Health Informatics Capacity and Meaningful Use Readiness of Georgia's Health Districts

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Objectives

The primary aims for the study:

- To assess the level of Georgia district health departments' (DHD) health informatics capacity and Meaningful Use readiness" (through survey)

- To assess public health professionals in their readiness to receive public heath reporting (immunization, laboratory reporting and syndromic surveillance), and tracking health outcomes and quality improvements (case study) **Covered Later (by Dr. Kumar)**

Objectives-2

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- Specific Aim 3: To assess the linkage of health districts' data and business functions (budgeting, billing, expenditures) of their information systems to state and federal health departments, practitioners and hospitals and tracking health outcomes and quality improvements (case study) . **Covered Later (by Dr. Kumar)**

- Specific Aim 4: To assess public health professionals' leadership in making the health district Informatics based in developing , implementing and maintaining the certified EHR systems for meaningful use and health information exchange (case study) **Covered Later (by Dr. Kumar)**

Introduction, Background, and Terminology

Intro/Background

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Public health informatics:

"the systematic application of information and computer science and technology to public health practice, research, and learning."

Yasnoff et al. (2000)

Intro/Background-2

- The adoption of IT/IS has increasingly become central for diverse public health activities and recent developments:
  - PHAB Accreditation of health departments
    - CHA/CHNA
    - Quality Improvement
    - Care coordination
  - Disease surveillance.

Gaps in Evidence

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- National level studies by NACCHO on health informatics:
  - Low response rate and study design not allowing GA-specific assessment of health informatics.

- One GA-specific study by the Georgia Department of Community Health on health districts assessed the DHDs' readiness to participate in HIE, but many other aspects of informatics were not assessed.

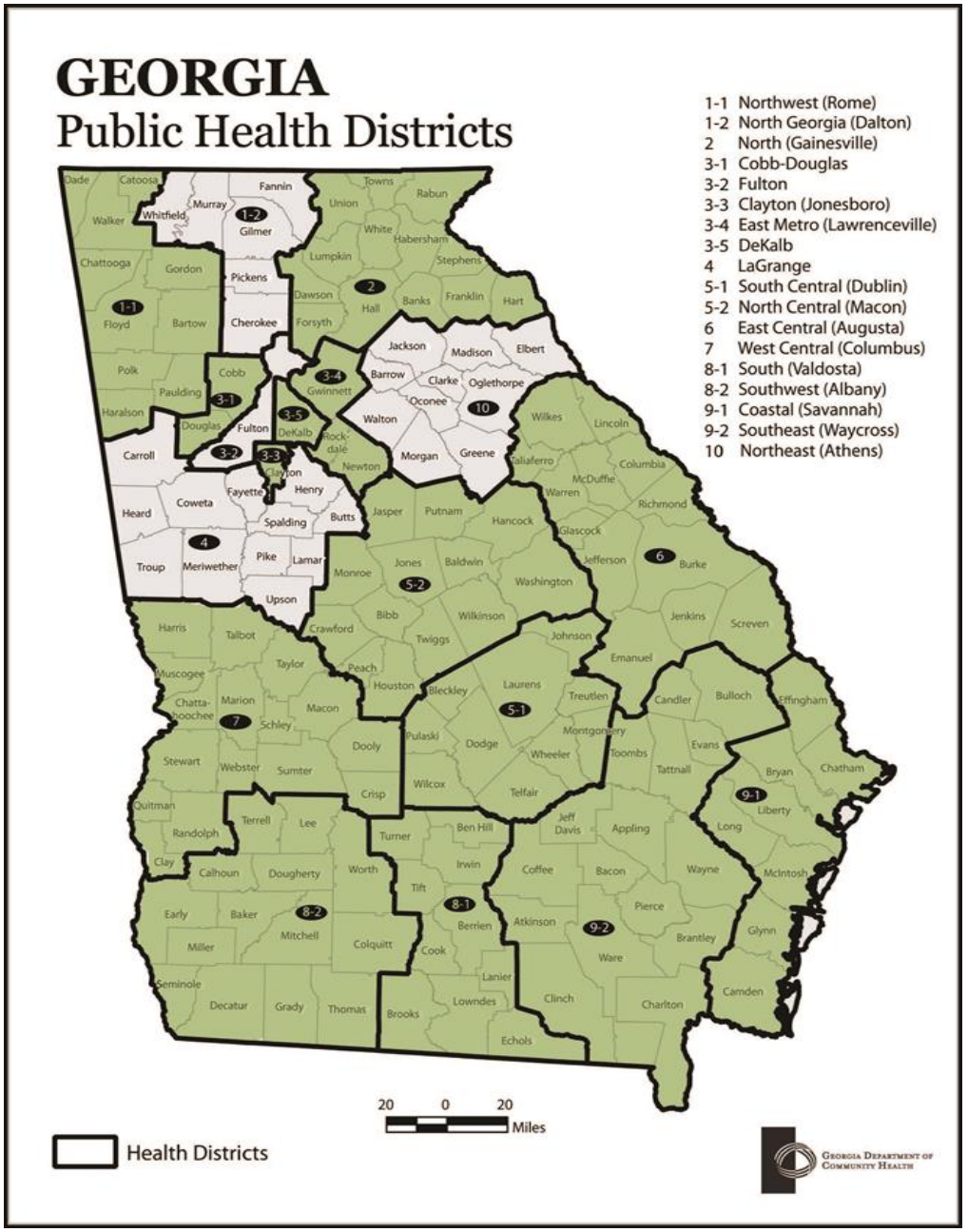
- This study compliments the findings from that recent study.

Georgia

- 159 counties
- Population range:

  1,863 – 1,014,932

- *Green highlight - Districts participating in GA PH PBRN studies*



What is Meaningful use of EHRs?

- Meaningful Use (MU) is an application of certified EHR technology by providers and hospitals in a purposeful manner for health information exchange that improves and measures health care significantly in quality and quantity (HHS, 2011).
- Use of certified EHR technology for:
  - Improving quality care
  - Improving safety,
  - Improving efficiency of care
  - Reducing health disparities
  - Improve care coordination

Meaningful use of EHRs

Impacts Sought:

- Improved clinical outcomes
- Improved population health
- Increased transparency in care provision
- Patient empowerment
- More robust research data
- Care standardized and structured
- Decision support functions are activated

Electronic Health Records/ Electronic Medical Records

- EHR is a systematic collection of electronic health information …that is shared across different health care settings (Interoperable).
- EMR is a digital version of the traditional paper-based medical record of a patient.
- PHR is a collection of health-related information, documented and maintained by the individual it pertains to.

Data and Methods

Research Design and Data Collection

- Mixed methods study:
  - Georgia state consists of 18 health districts; quantitative analysis of DHD not plausible.

- Sequential, using a qualitative approach to enrich the quantitative components

Data Sources

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- GA PBRN conducted a survey of all health districts in GA.
  - Brief instrument administered to all district health departments (DHD) using web-based survey software– Qualtrics
  - An email was sent with request to identify staff involved in use of information systems, IT development, or data report/use.
  - Survey administered to all identified staff, with request to forward the link to additional relevant staff
- Three case studies were also conducted (by Dr. Kumar)

Case Studies

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Health Districts of Georgia:

- Three Case studies- in depth interview – 10 in number
- The interview participants were the health directors , IT staff, epidemiologists, and nurse practitioners
- Desk copy (review of materials)
- Field observation (during in person interview)

Results

Characteristics of Respondents

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- Total of 36 individuals responded to the survey
- 30 useable responses received
- 26 responded to most questions
- 13 out of 18 District Health Departments (DHD)
- Survey completed by multiple staff per DHD

Characteristics of Respondents

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Position of Respondents:

- 9 District Health Directors
- 6 Financial or other Non-Clinical Program Directors
- 8 IT Directors, Supervisors, or Managers
- 7 Public Health Nurses or Clinical/Disease Coordinators

Main findings

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Good news/bad news situation re EHRs

- Only a few GA Health Districts are currently able to make use of Meaningful Use-certified EHRs
- Future ability for use is fairly promising: 1 in 3 plan to have ability to fully utilize Meaningful Use-certified EHR

Health districts played active role in shaping the statewide information systems

- More than half of the respondents played a role or were involved in development of state or regional EHRs
- In GA county/local health departments are all part of a DHD

Main findings-2

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Informatics as Strategic Priority:

- Respondents reported having concrete processes in place to make health informatics a strategic priority :
  - Assigned dedicated resources
  - Made it explicit part of the strategic plan
  - Part of the QI efforts
  - Part of accreditation efforts

Main findings-3

Use of Information Systems

- Level of use of information systems was very encouraging, (clinical records management; accounting and finance; billing; HRM; and QI)

Barriers

- Lack of funding and staff
- Uncertainty about Meaningful Use requirements

Resource needs

- Financial, technical, infrastructural, workforce

Meaningful Use-certified electronic health record system

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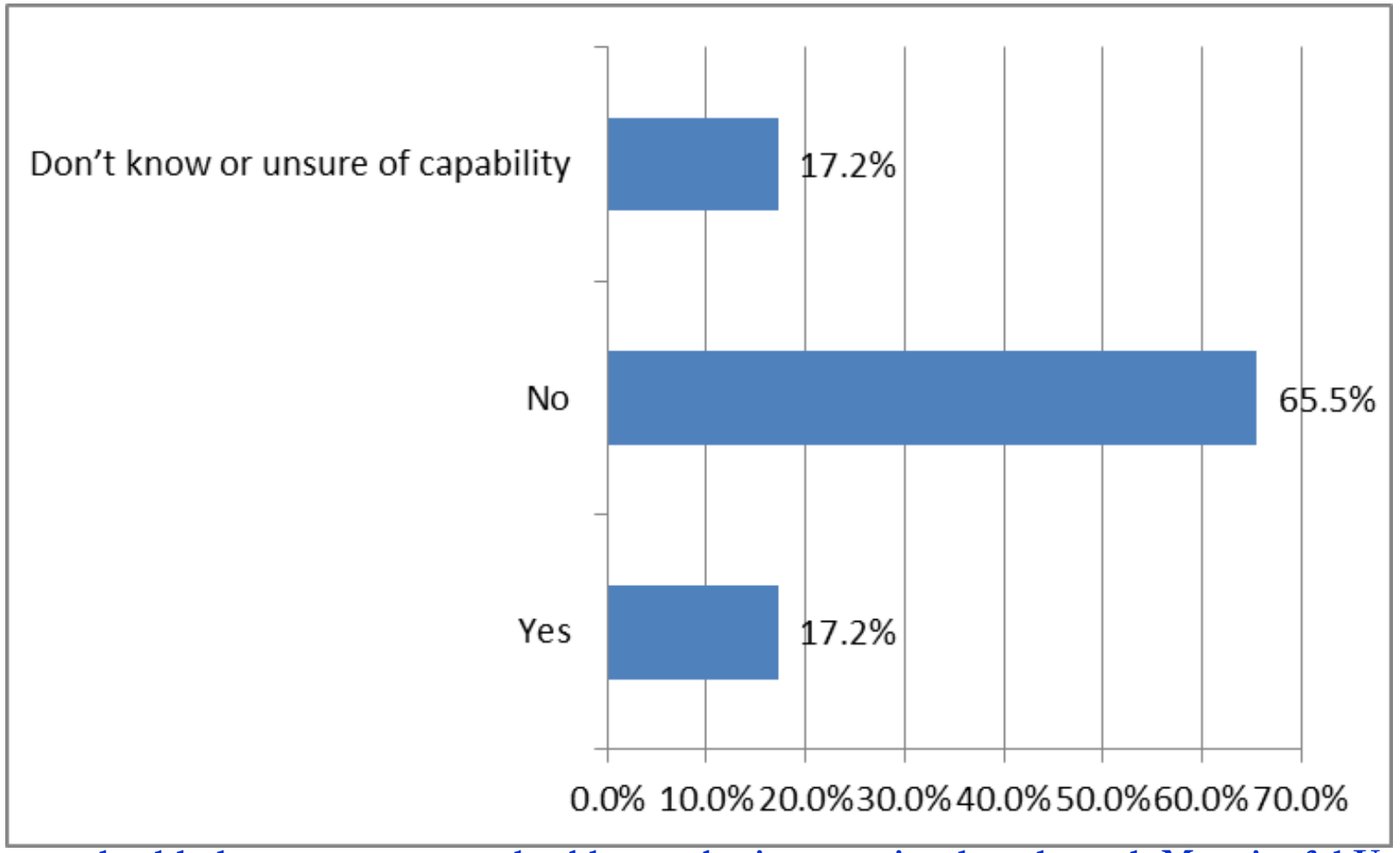

Is your health department currently able to submit or receive data through Meaningful Use-certified electronic health record system? (N=22; Missing =8)

Future ability for Meaningful Use

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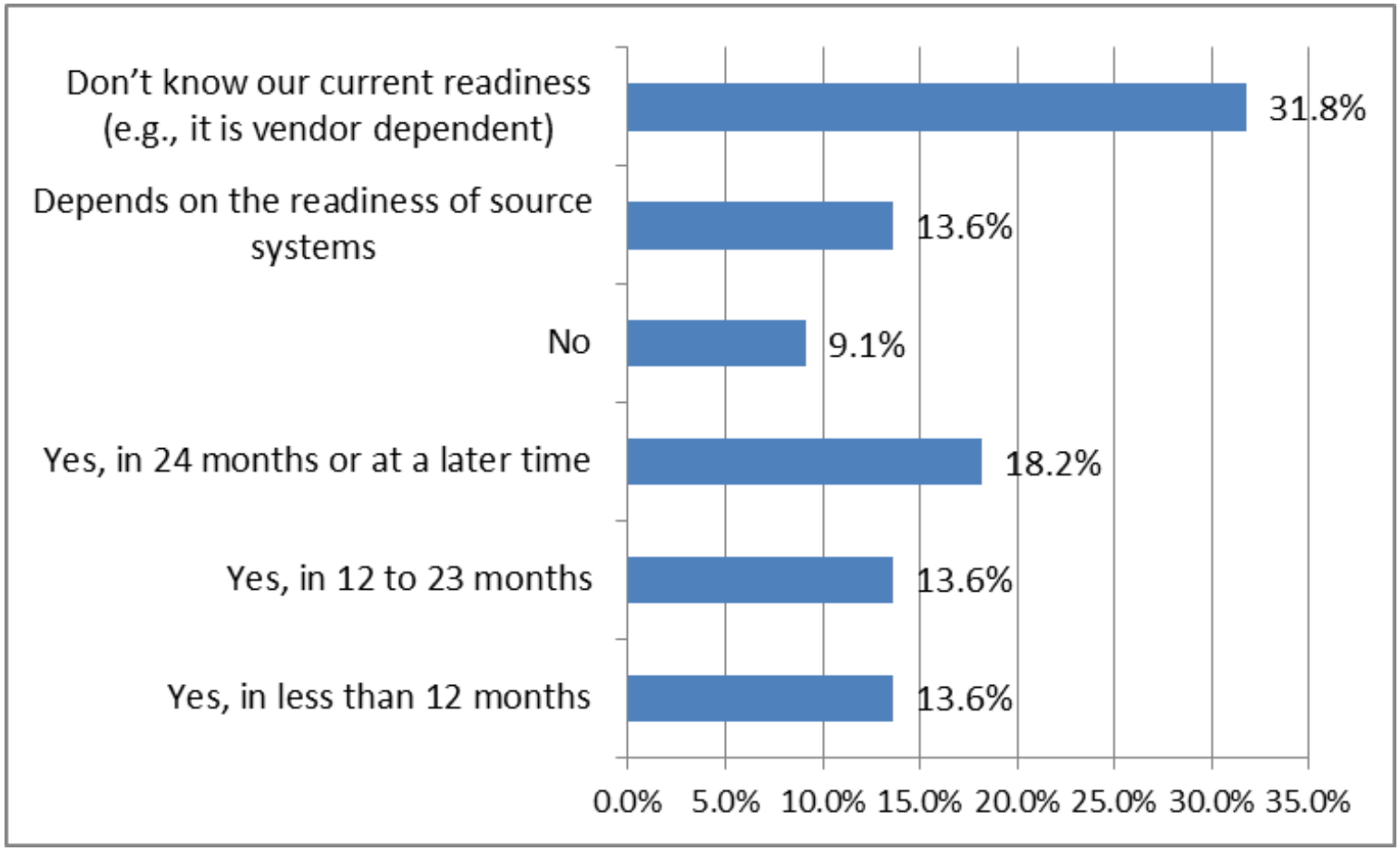

Percent indicating they anticipate their DHD will be able to fully utilize a Meaningful Use-certified electronic health record system (N=22; Missing =8)

Barriers to submitting or receiving electronic health data required for Meaningful Use?

- GA health districts did not offer a lot of information on barriers to submit or receive electronic health data required for Meaningful Use.
- We anticipated that an instrument with pre-constructed response categories might provide persuasion.
  - The pattern of response did not support such anticipation.

Barriers or reasons

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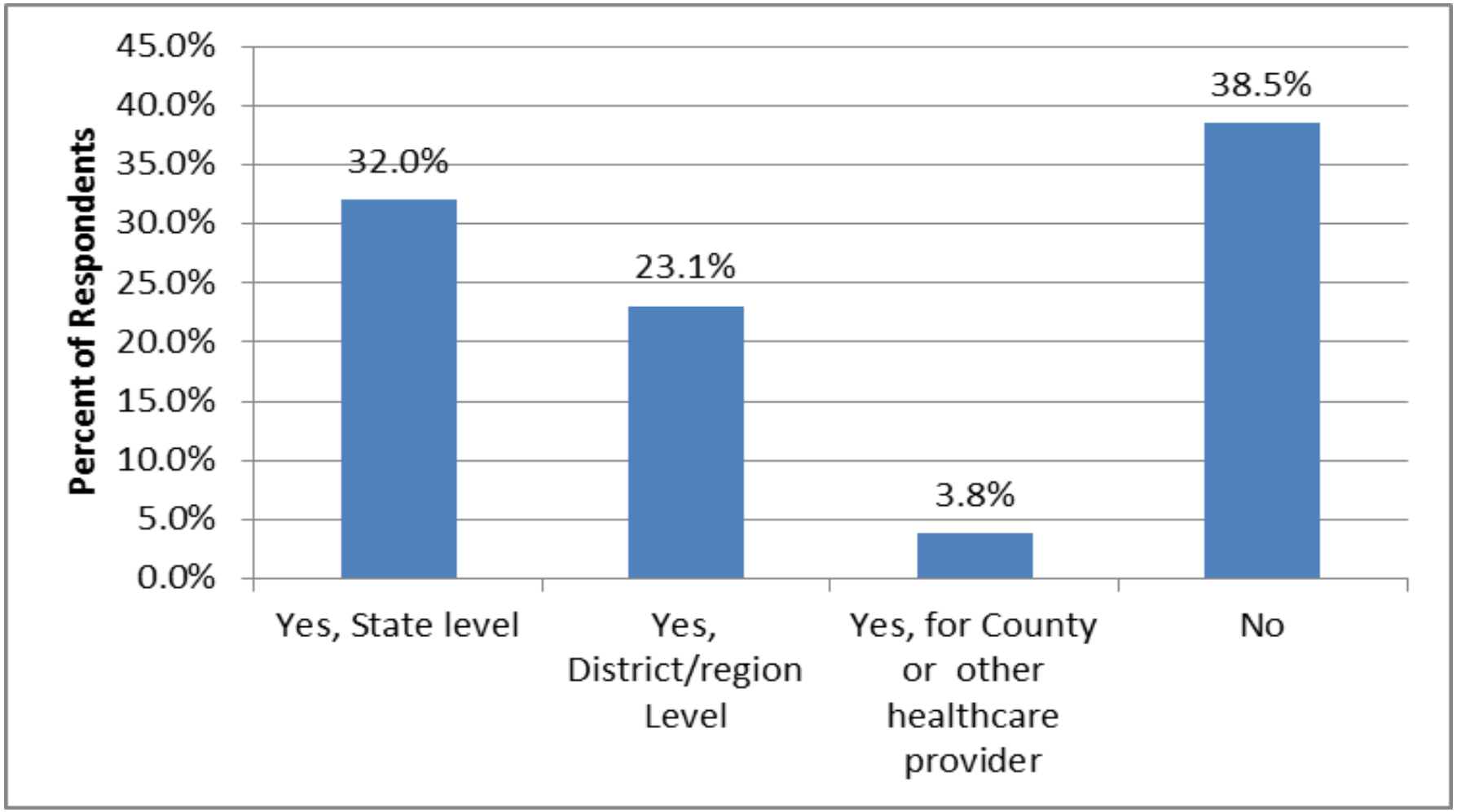
Barriers and Reasons	No	Yes	Missing
a. Do not have an EHR or other system to receive electronic information	80	20	0
b. Lack funding to procure appropriate technologies	73.3	6.7	20
c. Require technical assistance	80	0	20
d. Insufficient staff support	80	0	20
e. Uncertain about Meaningful Use requirements	80	0	20
f. Other	80	0	20

Percent of respondents with barriers or reasons the District may not be able to submit or receive electronic health data required for Meaningful Use? (N=30)

DHD input in HIE



Has your health district had any input in the development of Health Information Exchange (HIE)? (N=26)

Health informatics a strategic priority

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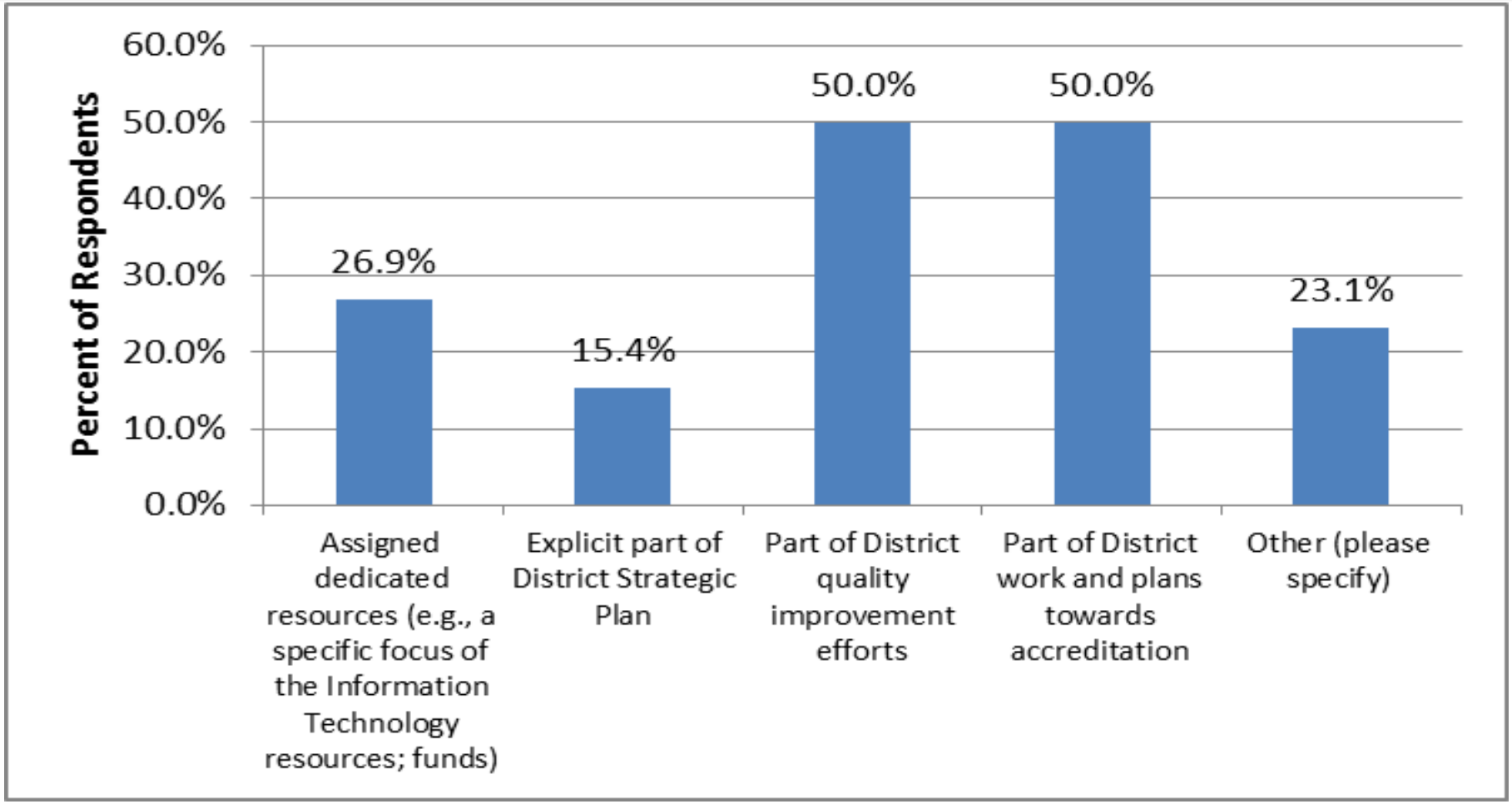

Describe what processes if any are in place to make health informatics a strategic priority for your district (N=26)

Use of information systems

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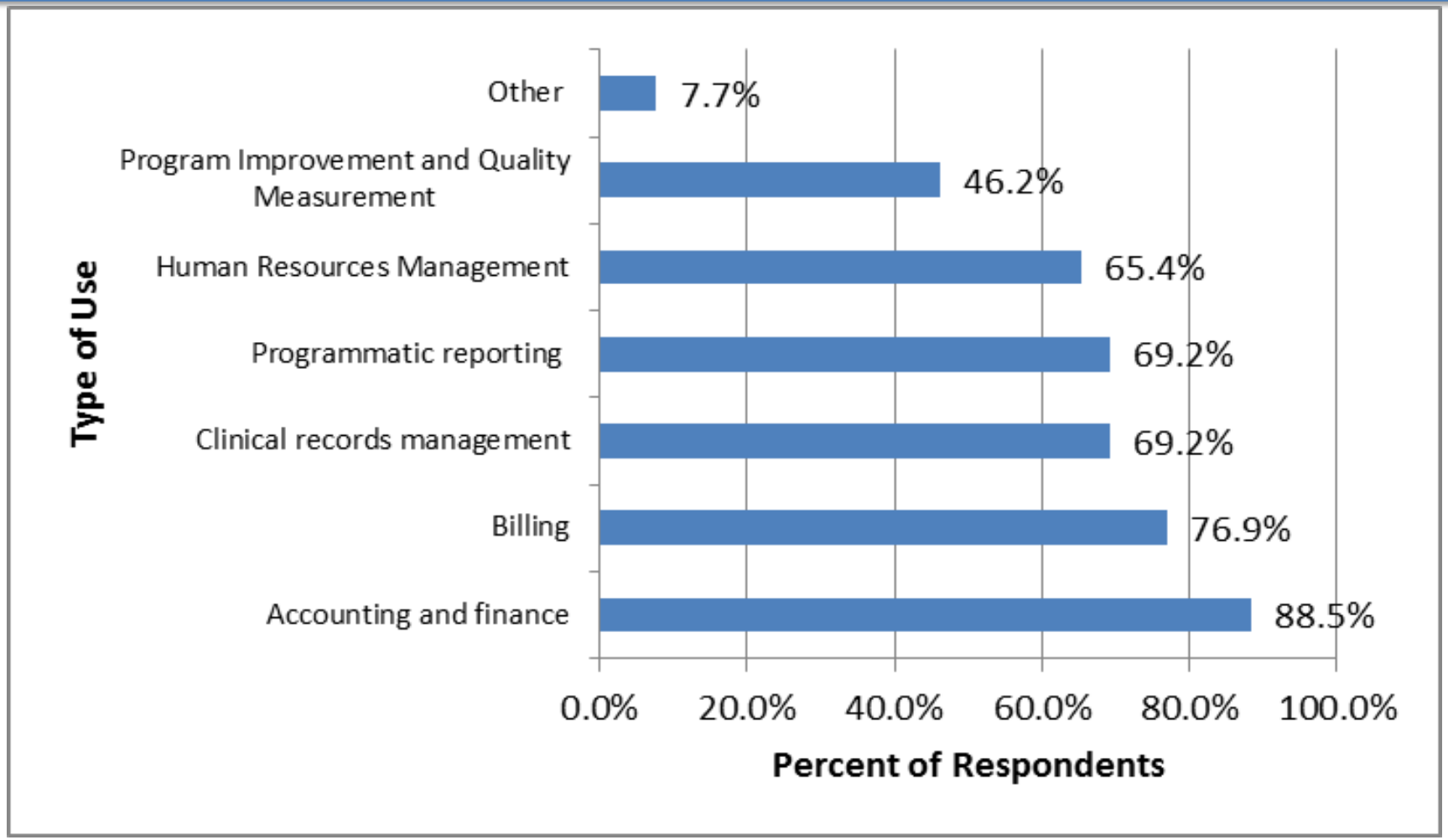

What are some of the ways in which information systems are used by your district? (N=26)

Barriers to Meaningful Use

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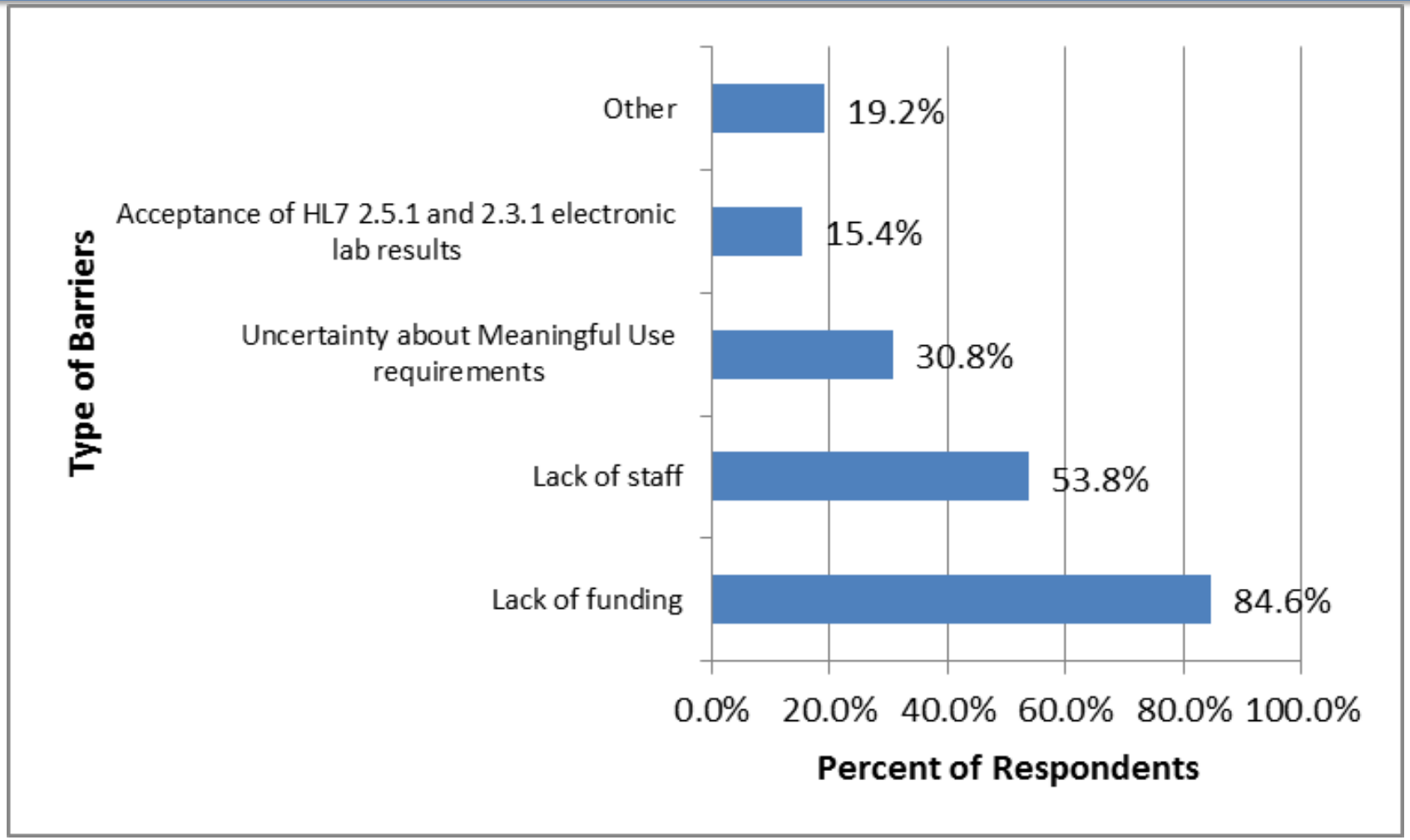

What barriers if any are you encountering as you prepare for Meaningful Use? (N=26)

Nature of involvement with REC

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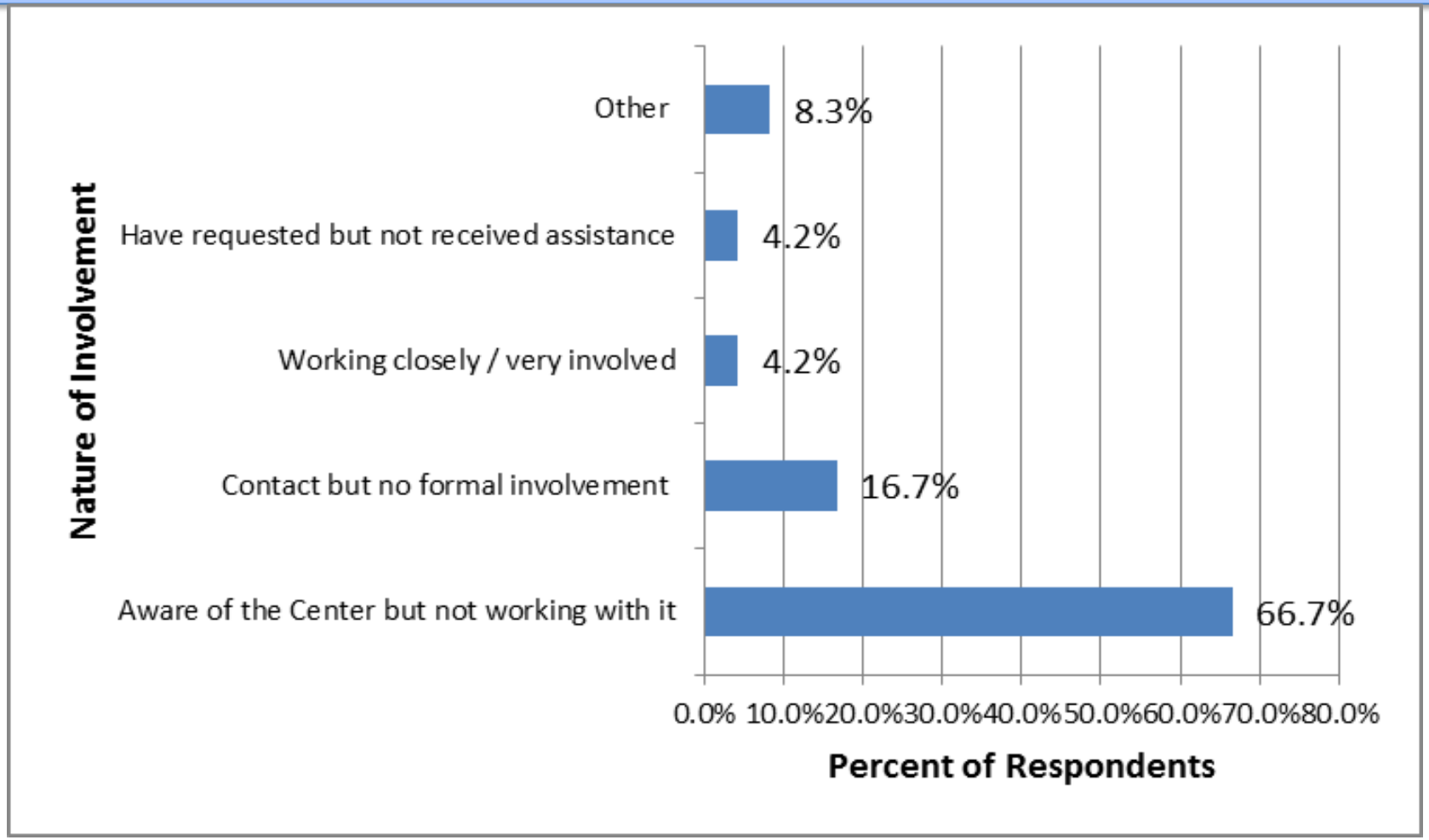

What has been the nature of your involvement with the Regional Extension Center? (select one best response) (N=26)

Health informatics a strategic priority

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Title of Respondent	Assigned dedicated resources	Explicit part of District Strategic Plan	Part of District quality improvement efforts	Part of District work and plans towards accreditation	Other
District Health Director	14%	0%	57%	29%	43%
Financial or other Non-Clinical Programs Direcotr	20%	20%	20%	20%	20%
IT Director, Supervisor, or Manager	50%	38%	88%	88%	0%
Public Health Nurse or Clinical/Disease Coordinator	17%	0%	17%	50%	33%
All Respondents	27%	15%	50%	50%	23%

Describe what processes if any are in place to make health informatics a strategic priority for your district. (select all that apply) (N=26)

Ways in which information systems are used

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Title of the respondent revised	Clinical records management	Accounting and finance	Billing	Human resources management	Programmatic reporting	Program improvement and quality measurement	Other (please specify)
District Health Director	57%	86%	86%	57%	71%	29%	0%
Financial or other Non-Clinical Programs Direcotr	60%	80%	60%	60%	80%	40%	20%
IT Director, Supervisor, or Manager	100%	100%	100%	75%	75%	75%	0%
Public Health Nurse or Clinical/Disease Coordinator	50%	83%	50%	67%	50%	33%	17%
Total	69%	88%	77%	65%	69%	46%	8%

What are some of the ways in which information systems are used by your district? (please check all that apply) (N=26)

Open Ended Question

What needs you have which would enable your health district to fully participate in Meaningful Use or health IT in general?

Lack of funding/staff

- Lack of staffing or funding for training was the highest level of concern, with 16 DHD staff reporting this response.
- Eight DHD staff reported lack of funding to support the upgrades for software, hardware, and the development of interface or IT infrastructure.
  - One person indicated concerns over the infrastructure challenges.

(2)

Lack of funding/staff

- Twelve reported requiring funding for **implementation**
  - **A couple of them noted that** systems are "incredibly expensive."
- **Time**: extremely time consuming
- **Staff**: Analytics which are needed for different purposes: operational dashboards, real-time (or near real-time) quality reporting and automated surveillance.

(3)

- **Interface Development** at State Lab Level,
- **Centralized data repository** for secure storage and access of the records by all partners.
- Developing **data sharing agreements** with community partners who have electronic records,
- Means of **sharing data** with other provider electronically.

(4)

- **Increased bandwidth**: Bandwidth, Increase bandwidth in support of current infrastructure
- **Technical expertise**: coding expertise and support. when the IT system is down, so are the records
- Long term plan to implement, evidence of practical relevance, supremely frustrating
- Lack of "knowledge" about EMR

(5)

- **Technical** coding and support and understanding of how the system can be accessed with it malfunctions.

Limitations

- Small numbers pose limits on analysis options
- Multiple respondents from each DHD
- Response rate (13 out of 18 DHDs)
- Many DHDs had single respondent; perspective of many other relevant staff was not captured
- This may not be representative of situation in other states that are structured differently

Case Studies

Objectives

- To assess public health professionals in their readiness to receive public heath reporting (immunization, laboratory reporting and syndromic surveillance), and tracking health outcomes and quality improvements (case study)
- To assess the linkage of health districts' data and business functions (budgeting, billing, expenditures) of their information systems to state and federal health departments, practitioners and hospitals and tracking health outcomes and quality improvements (case study) .
- To assess public health professionals' leadership in making the health district Informatics based in developing , implementing and maintaining the certified EHR systems for meaningful use and health information exchange (case study)

Overall Comparative Status

Health District (HD)	Health District A	Health District B	Health District C
Current EHR system, Ryan White HIV/AIDS clinic	• Visual Health Net v 11 with few public health modules, VHS certified v 11 in Ryan White Clinic	• Visual Health Net v 10 with few public health modules, VHS certified v 11 in Ryan White Clinic	• AEGIS v10.3, Care ware in in Ryan White Clinic
Certified	• Certified	• Certified	• Not certified
Funding	• Biggest barrier	• Biggest barrier	• Biggest barrier
Bandwidth	• slow	• slow	• slow
Linkage with State Health System- GRITS	• GRITS • Interface is developed • Data flows directly to GRITS when entered in VHS	• GRITS • Data flows directly to GRITS when entered in VHS	• GRITS • Data flows directly to GRITS when entered in AEGIS

Overall Comparative Status

Health District (HD)	Health District A	Health District B	Health District C
Linkage with State Health System- SendSS	• Login protected by the state, • Interface is being developed by the state, • Reports are batch filed to the state health department	• Login protected by the state, • Interface is being developed by the state, • Reports are batch filed to the state health department	• Interface will be developed by the state • Reports are batch filed to the state health department
Linkage with State Health System- Labs	• Talks between M&M and state health are going on to develop uniform codes OF LOINC and ICD 10 • District labs enter data into their own system, district receives data logging to a common platform	• Talks between M&M and state health are going on to develop uniform codes OF LOINC and ICD 10 • District labs enter data into their own system, district receives data logging to a common platform	• No information abbot the lab development, • District labs enter data into their own system, district receives data logging to a common platform
Tech support	• Local IT department	• Local IT department	• Local IT department
Training	• Local IT department , Vendor support	• Local IT department ,Vendor support	• Local IT department, Vendor support
Recent updates after Jan 2014	• Version 11.2	• Version 11.2	• No Change

Challenges

Health District (HD)	Case Study-1	Case Study-2	Case Study-3
Financial	• Finding the right EHR to sit the needs • Local reserve of funds are being used • Uncertainty about financial incentives. • No help from state health • No help from federal heath	• Finding the right EHR to sit the needs • Local reserve of funds are being used • Uncertainty about financial incentives. • Try to update the • No help from state health • No help from federal heath	• Finding the right EHR to sit the needs • No funding is available • Uncertainty about financial incentives • No help from state health • No help from federal heath
Technical			
1.Training of Staff	• Lack of necessary computer skills • Local IT help • Vendor based trainings • No help from state or federal	• Lack of necessary computer skills • Local IT help • Vendor based trainings • No help from state or federal	• Lack of necessary computer skills • Local IT help • Vendor based trainings • No help from state or federal

Challenges

Health District (HD)	Case Study-1	Case Study-2	Case Study-3
2. Tech support	• Having the right IT staff, • Local IT department Vendor support	• Having the right IT staff, • Local IT department ,Vendor support	• Having the right IT staff, • Local IT department, Vendor support
3. Bandwidth, Security	• Slow • Disruption of workflow and productivity • T1 lines • Privacy and Security concerns	• Slow • Disruption of workflow and productivity • T1 lines • Broadband, Cable • Privacy and Security concerns	• Slow • Disruption of workflow and productivity • T1 lines • Privacy and Security concerns
Time	• Is required to convert paper records to electronic • To implement and learn the system	• Is required to convert paper records to electronic • To implement and learn the system	• Is required to convert paper records to electronic • To implement and learn the system
Recent updates after Jan 2014	• Version 11.2	• Version 11.2	• No Change

Conclusion
To comply with Stage-2 Meaningful Use Public Health Objectives

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Needs Financial support from state & federal health agencies and REC :

- Lack of funding or staffing for training was the highest level of concern, with 16 HD reporting this response.
- Eight HD staff reported lack of funding to support the upgrades for software, hardware, and the development of interface or IT infrastructure.
- One person indicated concerns over the infrastructure challenges.
- Twelve reported requiring funding for implementation
- A couple of them noted that systems are "incredibly expensive."

Integrated software:

- Different versions and software
- Interface Development at State Lab Level
- Centralized data repository for secure storage and access of the records by all partners.
- Developing data sharing agreements with community partners who have electronic records
- Means of sharing data with other provider electronically.

Conclusion
To comply with Stage-2 Meaningful Use Public Health Objectives

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- Bandwidth
  - Increased bandwidth: Increase bandwidth in support of current infrastructure
- Tech Support and Training
  - Technical expertise: coding expertise and support. when the IT system is down, so are the records
  - Long term plan to implement, evidence of practical relevance, supremely frustrating
  - Lack of "knowledge" about EMR
  - Technical coding and support and understanding of how the system can be accessed with it malfunctions

Conclusion
To comply with Stage-2 Meaningful Use Public Health Objectives

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Linkage with State Databases

- Only a few GA Health Districts are currently able to make use of Meaningful Use-certified EHRs
- Future ability for use is fairly promising: 1 in 3 will have ability to fully utilize Meaningful Use-certified EHR
- More than half of the respondents played a role or were involved in development of state or regional EHRs
- In GA county/local health departments are all part of a DHD

Informatics as Strategic Priority:

- Assigned dedicated resources
- Made it explicit part of the strategic plan
- Part of the QI efforts
- Part of accreditation efforts

Level of use of information systems was very encouraging, (clinical records management; accounting and finance; billing; HRM; and QI)

Resources needs

- Financial, technical, infrastructural, workforce

Public Health Impact and Implications

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- Integrated EHRs of the same vendor throughout GA can enhance services and encourage adoption.
- Using an EHR effectively can result in public health benefits such as document processes, outcomes, and quality measures through reporting.
- Using an EHR effectively can result in public health benefits such as improved productivity (e.g., more efficient handling of specific patient needs).
- Using an EHR effectively can result in public health benefits such as financial improvements (e.g., more efficient billing or more complete documentation for reimbursements).

Public Health Impact and Implications

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- Using an EHR effectively can result in public health benefits such as improvements in quality of care (e.g., better chronic disease management or more rapid access to patient information).

- Training programs can help move health districts adopting technologies and into meaningfully using them.

- EHRs can also help facilitate health information exchange, which can be particularly useful in rural settings of health district.

Future Studies

Case study -GA state health department

Case studies - remaining health districts of GA

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Questions

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