2/2/2023	7/20/2023	Gia		spp	Norfolk County										
12	100002973	CALI	PROBABLE	2/4/2023	7/24/2023	Noro		Pract	Norfolk County					YES	7/18/2023				
13	100002941	SAL	PROBABLE	2/7/2023	7/20/2023	Sal		Bact	Norfolk County										
14	100002430	SARS	CONTACT	2/17/2023	2/17/2023	Carl	DONOTEDI	Covid	Norfolk County								2/17/2023	2/17/2023	
15	100002489	SARS	CONTACT	3/3/2023	3/3/2023	Sally		Bunny	Norfolk County								3/3/2023	3/3/2023	
16	100002488	SARS	CONTACT	3/3/2023	3/3/2023	Sharon		Test	Norfolk County								3/3/2023	3/3/2023	
17	100003037	CALI	CONFIRME	3/10/2023	7/27/2023	Pract		Nor	Norfolk County	YES		7/27/2023		YES	7/27/2023				
18	100003080	YER	SUSPECT	3/29/2023	8/1/2023	Yersi		Enter	Norfolk County	NO		7/31/2024	LOST						6/17/2023
19	100002915	HFLU	CONFIRME	4/2/2023	7/19/2023	Haem		Inf	Norfolk County										
20	100002601	SARS	CONTACT	4/3/2023	4/3/2023	Carl	DONOTEDI	Covid	Norfolk County								4/3/2023	4/3/2023	
21	100002900	YER	CONFIRME	4/12/2023	7/19/2023	Yersi		Enter	Norfolk County										
22	100002910	CALI	CONFIRME	4/12/2023	7/19/2023	Yersi		Enter	Norfolk County										
23	100002614	SARS	CONTACT	4/18/2023	4/18/2023	Jane		Doe	Norfolk County								4/18/2023	4/18/2023	

(Fake data from MAVEN Training Environment)

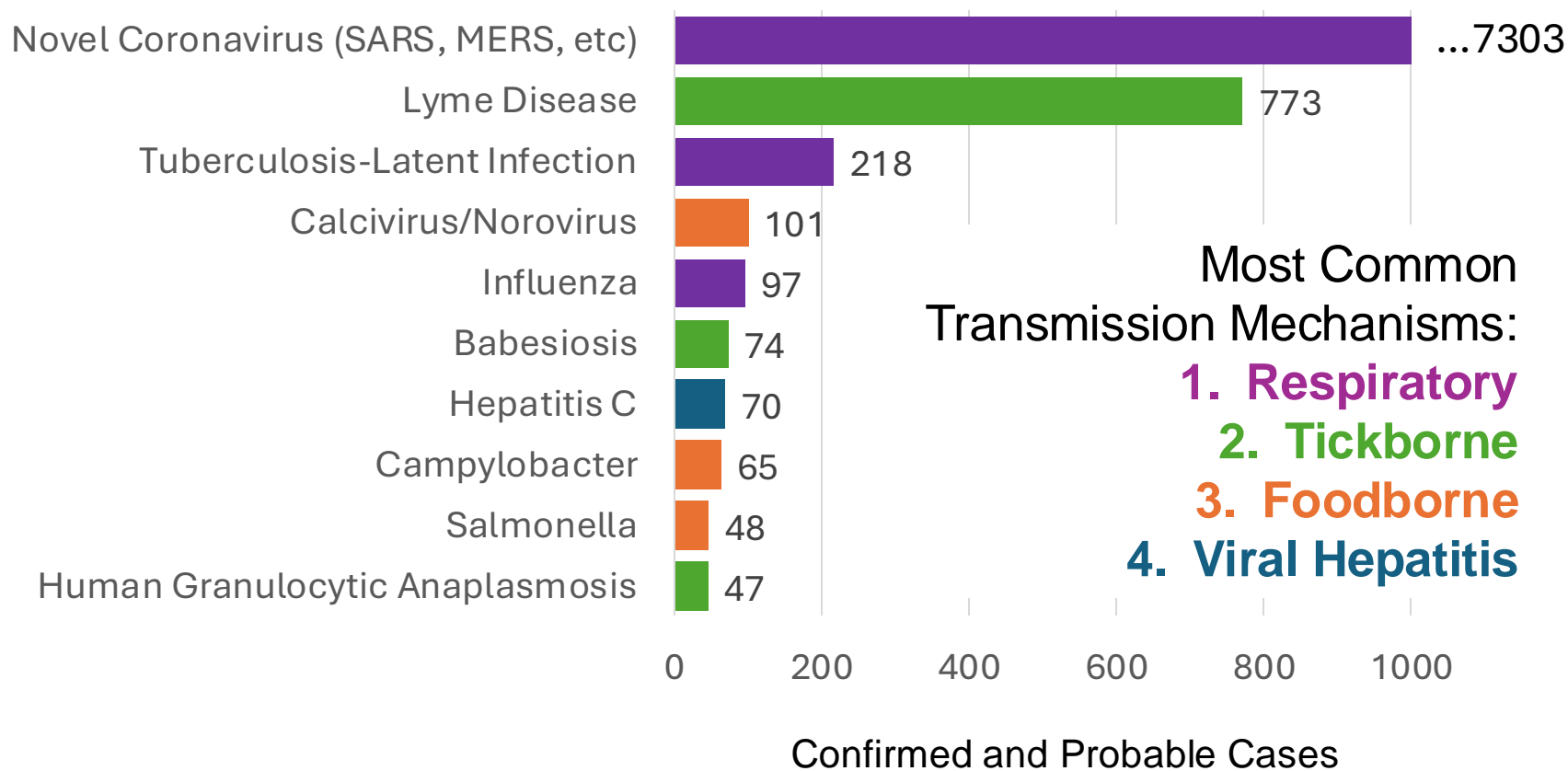
To Insights

Top 10 Reportable Diseases Barnstable County, 2023



To Insights

Top 10 Reportable Diseases Barnstable County, 2023



To Action



ENGLISH



MEETING CENTER

EMPLOYEE SEARCH

SOCIAL MEDIA



COUNTY GOVERNMENT

DEPARTMENTS

NEWS & RESOURCES

EMPLOYMENT

ONLINE PAYMENT CENTER

CONTACT

Enter search terms here



PERTUSSIS (WHOOPING COUGH) ON THE CAPE & ISLANDS

Health and Environment > Programs & Services > Public Health > Pertussis
(Whooping Cough) on the Cape & Islands

www.capecod.gov/pertussis

Year (Newest to oldest)	Barnstable County (Cape Cod)	Dukes County (Martha's Vineyard & Elizabeth Islands)	Nantucket County (Nantucket, Tuckernuck)
2024 (YTD*)	12	<5	0
2023	0	0	0
2022	0	0	0



Where
Epidemiology
Fits in
Government
Public Health

“Epidemiology is a
cornerstone of public health”

THE 10 ESSENTIAL PUBLIC HEALTH SERVICES

To protect and promote the health of all people in all communities

The 10 Essential Public Health Services provide a framework for public health to protect and promote the health of all people in all communities. To achieve optimal health for all, the Essential Public Health Services actively promote policies, systems, and services that enable good health and seek to remove obstacles and systemic and structural barriers, such as poverty, racism, gender discrimination, and other forms of oppression, that have resulted in health inequities. Everyone should have a fair and just opportunity to achieve good health and well-being.



Foundational Public Health Services

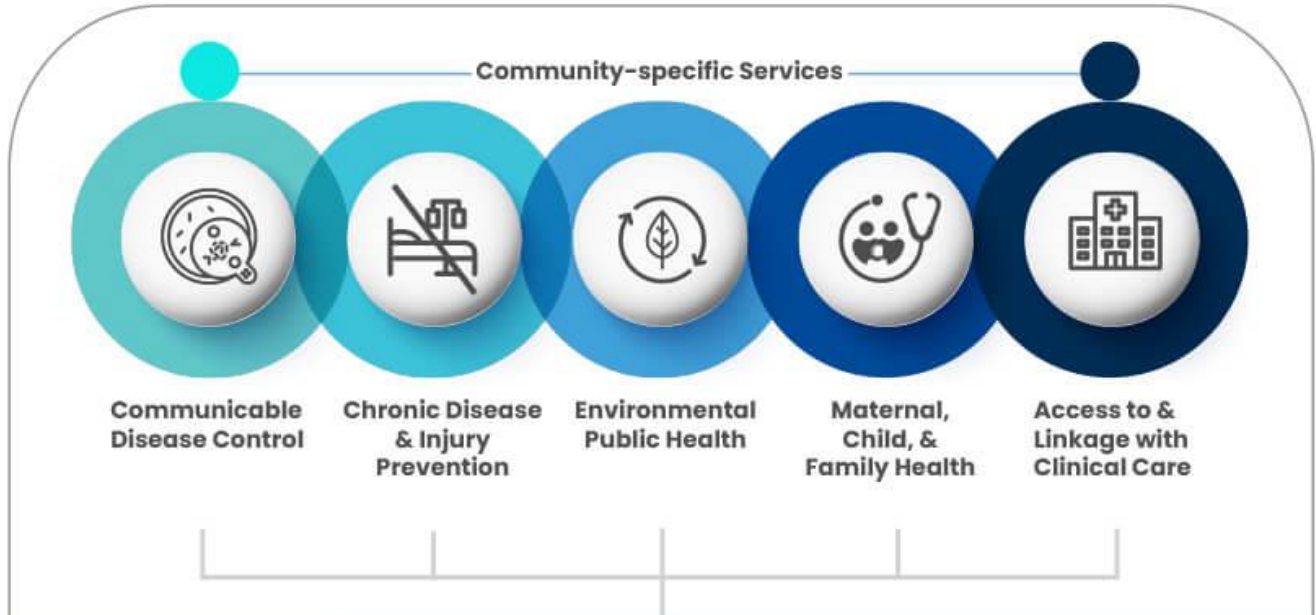
Foundational Areas



Foundational Capabilities

Foundational Public Health Services

Foundational Areas



Foundational Capabilities

Assessment & Surveillance *	Community Partnership Development	Equity	Organizational Competencies
Policy Development & Support	Accountability & Performance Management	Emergency Preparedness & Response	Communications

Public Health practice uses epidemiology every day and anyone can use the science to inform their work.

UNITY



So You
Want an Epi...

What **Skills** Do
Epidemiologists
Need?

(AKA what should
you hire for)

Applied Epidemiology Core Competencies



The professional home for local,
state & tribal epis



My Most Used Epi Skills in LPH





What **Topics**
Should my
Epidemiologist
Focus On?

Specialties of Epidemiology





[COVID-19 ▾](#)

[Members ▾](#)

[Resources ▾](#)

[Committees ▾](#)

[Fellowships & Training ▾](#)

[Policy ▾](#)

[About ▾](#)

Standing Committees

Overview

Finance and Audit (F&A) Committee

Program and Policy (P&P) Committee

Governance and Nominating (G&N) Committee

Chronic Disease/Maternal and Child Health

Overview

Chronic Disease

Maternal and Child Health

Environmental Health / Occupational Health

Overview

Environmental Health

Climate, Health, & Equity

Disaster Epidemiology

Environmental Health Indicators

Occupational Health

Occupational Health Indicators

Infectious Disease

Overview

Enteric Diseases

Healthcare-Associated Infections (HAI)

Viral Hepatitis

HIV

Influenza and Viral Respiratory Diseases

Sexually Transmitted Infections (STI)

Vector-borne and Zoonotic Diseases (VBZD)

Vaccine-Preventable Diseases (VPD)

Injury, Substance Use, Mental Health

Overview

Injury Epidemiology and Surveillance

Substance Use and Mental Health

Alcohol

Cannabis

Overdose

Prescription Drug Monitoring Program

Surveillance/Informatics

Overview

NSSP Community of Practice

Electronic Laboratory and Disease Reporting (ELDR)

Surveillance Practice and Implementation

Surveillance Policy

Workforce

Overview

Epidemiology Methods

Early Career Professionals

Epidemiology Capacity Assessments

Workforce Subcommittee

Other Subcommittees

Border/International Health

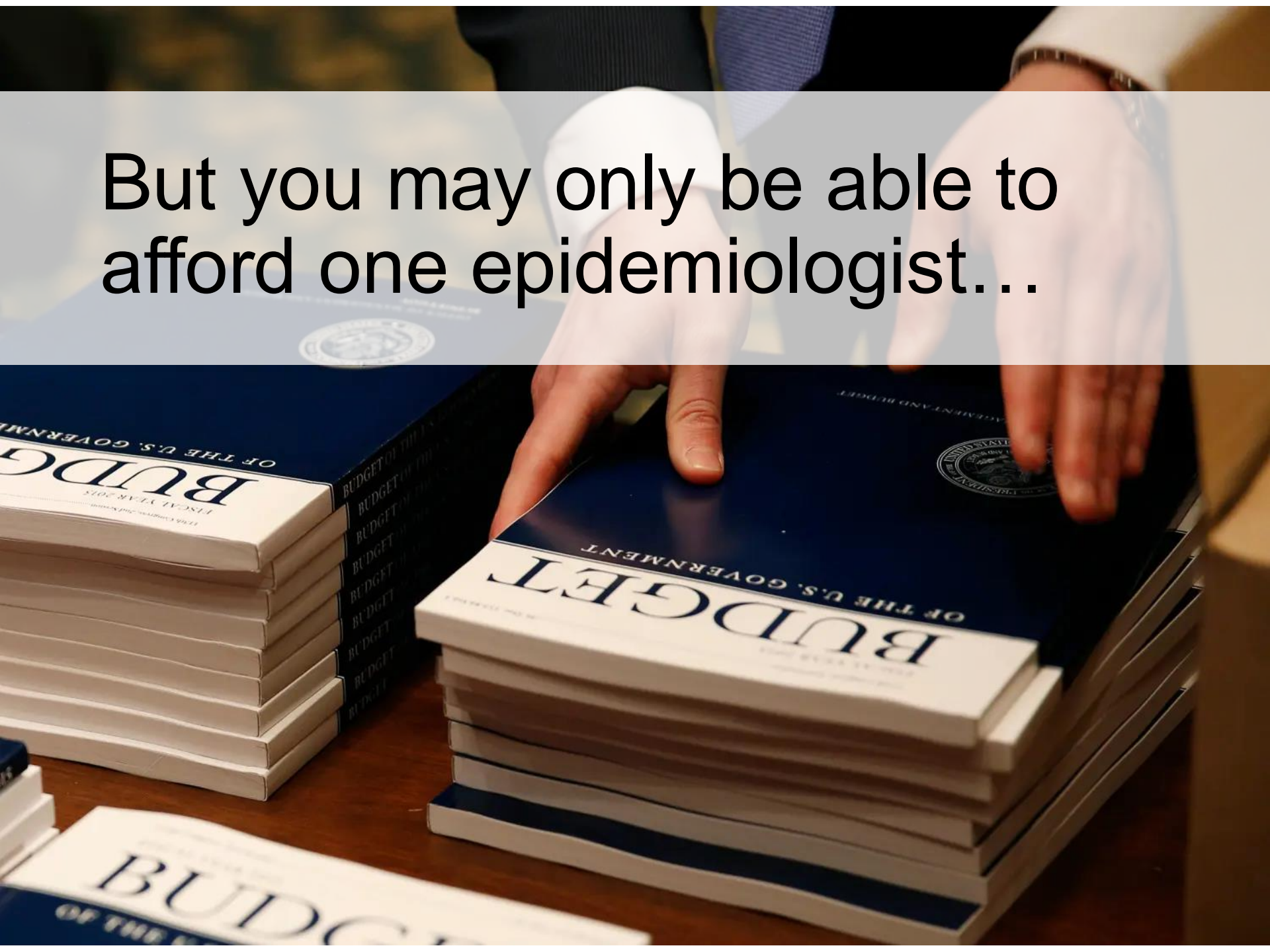
Health Equity

Public Health Emergency Preparedness

Public Health Law

Tribal Epidemiology

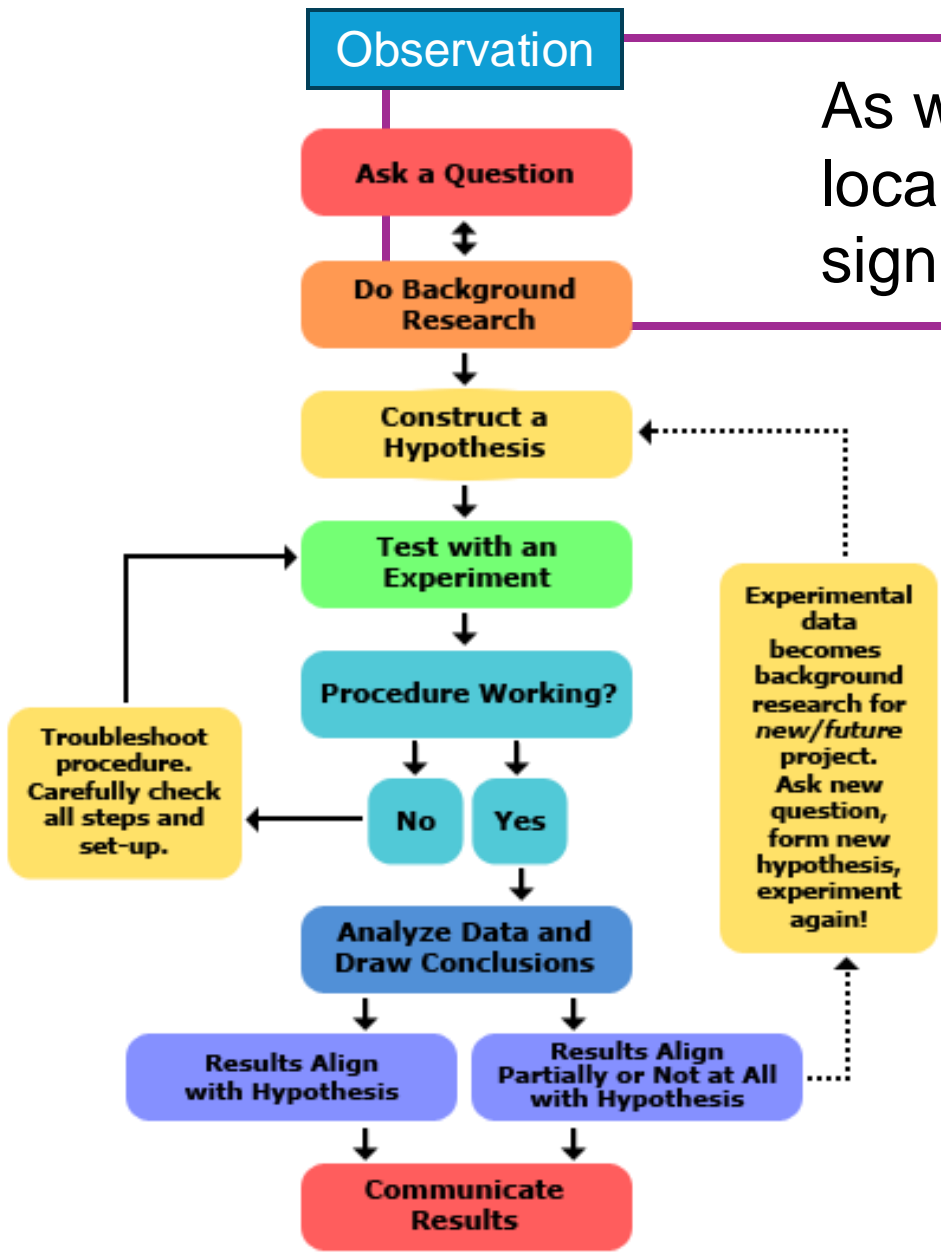
But you may only be able to afford one epidemiologist...

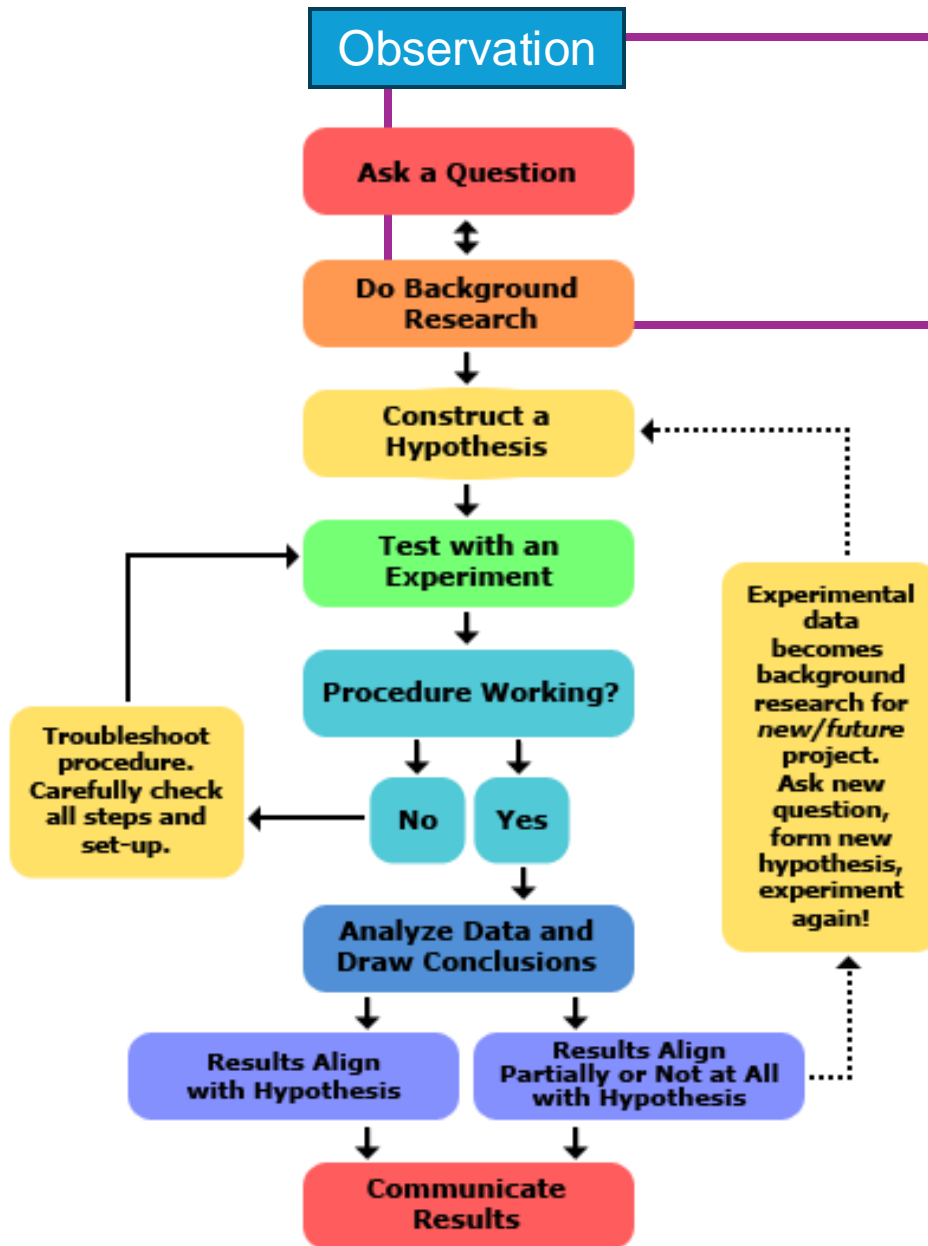


An analogy to another scientist



As we move from topic to topic, local epis need to spend a significant amount of time here.





Please be patient with our many questions. We're trying to get our scientific bearings!

- YOU are the experts in your community and program area. We need the context.
- Epis need to learn how to make scientific information approachable to program staff and the public
- Together, you will learn to ask good questions that help you get the answers you need



Getting Your Epi Started

Months: 0 – 3

Orientation

Helpful Starting Places: **Orient to Your Community**

Observation

- Physical environment – driving tours, walking tours
- Carve out time for them to attend or support outreach at community events
- Observe coalition meetings

Ask a Question

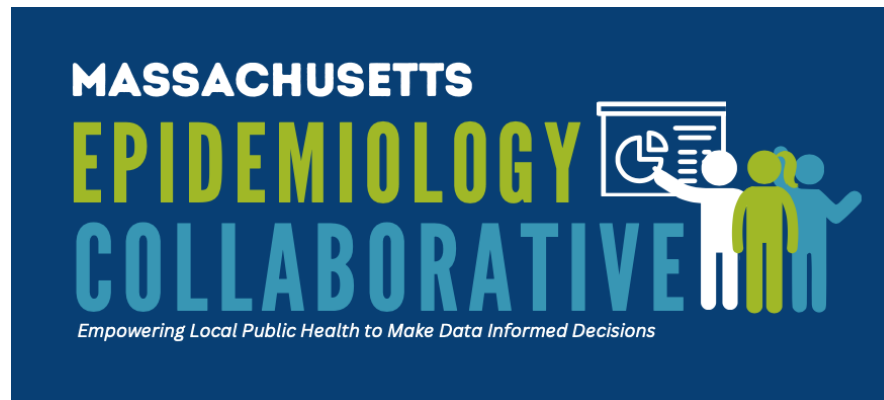
- Who are your main partners? What partnerships would you like to see built or strengthened?
- What has the community identified as priorities? What has the department identified?

Helpful Starting Places: Orient to Data Sources

Background Research

Local	State	National
<ul style="list-style-type: none">• Community Health Assessments (public health)• Community Health Needs Assessments (healthcare)• MAVEN Trainings	<ul style="list-style-type: none">• Population Health Information Tool• DPH Dashboards• State Health Assessment	<ul style="list-style-type: none">• Robert Wood Johnson County Health Rankings• CDC Places• BRFSS

Link your
epi with
their peers!



Helpful Starting Places: Orient to Data Sources

Observation

Get your epi as close to
the data collection as
possible.



Helpful Starting Places: Orient to Your Department

Observation

- Assign them to shadow staff
- Supporting programming
- Attending Board of Health and SSA meetings as an observer
- Set the foundation for successful relationships



Background Questions

- What do you do well? Show off!
- Why do you do things the way you do? What business workflows need to be preserved before anything else?

Foundational Relationships: **Epi and IT**



Foundational Relationships: **Epi and IT**

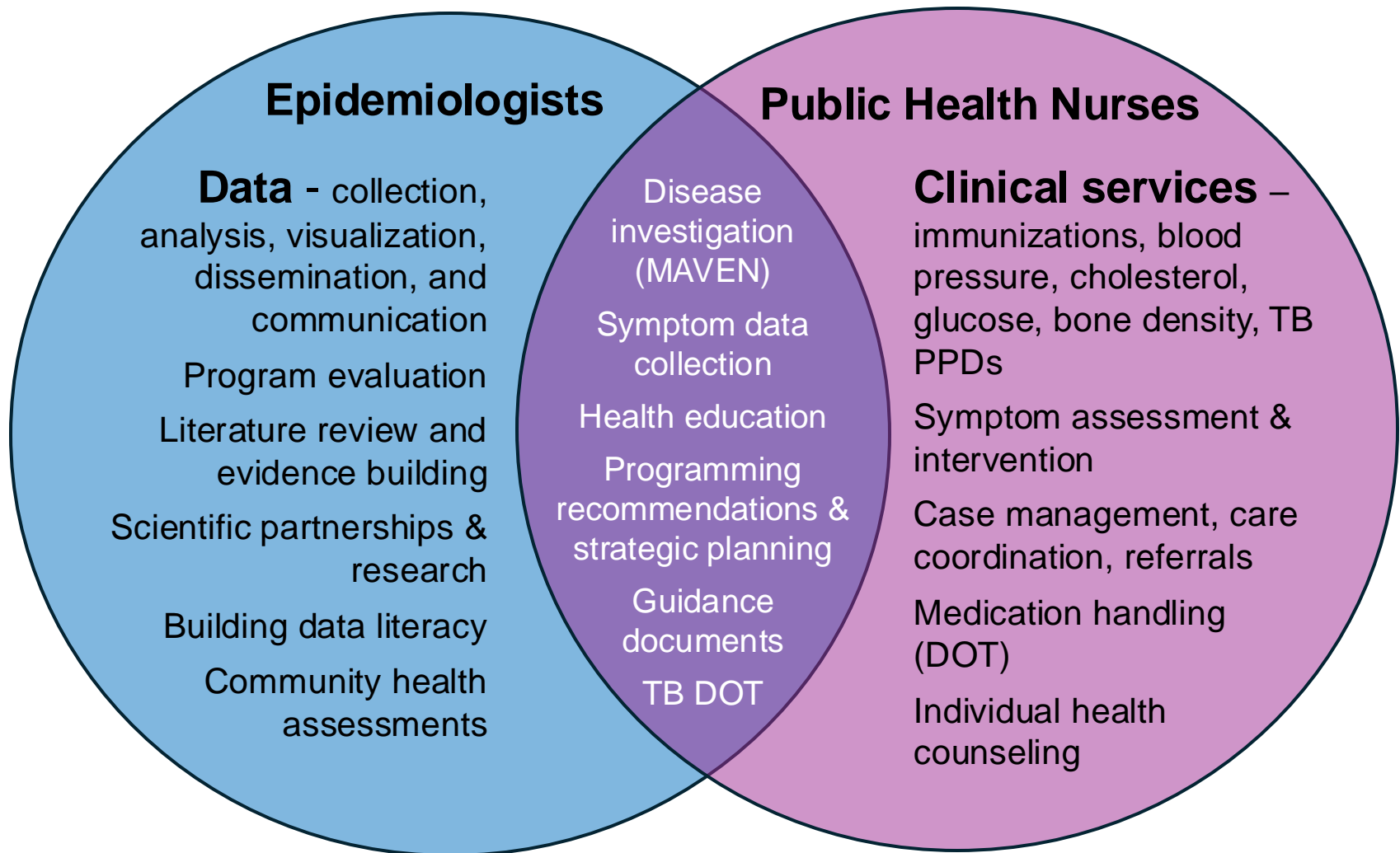
Shared principle that **data is a resource**.

To support that resource, your Epi and IT will need to develop **Data Practices, Policies & Standards** around:



A word cloud of data-related terms in various colors. The words are: lifecycle (pink), confidentiality (blue), collection (blue), suppression (purple), analysis (purple), entry (blue), quality (green), dissemination (pink), security (green), access (purple), policies (purple), sharing (pink), storage (purple), and informatics (green).

Foundational Relationships: **Epi and Public Health Nurses**





Getting Your Epi Started

Months: 4-12

Setting Your Program Foundations

**Vision for a Local Public
Health Epidemiology Program**

**Infectious
Disease**

**Chronic
Disease**

**Behavioral
Health**

Program Evaluation

Health Equity

Data Practices, Policies & Standards

Local Public Health Epidemiology

Recommend starting your new epi in **ONE** of these 3 pillars for **at least 1 year**.

Infectious
Disease

Chronic
Disease

Behavioral
Health

Program Evaluation

Health Equity

Data Practices, Policies & Standards

Helpful Starting Places: Start with One Pillar

Infectious Disease
Chronic Disease
Behavioral Health

Empower your epi to understand complex problems in your unique communities and identify realistic solutions by letting them work a...

CASE STUDY

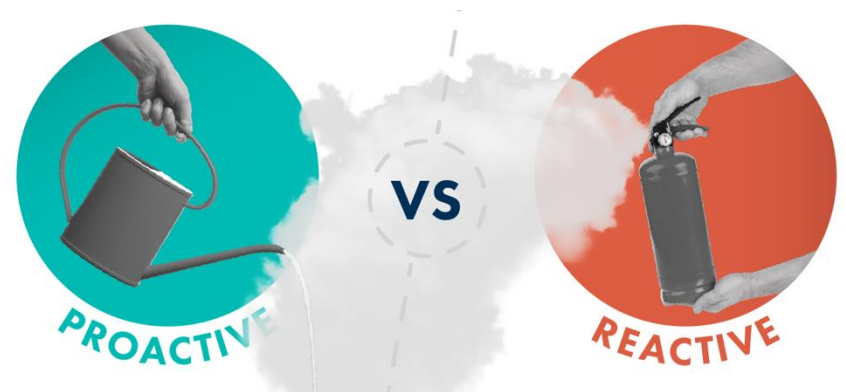


Helpful Starting Places: Start with One Pillar

Infectious Disease
Chronic Disease
Behavioral Health

How to pick?

1. Start with what the epi's background is
2. Hire for your priority domain & skills
 - What shows up consistently in community priorities?
 - Technical skills: data collection, analysis, visualization skills or software
3. What could crop up as an emergency?



A Digression About Software

What do you already have? What do you really need?

Talk to your **IT** and **Procurement** to learn what they will support and the cost (one-time & annually).



A Digression About Software

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**Data
Collection**

**Data
Analysis**

**Data
Visualization**



A Digression About Software

What do you already have? What do you really need?

Talk to your **IT** and **Procurement** to learn what they will support and the cost (one-time & annually).

Data Collection

Data Analysis *

Data Visualization



SurveyMonkey

Forms

Google Forms

MS Access

REDCap

IBM SPSS

STATA

ArcGIS

R Studio

SAS

Canva

+ a b | e a u

Power BI

VENNGAGE

ArcGIS

ArcGIS StoryMaps

R Studio

A Digression About

FREE w/ paid upgrades
FREE but requires IT support

What do you already have? What do you really need?
Talk to your **IT** and **Procurement** to learn what you need
and the cost (one-time & annually).

Data Collection

Data Analysis *

Data Visualization



SurveyMonkey

Forms

Google Forms

MS Access

REDCap

IBM SPSS

STATA

ArcGIS

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Tableau

Power BI

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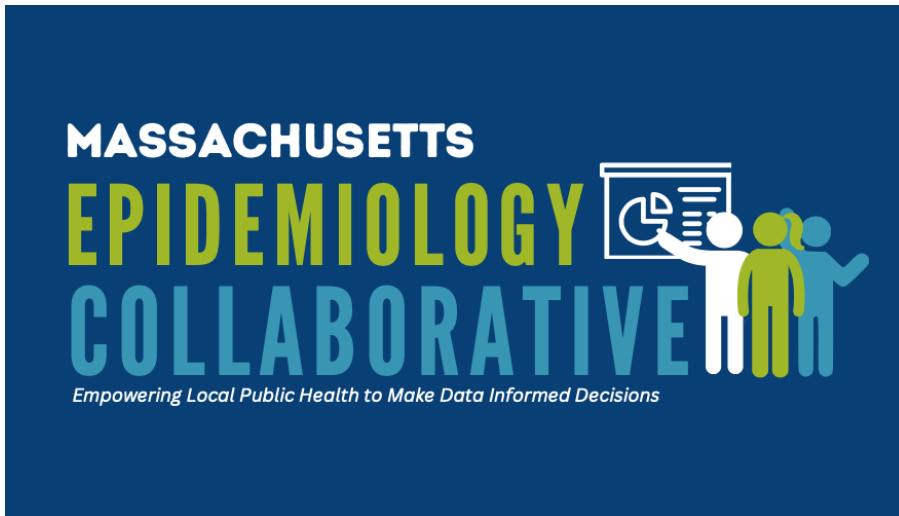
My Most Used Epi Skills in LPH



Epi Program Takeaways

- **A local epidemiologist can be a cornerstone of your public health department.**
- **Observation, questions, and background research are part of the public health science process.** Don't shortchange it!
- **Relationships are essential, even in data work.** Support your epidemiologist to develop strong personal relationships which can then lead to institutional (data sharing) relationships.
- **Identify a priority area and support your epi to do a deep dive case study.** Treating it as a case study will allow them to better understand your department, community, and systems while mitigating overwhelm.
- **Support your epi to build their resource network, within your community and outside of it.** There is an immense amount of science to cover for one position. Take the tact of an epi as a resourcer and connector, being the bridge to subject matter experts, to magnify the impact of your program.

Resources for Epis & Directors





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