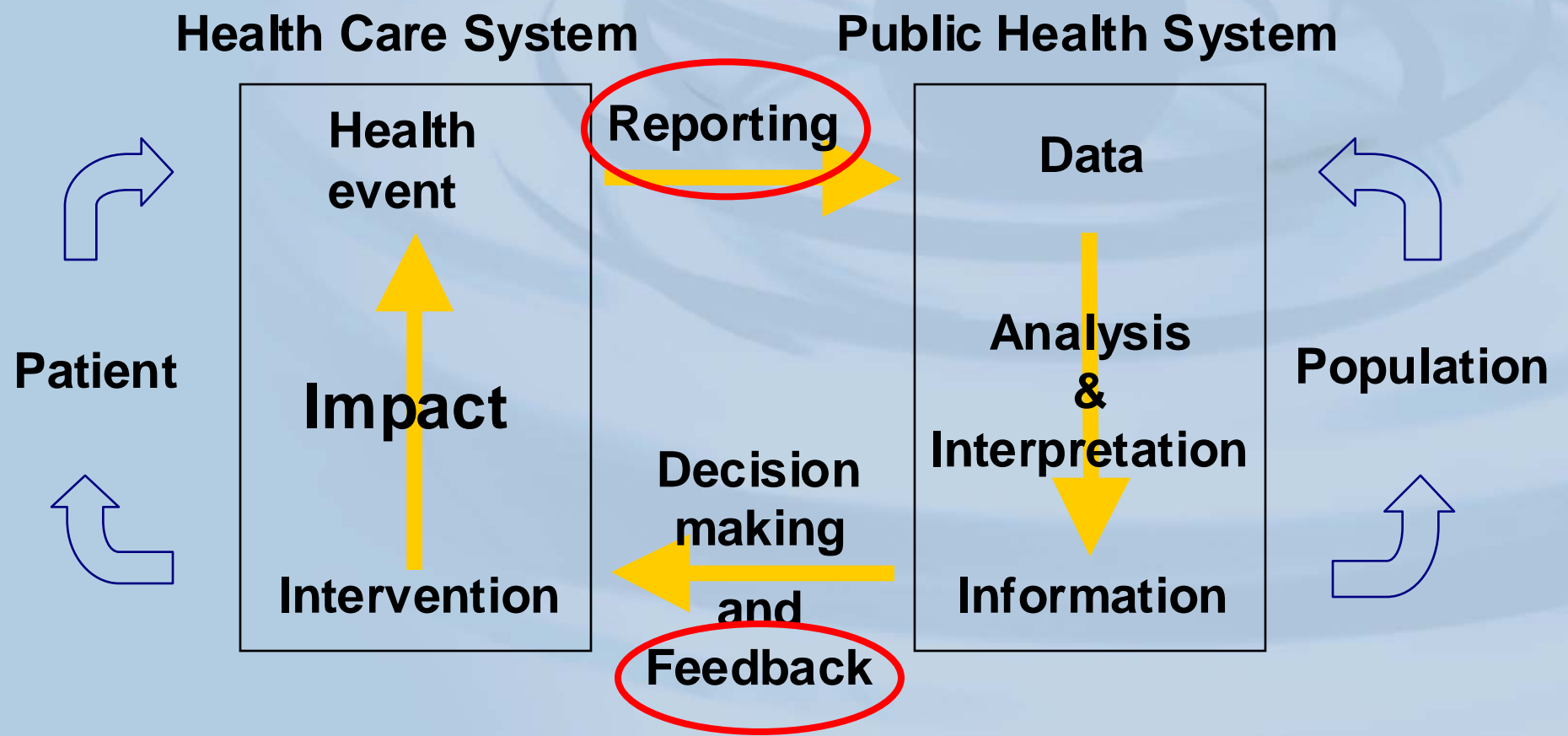# Towards Health Information Exchanges between Clinical Care and Public Health

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Public Health Surveillance: General Principles

Health Care System

Public Health System

Reporting

Health event

Data

Patient

Impact

Analysis & Interpretation

Population

Intervention

Decision making and

Feedback

Information

Challenges with Reporting

Patient

Health event

Health Care Providers

Reporting

Health Departments

- ❑ Reasons for underreporting
  - ▪ Lack of motivation due to poor feedback on reported cases[1-5]
  - ▪ Not comfortable reporting unconfirmed cases[1]
  - ▪ How or to whom to report[6]
  - ▪ Poor understanding of their important role as source of data[6]
- ❑ Burden of reporting[6]
  - ▪ Multiple forms, multiple systems
  - ▪ Complicated, too laborious[4]
- ❑ Recommendations to improve reporting include:
  - ▪ Simplify reporting[4,7]
  - ▪ Frequent feedback[1,6-9]

Challenges with Feedback

- Recognized need for integrating public health and clinical care
- Health information exchanges provide means for integration
  - Simplify reporting and provide feedback
- "Feedback should reflect needs and attitudes of providers"[8]
- What types of feedback do clinicians need from health departments that would be useful for their practice?

Patient

Intervention

Health Care Providers

Feedback

Health Departments
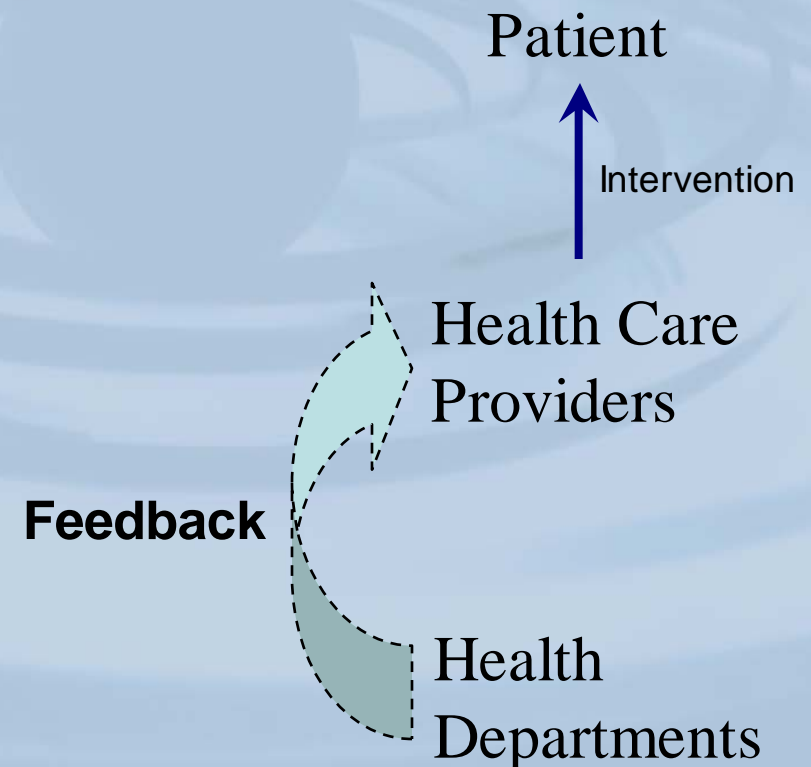
Research Goal

Inform the development of electronic HIEs between clinicians and health departments by determining

(1) clinician experience with current public health data reporting and

(2) what data, information, or knowledge from health departments can benefit clinicians.

Methods

Methods

❑ **Study Type**

  ▪ Nationwide online survey of ambulatory healthcare clinicians

❑ **Subject Recruitment**

  ▪ Up to 200 ambulatory healthcare clinicians

  ▪ Broad solicitation from professional organizations including state and regional primary care associations, American Academy of Pediatrics and the American Academy of Family Practice

Three-Part Questionnaire Design

1. Reporting from clinicians to health departments
   - Current reporting practices (who, what, how, when)
   - Included question on reporting knowledge and attitude; multiple-choice answers based on literature

2. Feedback from health departments to clinicians
   - Sub-categories: Infectious Diseases, Chronic Conditions, Other Conditions
   - Made up a feedback list that may be of value to clinicians
     - Divided into Individual and Population Health Information
   - Included comment boxes for free-text responses

3. Non-identifying demographics and practice profile

Data Analysis

❑ Univariate statistical analysis

❑ Bivariate comparisons

- Between physicians and other clinicians
- Between those who report data to health departments and those who do not report data
- Between those who want to receive information from health departments and those who don't want to receive information
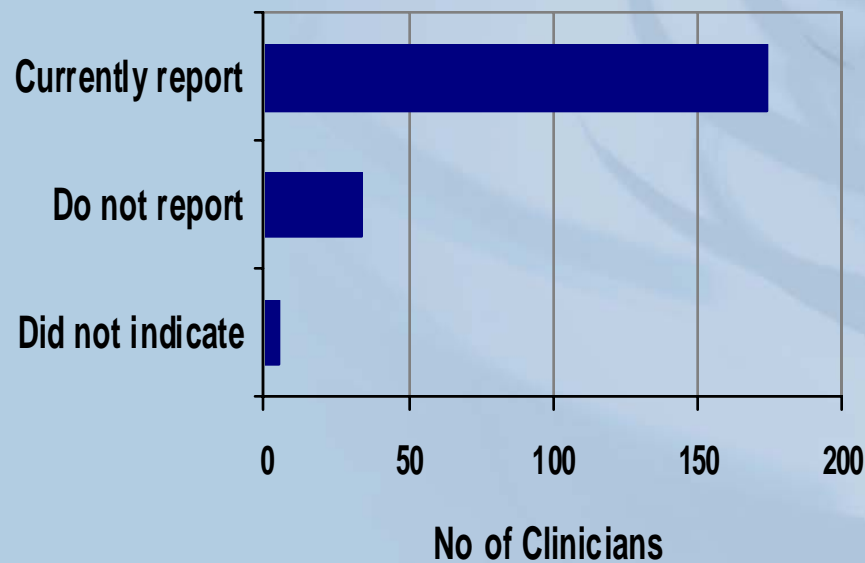
Results

Respondent Characteristics

Number of Responses	213 (59% physicians; 41% other clinicians)	
State/Territory	45 states and Puerto Rico	
Years of Practice	43% 5-20 yrs 41% over 20 yrs 1% did not indicate	13% less than 5 yrs 1% resident
Medical Specialty	56% Family Practice 25% other or did not indicate	19% Pediatrics
Working Relationship with their local HD	51% Yes 42% No	7% did not indicate
Additional Public Health degree	66% No 12% Yes	17% Nursing degree 5% other or did not indicate
Gender	56% Female 39% Male	4% did not indicate

Practice Profile

Location	38% Urban 38% Rural	19% Suburban 4% did not indicate
Size	46% Sm (2-9 providers) 38% Med (10-49 providers) 7% Solo	5% Large (50+) 4% did not indicate
Type	73% Primary Care 15% Multi-specialty	8% Single-specialty 4% did not indicate
Affiliation	77% Safety net clinics 14% Private/Independent 2% other or did not indicate	7% Medical center 1% Phys network
Computer-based system in practice	51% Yes 46% No 3% did not indicate	

Reporting to Health Departments
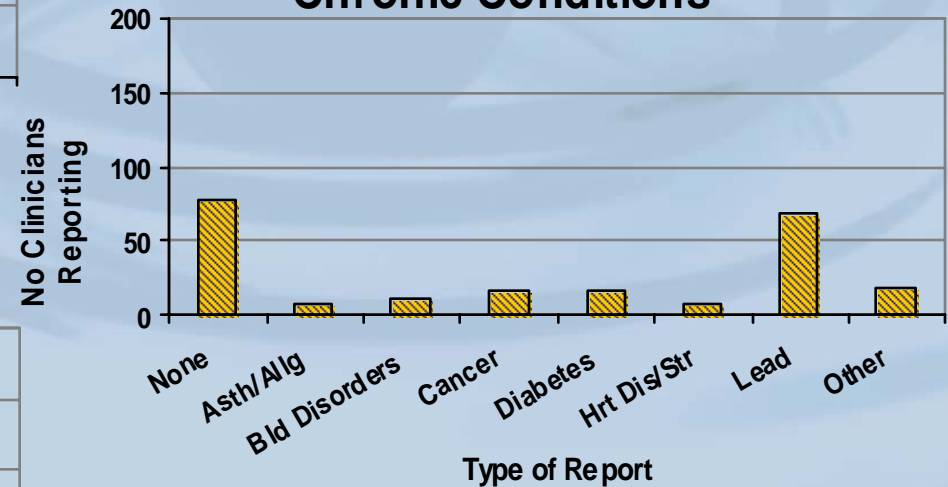
Do Clinicians Report?

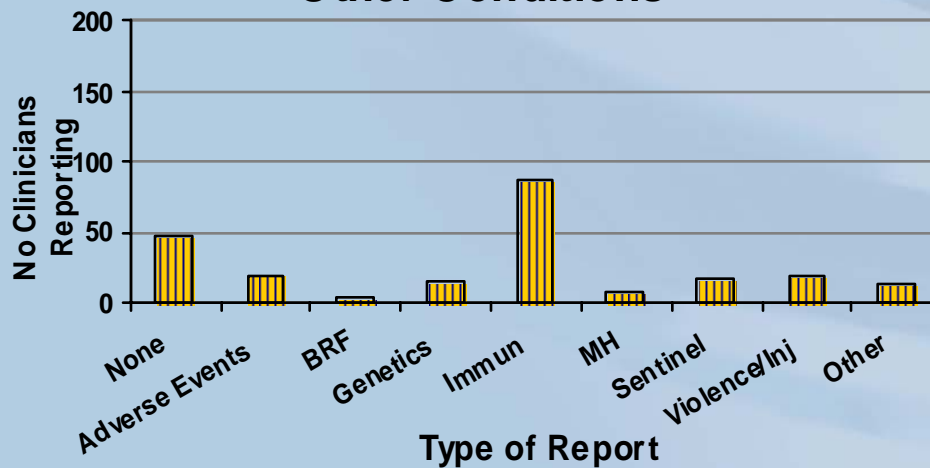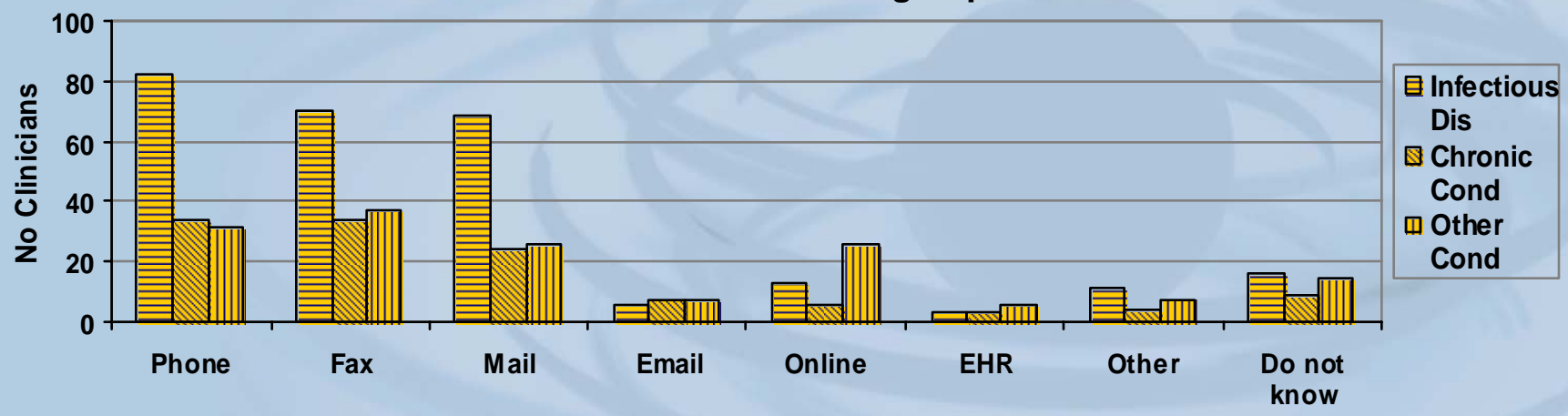**Primary Reporters In Clinics**
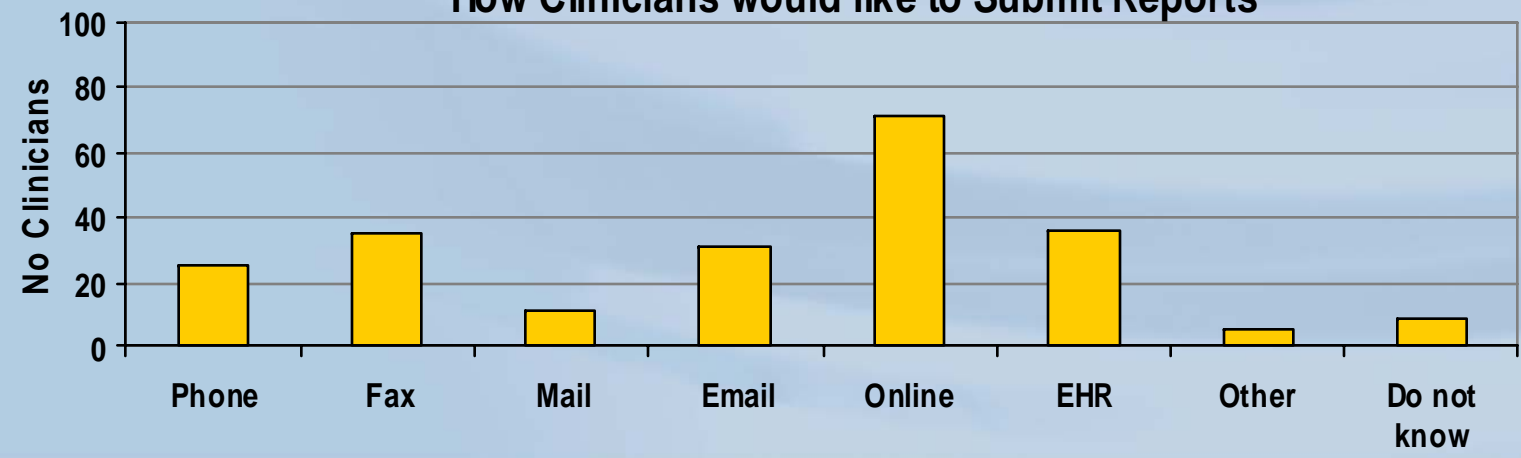
Conditions Reported

Format of Reporting

How Clinicians are Submitting Reports now

How Clinicians would like to Submit Reports

Frequency, Time and Use

- Frequency of reporting
  - Varies with case, monthly on average
- Amount of time it takes to report
  - 63% who reports Infectious diseases (51% for CC; 40% for Other) said it takes less than 15 minutes to report a single case
  - Others range from 15 minutes up to more than an hour, depending on the type of case
- Clinicians' Perception on HD's Use of their Reports
  - 91% thought reports are being used to "Investigate cause, source and spread of disease"
  - 70% thought "Plan budget and resources for healthcare services"
  - 60% thought "Protect jurisdiction from public's health threats"
  - 52% thought "Coordinate patient care"

Reasons for Not Reporting
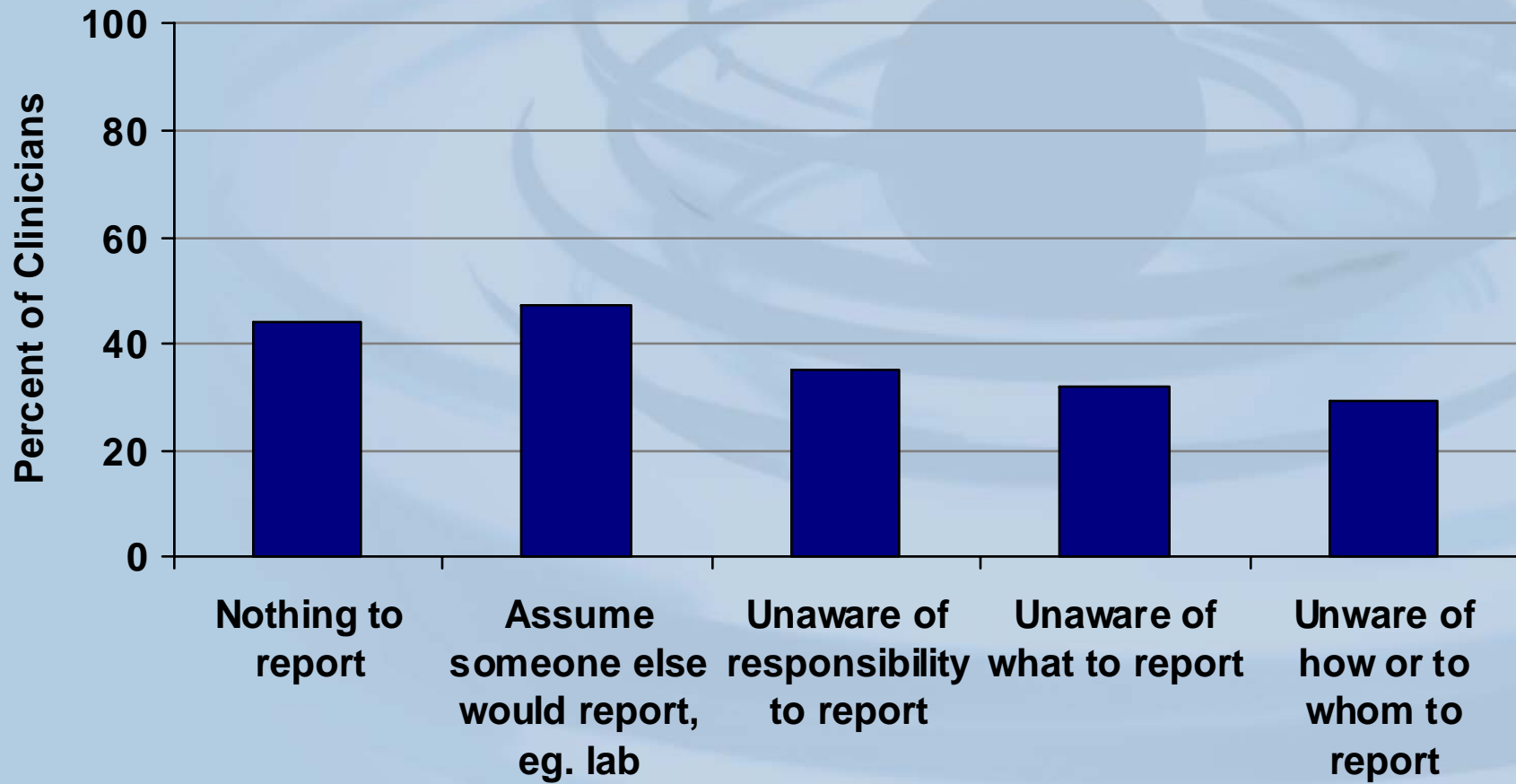
Feedback from Health Departments
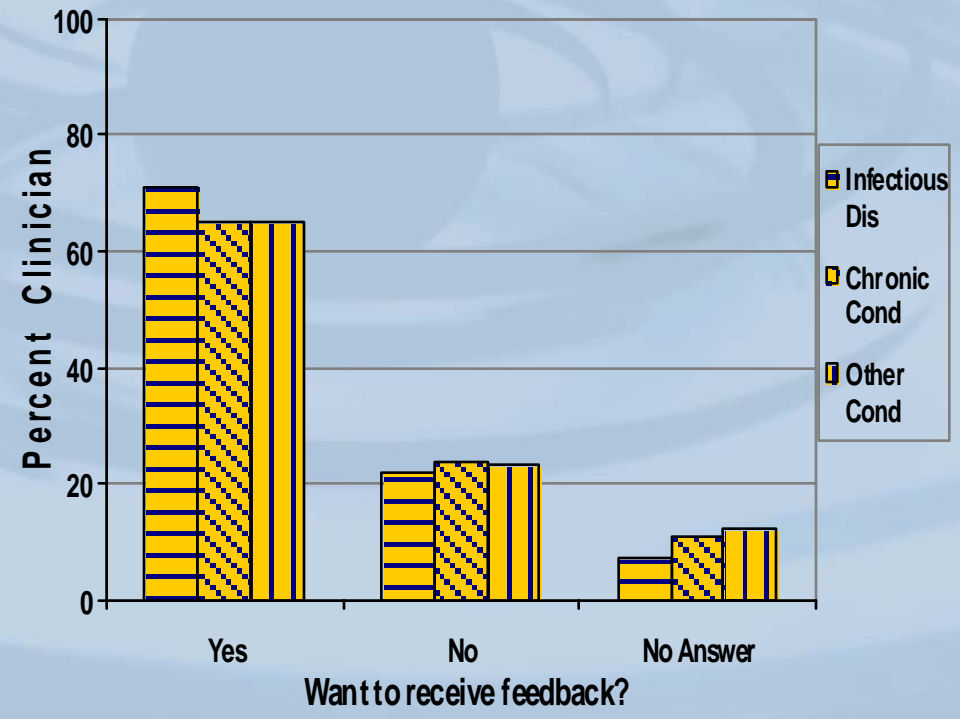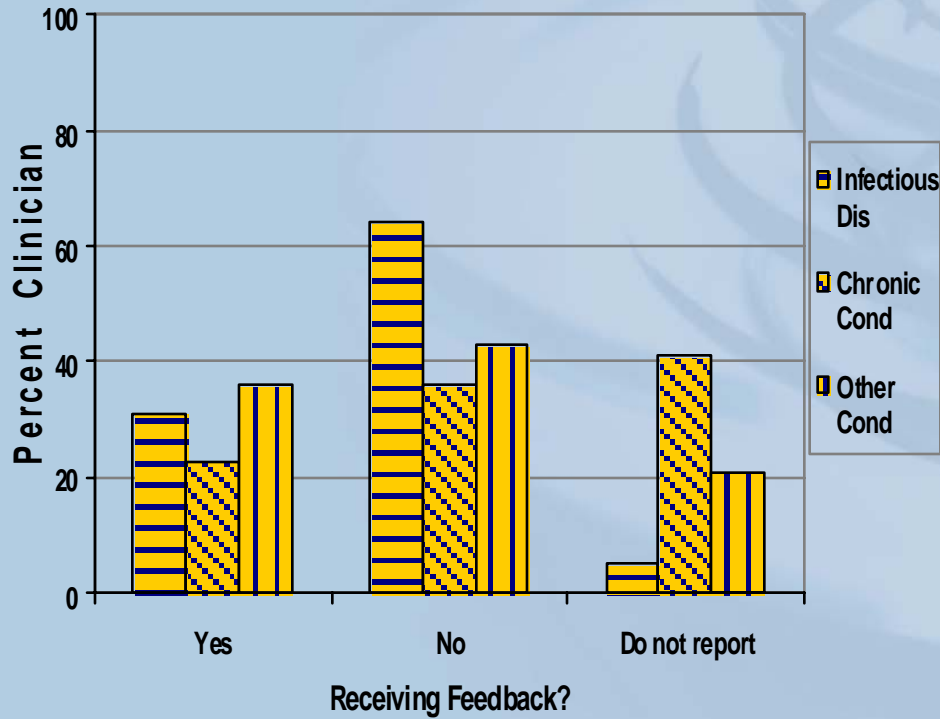
Information Received / Desired

- ❑ Population Health Information
  - ▪ Map of cases in their area
  - ▪ Comparative information on cases in their area
  - ▪ Alerts on outbreaks or increased prevalence/incidence
  - ▪ Alerts on environmental conditions
  - ▪ Health status of population in their area
  - ▪ Resources about services
  - ▪ Information on Community health education

- ❑ Individual Patient Care Information
  - ▪ Patient management
  - ▪ Materials for patient health education
  - ▪ Materials for clinical decision support
  - ▪ Public health reporting guidelines

- ❑ Format
  - ▪ Received by Phone, Fax, Mail, Email
  - ▪ Want to Receive by Email, Online

Bivariate Comparisons

❑ No association found between reporting data or wanting to receive data

AND

- ▪ Having a working relationship with health departments
- ▪ Having a public health degree
- ▪ Having a computer-based system in the practice

Discussion
&
Conclusion

Discussion

- ❑ Of those who report data to health department, 94% report Notifiable conditions
- ❑ 90% know and care about what reports are used for
- ❑ Interest in electronic exchange
- ❑ Indications of sharing electronic data using collaborative registries
- ❑ 46% claim they lack computer-based systems for patient clinical data
  - ▪ Responses on reporting and receiving data would be different if e-enabled
  - ▪ Rural locations are limited by technology issues and support

Limitations of Study

- Low response rate
  - 4% among physicians, 2% among all clinicians
  - However, responses are nationwide and evenly represent urban and rural practices
- Bias
  - Participants may have greater willingness to participate in reporting (i.e. FQHC) and be interested in feedback
- Length of survey
  - Incomplete sections

Conclusion

❑ Results show strong case for electronic bi-directional communication

❑ Feedback to clinicians will help reinforce the importance of their participation in public health practices

■ *"We get very little information from our health department, making it easy for us to forget to notify them re: notifiable conditions."*

– Survey Participant

❑ Types of feedback clinicians are interested in will inform the development of electronic HIEs between clinical care and public health for their common goal of delivering quality care and protecting the public's health.

Public Health Not a Burden But a Partner

- Both Public Health and Clinical Care need to re-think their relationship to each other and their responsibility to share data to help guide patient care and improve population health.

- *"Our Health Department is wonderful. Both sides have wanted to do data sharing for years, but it is the connectivity and ease of data gathering and analysis as the barrier."* - Survey Participant

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Questions?