

# PRELIMINARY FINDINGS FROM THE DMI ASSESSMENT

State, local, and territorial public health capabilities  
and needs assessment

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# DMI Priorities



## Build the right foundation

Decreased burden on reporters

Free up staff time to focus on prevention and control

Faster data for detecting emerging threats at all levels of public health

## Accelerate data into action

Better data integration, visualization

Robust forecasting / modeling

Response-ready platform

## Develop a state-of-the-art workforce

Identify, recruit, and retain experts to generate meaningful public health insights

## Support + extend partnerships

Better / more timely access to data within and across ecosystem

Common tools to support STLT partners

## Manage change + governance

Adaptive, agile approaches

Collaboration

Improved acquisition



# How is CDC supporting jurisdictions' data modernization efforts?



**Providing direct funding** to build foundational DMI capacity and implement core data and surveillance modernization activities.



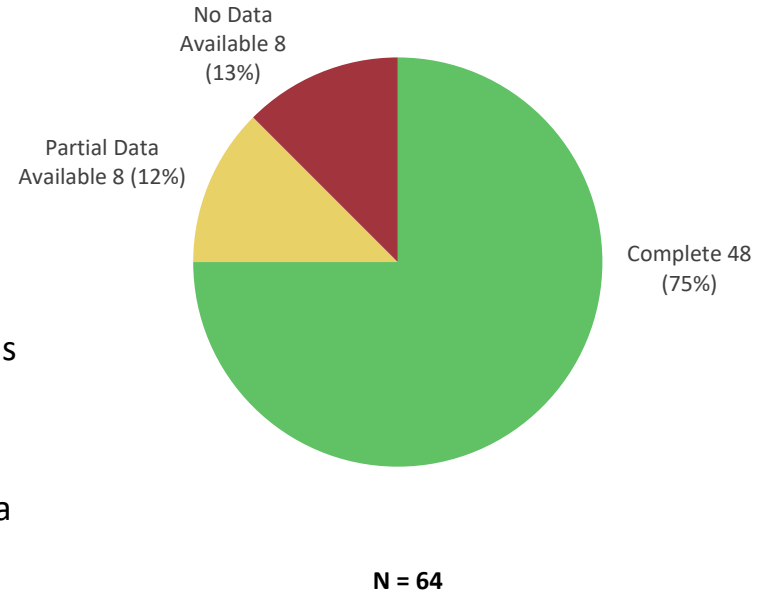
**Offering technical assistance** that provides experts and resources to support STLT data modernization activities.



**Collaborating with national partners** to facilitate learning networks and opportunities for knowledge and skill development.

# Overview

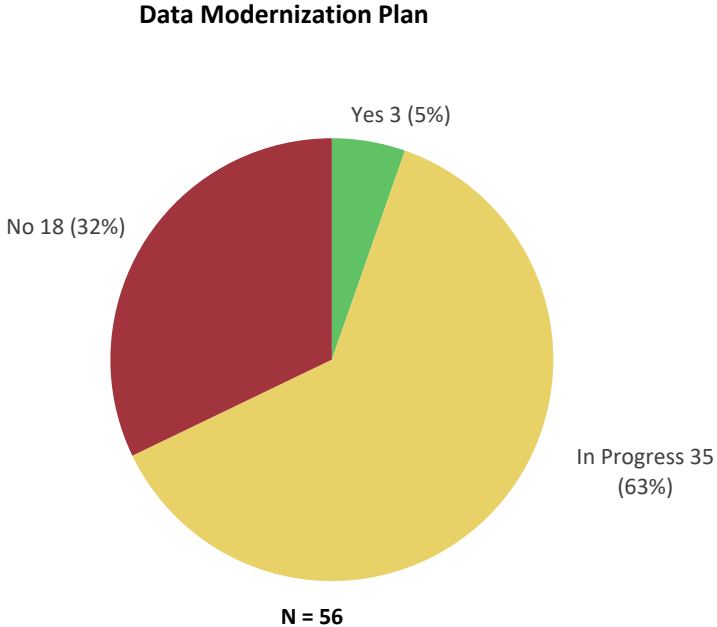
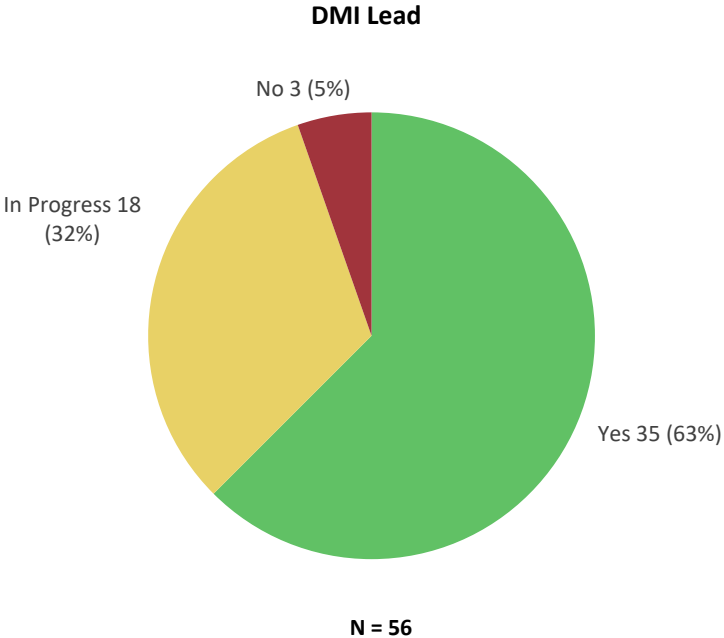
- Represents the status of 64 funded recipients as of **May 2, 2022**.
- Assessments were completed on a rolling basis between November 2021 and May 2022.
- Three categories summarizing the quantitative responses:
  - **General Current State:** current state of activities and systems related to data modernization efforts (including data exchange processes and systems)
  - **Workforce:** workforce capacity and capability related to data modernization efforts
  - **Challenges & Opportunities:** qualitative data that highlights key challenges and opportunities identified throughout jurisdictional Assessment responses



# **SECTION 1: OVERVIEW OF DMI EFFORTS**

# Identified DMI Leads & Developed DMI Plans

The majority of public health respondents have identified a DMI lead though few had completed a DM plan.



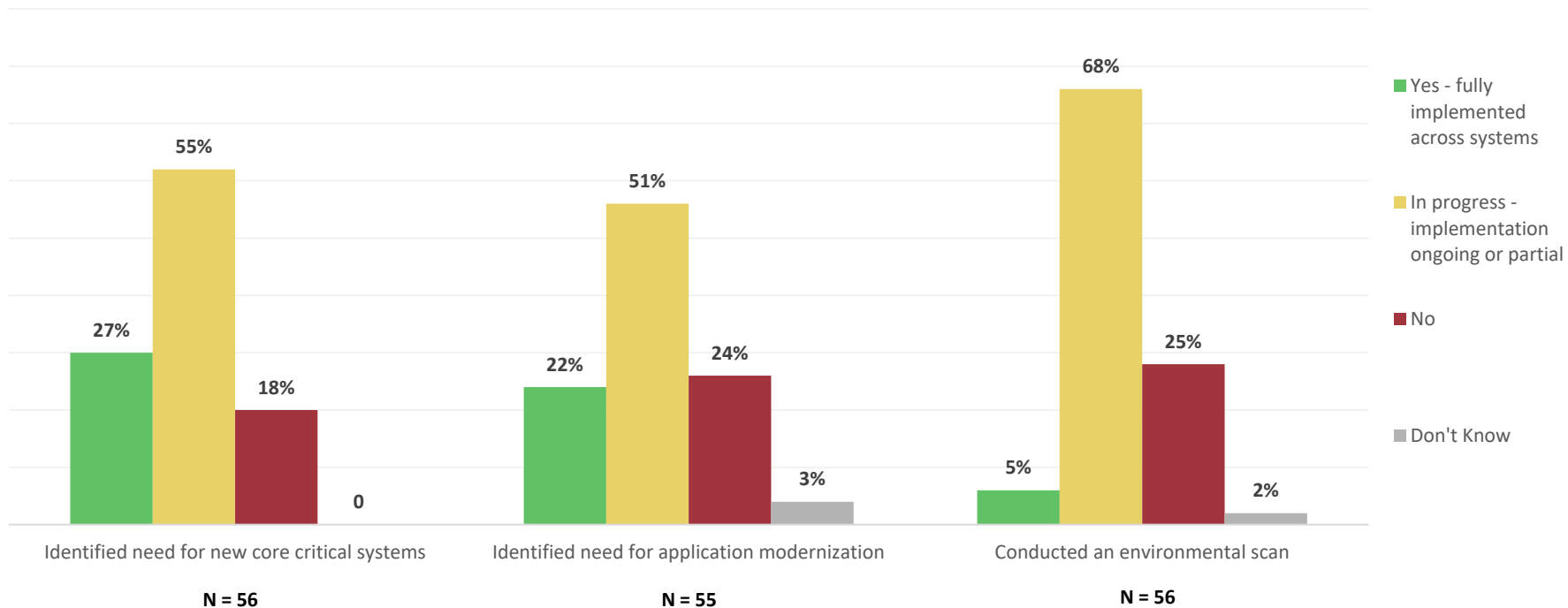
Visual excludes 8 "No Response" responses

# **SECTION 2: ASSESSMENT OF HEALTH INFORMATION SYSTEMS**



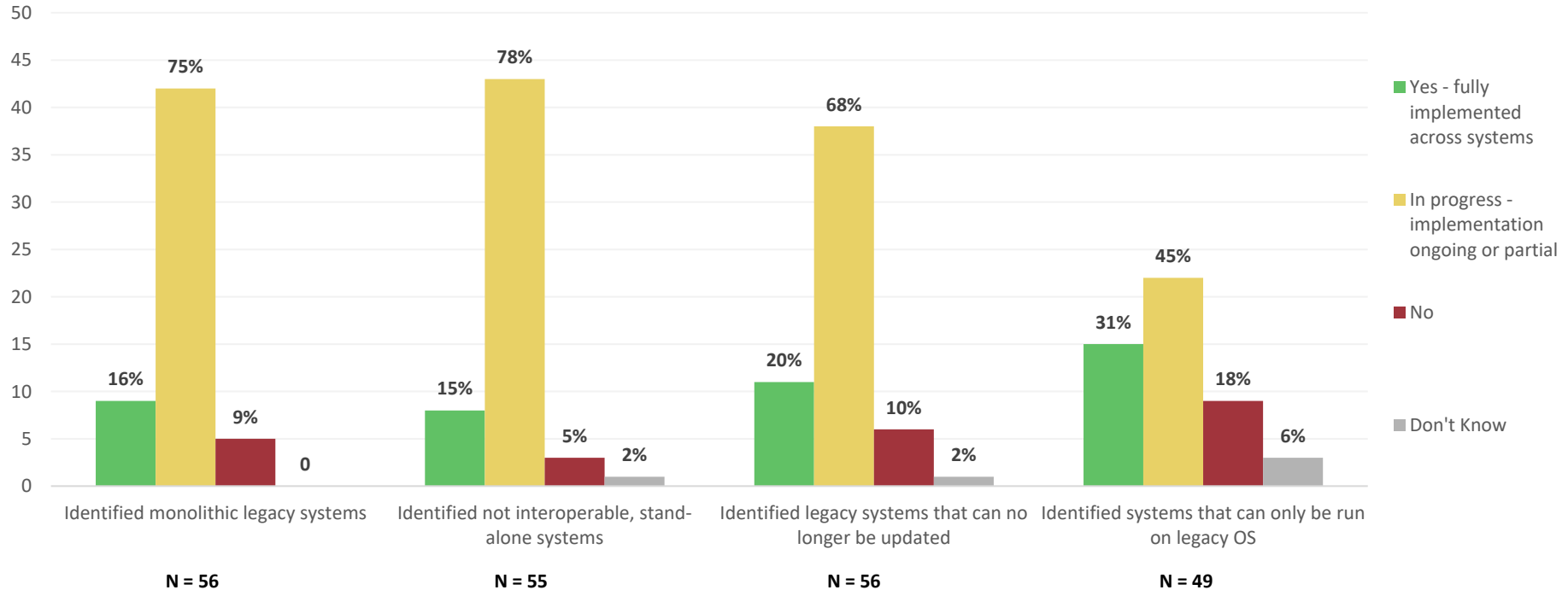
# Current State: Assessment of Health Information Systems

Over half of all respondents are in the process of **identifying systems or applications for modernization**.



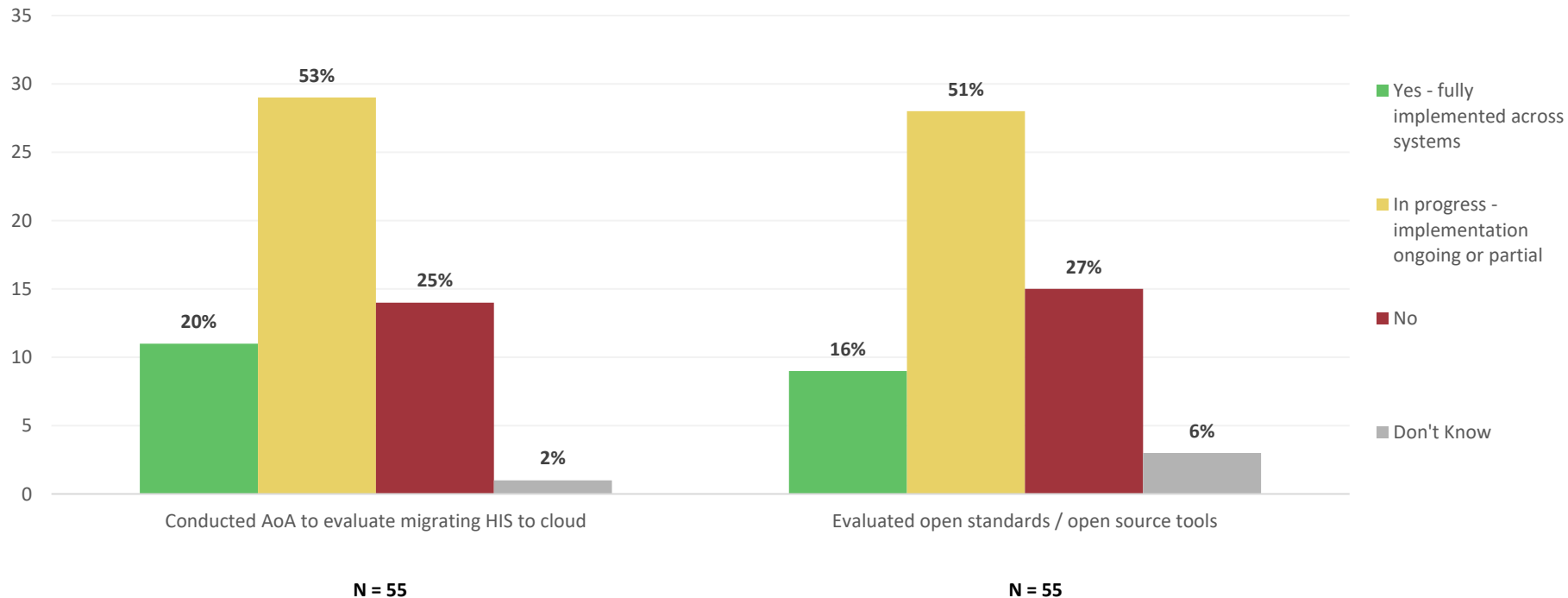
# Current State: Assessment of Health Information Systems

A majority of respondents are in the process of identifying **legacy and siloed systems**.



# Current State: Assessment of Health Information Systems

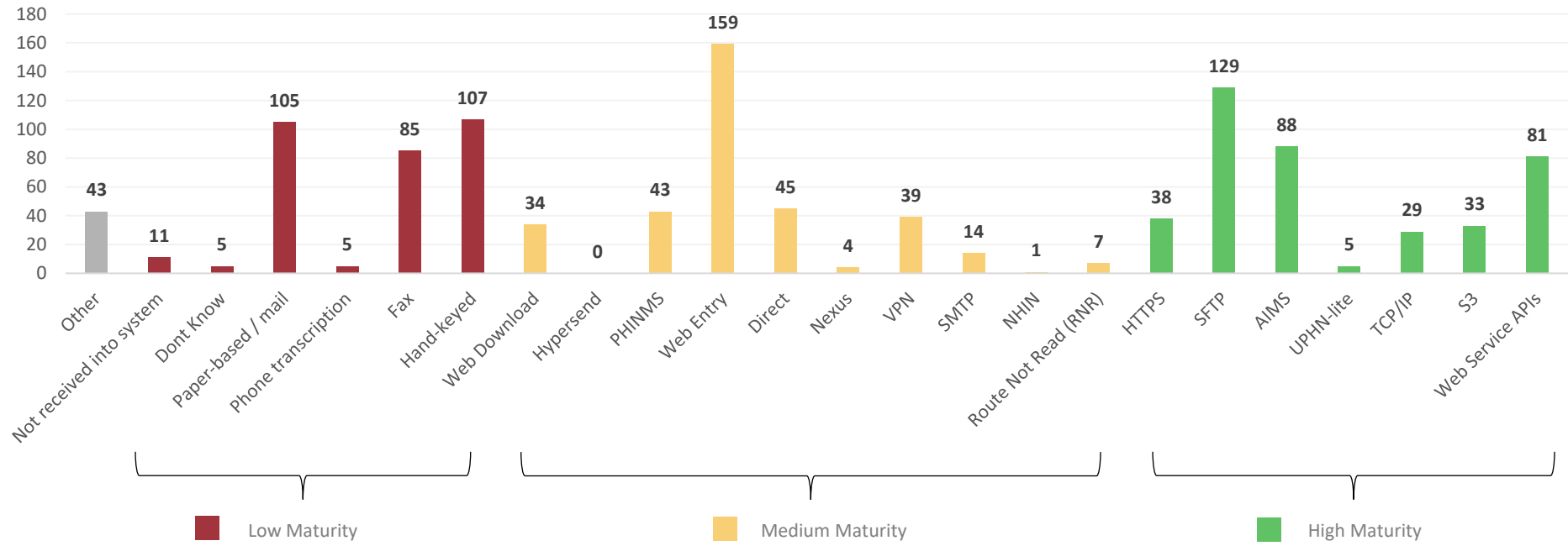
A quarter of respondents have not yet evaluated the use case for **cloud** or **open-source applications**.



# **SECTION 3: DATA EXCHANGE & SYSTEMS INTEROPERABILITY**

# Leading Data Exchange Mechanisms

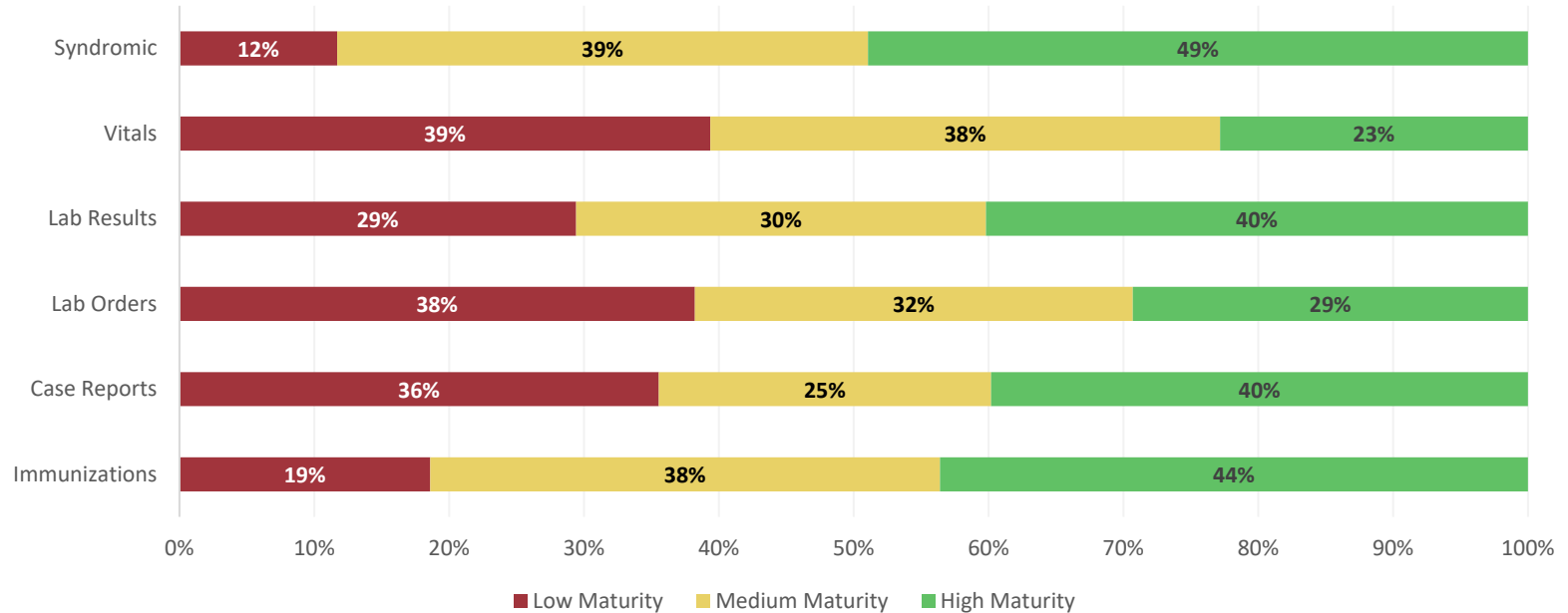
Although some jurisdictions' data exchange mechanisms are considered highly mature, many remain in the low/medium maturity levels



N = 384

# Maturity of Data Exchange Receipt by Core Data System

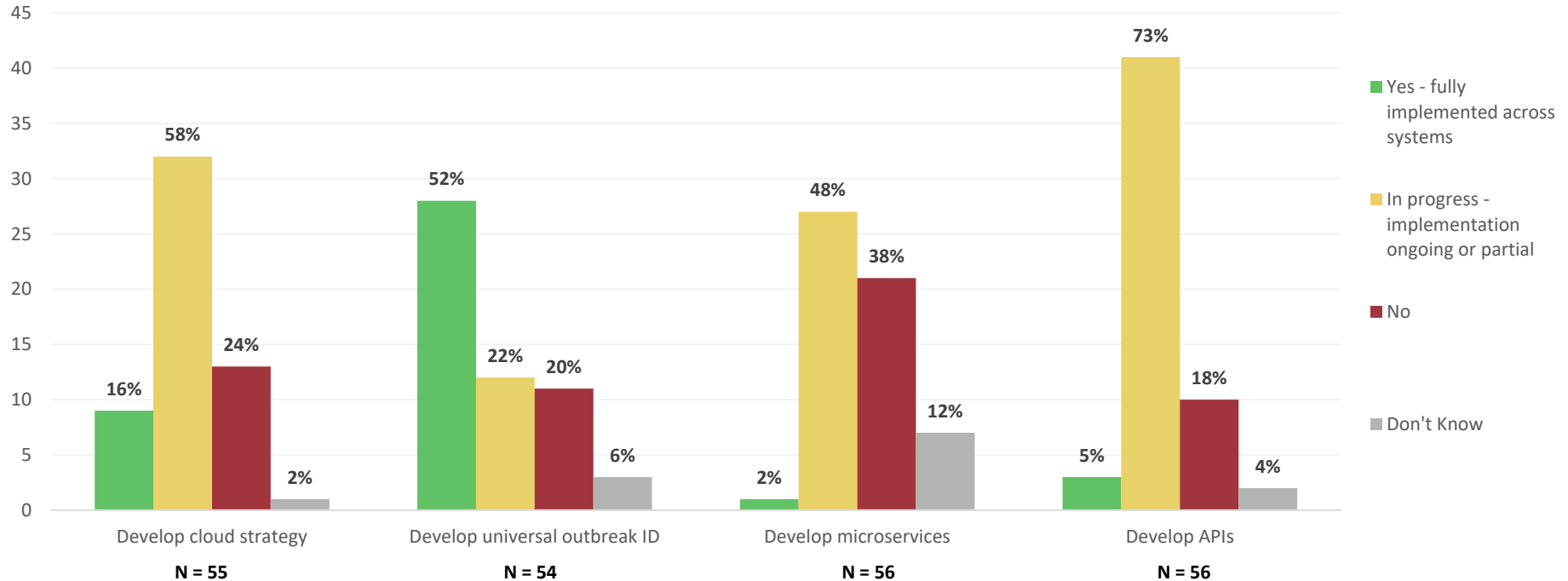
Data exchange mechanisms for **syndromic surveillance** are leading in maturity, followed by data exchange mechanisms for **immunizations**.



N = 384

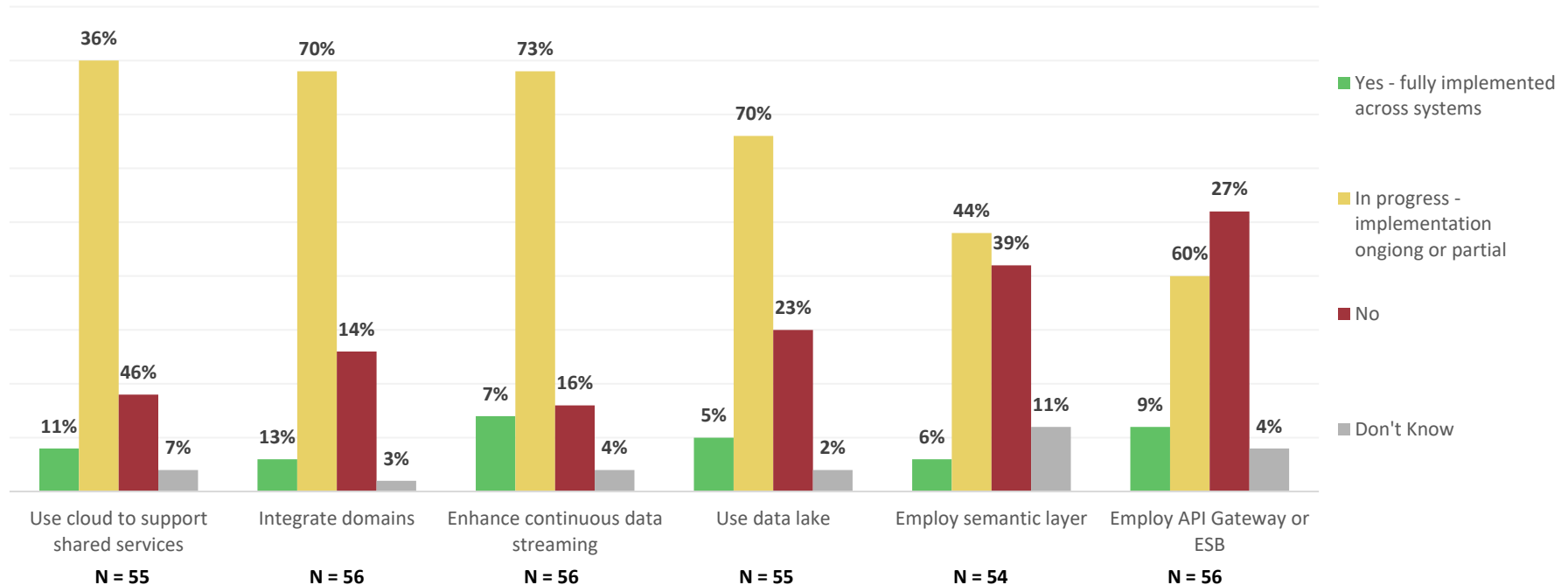
# Current State: Data Exchange & Systems Interoperability

Most respondents have completed or are in the process of completing activities to enhance **data exchange and system interoperability** across the technical spectrum.



# Current State: Data Exchange & Systems Interoperability

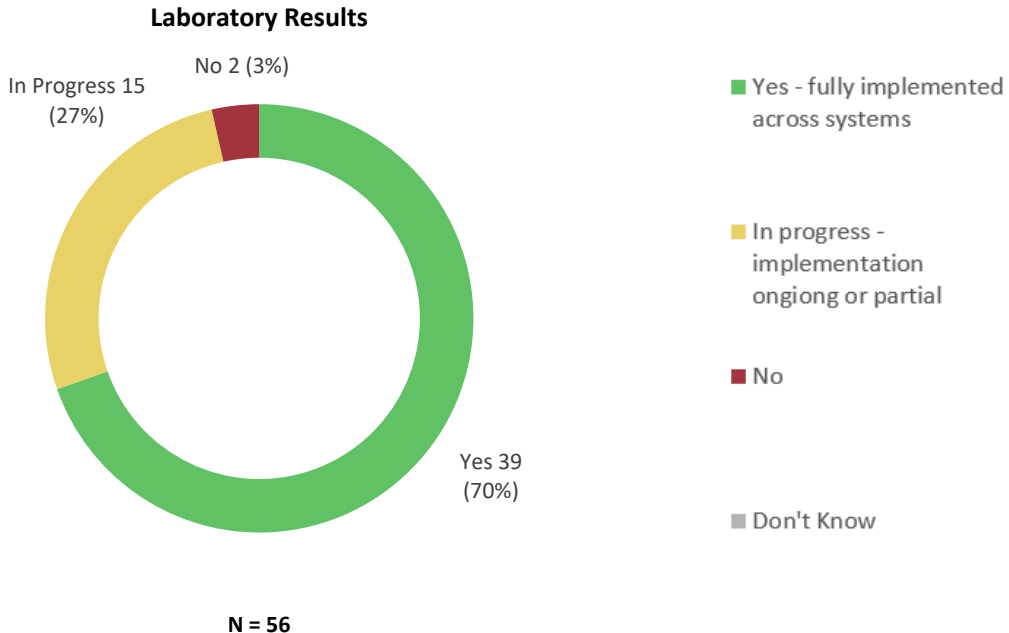
Most respondents have implemented or are in the process of implementing activities to **enhance data exchange and data quality**.





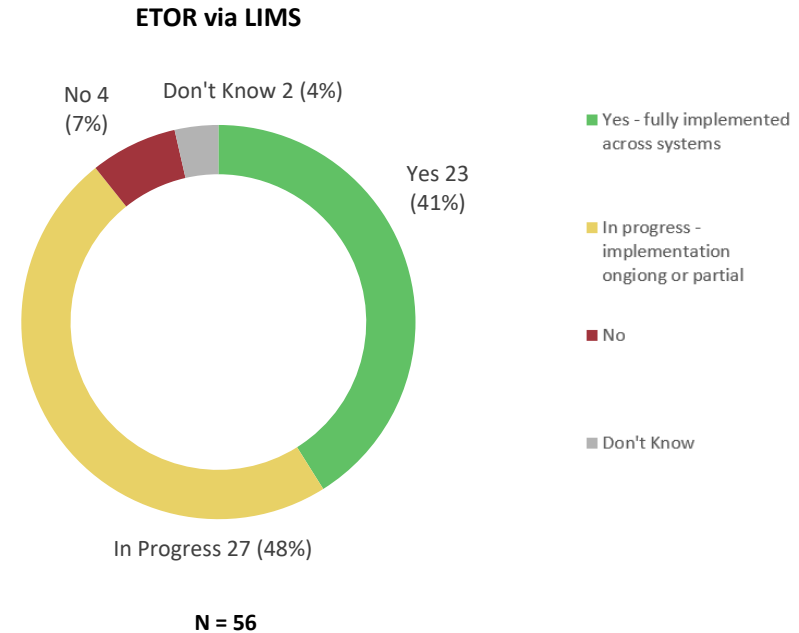
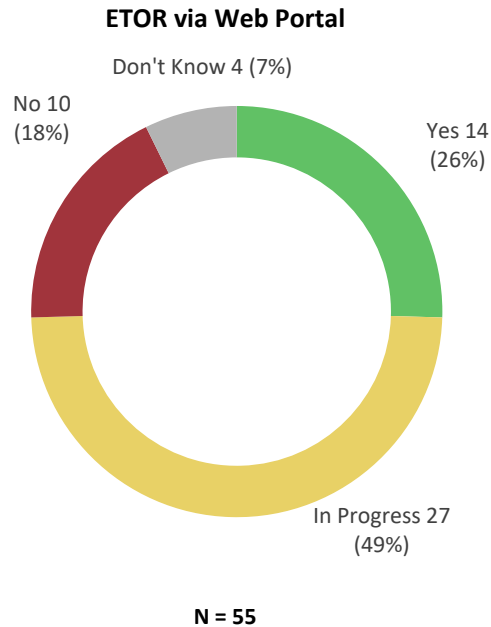
# Electronic Laboratory Reporting

Respondents are making great strides toward receiving electronic lab results



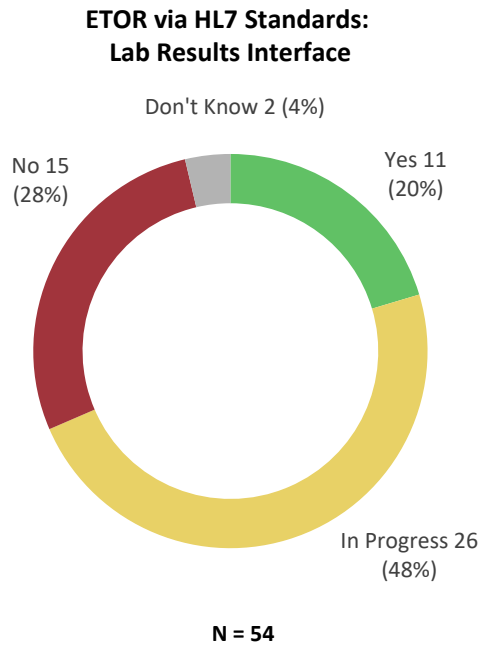
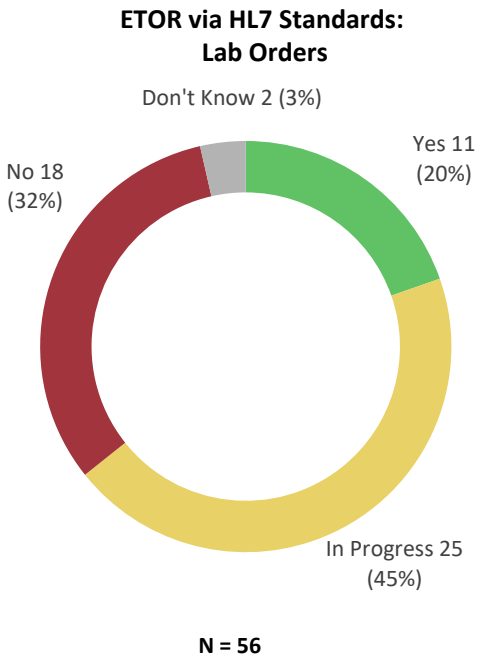
# Implementation of Electronic Test Orders and Results (ETOR)

A majority of respondents are moving away from manual data entry and towards **electronic data transmission**



# Implementation of Data Exchange Standards

A majority of respondents have implemented or are in the process of **implementing HL7 Standards** for ETOR

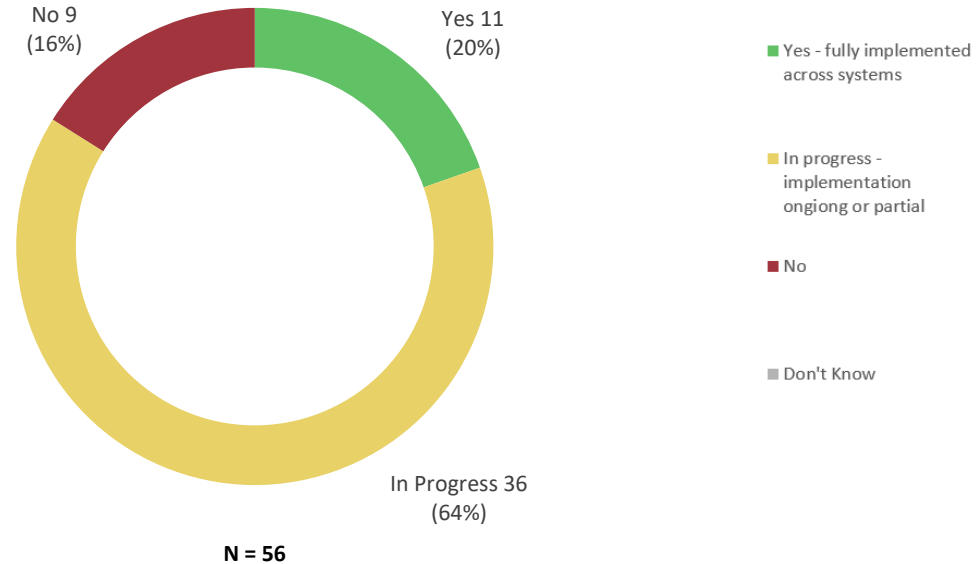


- Yes - fully implemented across systems
- In progress - implementation ongoing or partial
- No
- Don't Know

# Receipt & Consumption of Electronic Case Reports (eCR) from AIMS

Over half of all respondents are in the process of or have fully implemented the ability to **receive and consume eICR data from AIMS** for disease surveillance.

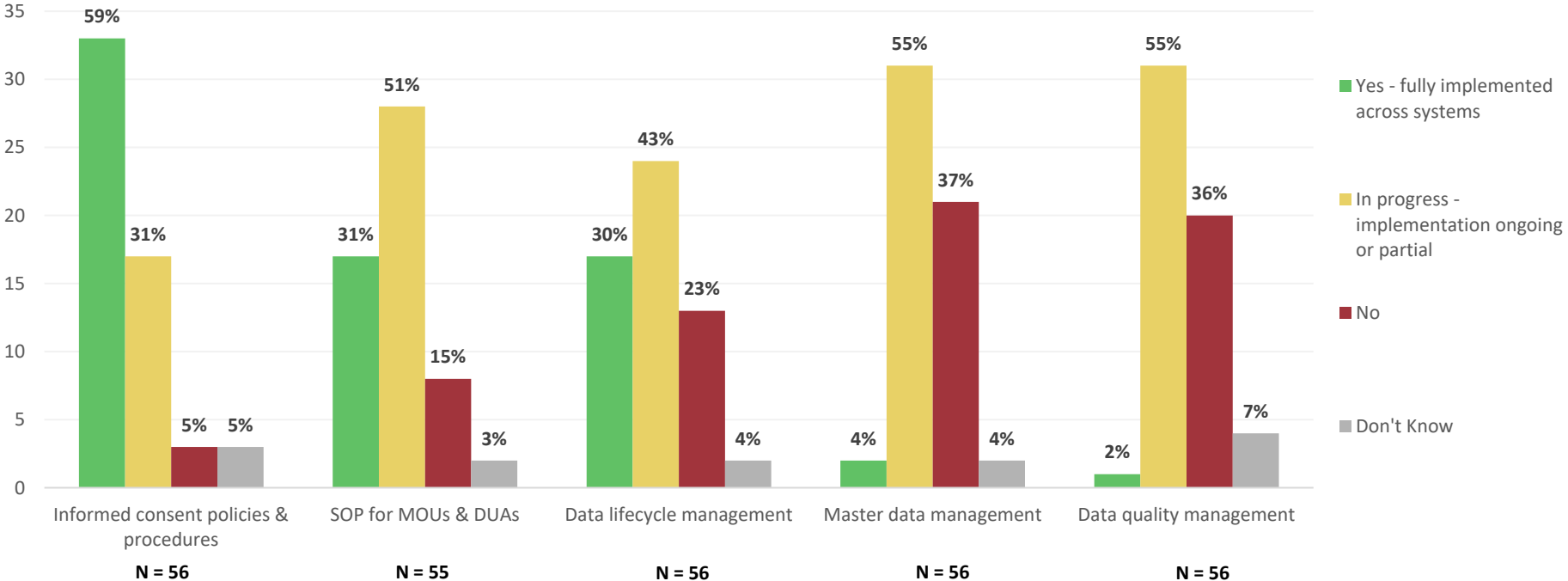
## HL7 CDA R2 Implementation Guide



# **SECTION 4: DATA & IT GOVERNANCE**

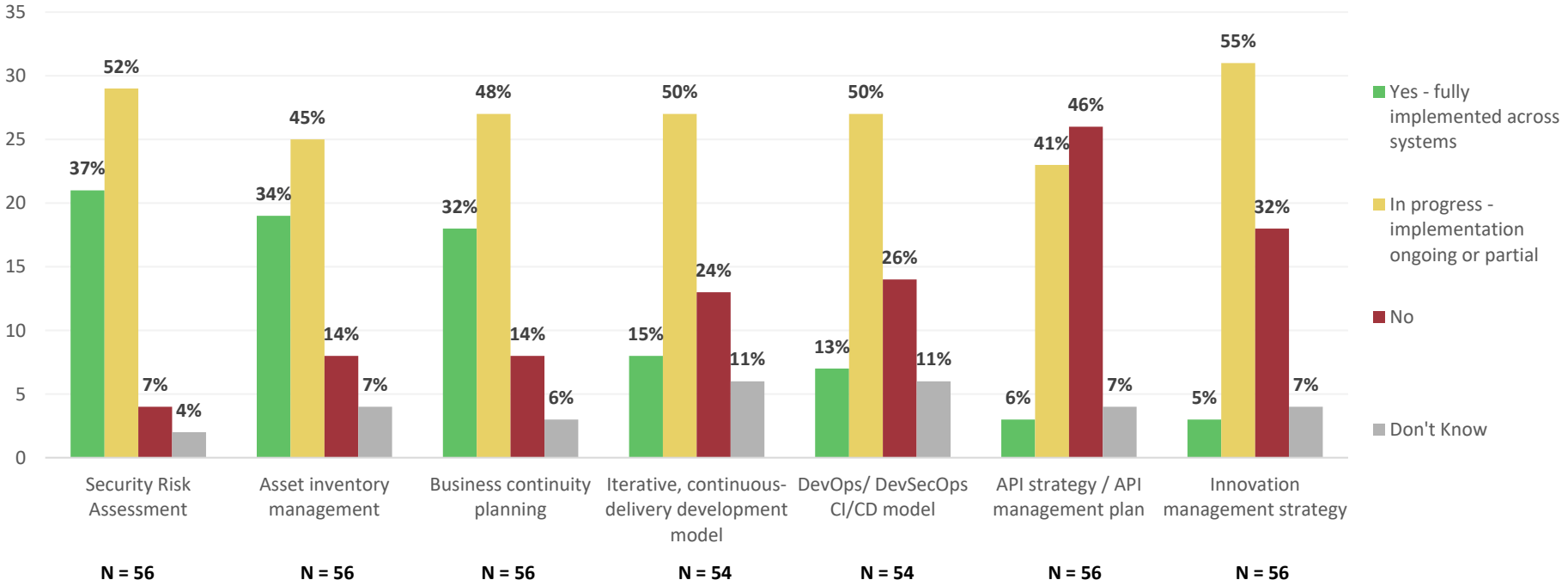
# Current State: Data Governance

Most respondents have fully implemented or are in the process of implementing **data governance** strategies that impact how data is utilized within a jurisdiction and between collaborator groups.



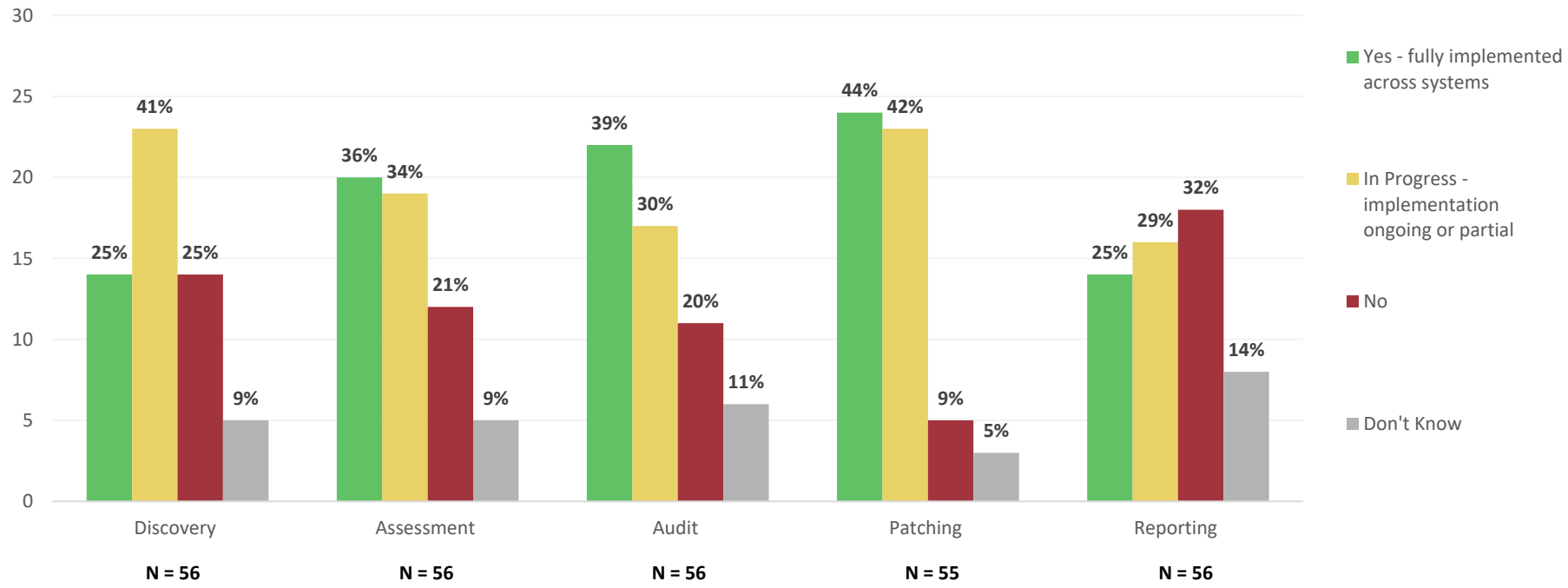
# Current State: IT Governance

Most respondents are in the process of implementing **IT governance policies**, however, close to half of respondents have not implemented **API strategies or API management plans**.



# Engagement in Continuous Monitoring Activities

Implementation of **continuous monitoring activities** is quite variable across the jurisdictions.

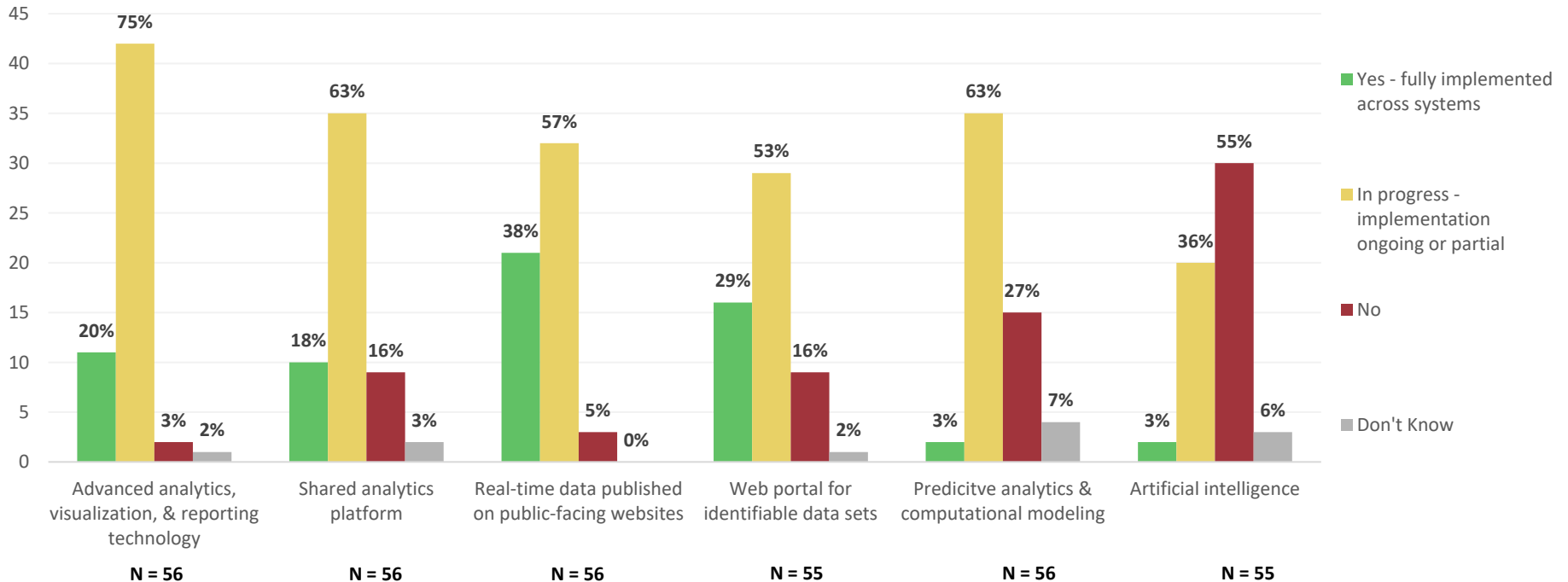




# **SECTION 5: DATA ANALYTICS, VISUALIZATION, & REPORTING**

# Current State: Data Analytics, Visualization, & Reporting

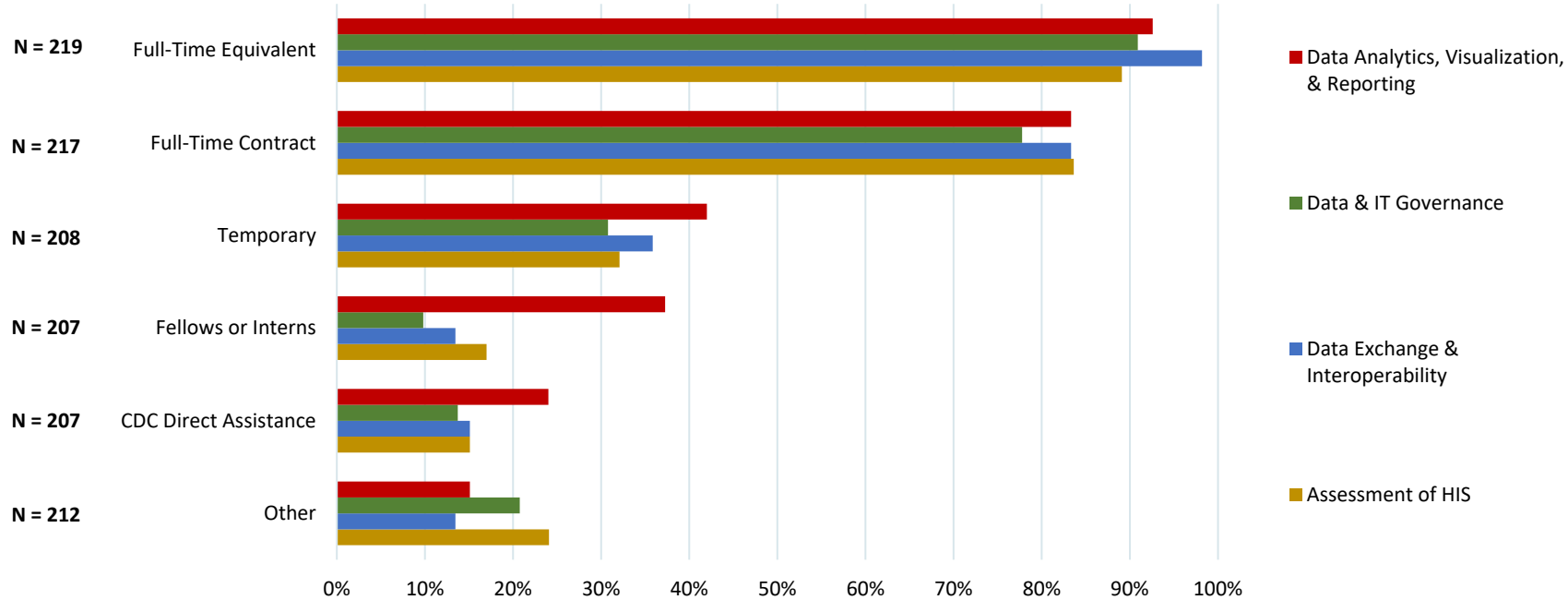
The majority of respondents are in the process of implementing **data analytics, visualization and reporting activities**; however, most respondents have not implemented the use of **artificial intelligence**.



# DMI WORKFORCE

# DMI Workforce: Staff Types

Respondents are utilizing a variety of staff types for their overall DMI efforts. However, most respondents believe the **numbers and proficiency levels of staff are insufficient** to meet the agency’s needs.



# DMI Workforce: Proficiency Levels

Jurisdictions reporting having SUFFICIENT numbers and proficiency levels of staff by functional area:



- 15%** Data & IT Governance
- 14%** Data Analytics, Visualization, & Reporting
- 11%** Assessment of Health Information Systems
- 5%** Data Exchange & Systems Interoperability

# CHALLENGES & OPPORTUNITIES

# Key Challenges

We are facing a **challenging market** and finding it difficult to attract skilled workers. **Funding limitations** have impacted the ability to match national market salary requirements for professional staff.

Our DMI efforts require an in-depth knowledge of **state-specific systems** and processes; our limited staff with that knowledge are overburdened and fully extended with the **COVID response**.

**Staff losses** prior to and throughout the pandemic have created gaps in both staffing capacity and capabilities.

Prior **DMI efforts have been significantly siloed**. Historically, there has not been a balanced representation of staff that includes the business, program area, and IT point of view.

# Key Opportunities

With additional funding, enough time, and appropriate staffing, we look forward to moving away from manual and **towards electronic data processing**.

We are focused on **exploring FHIR server** options for data submitted outside of the health department's systems.

Working internally and with vendors to **develop and maintain ETOR capacity**. Working with key submitters to assist them with adopting ETOR for submitting specimens and receiving results.

Addressing opportunities to **improve data sent from providers** to our jurisdiction will also create improvements in the data quality sent to NSSP.



# NEXT STEPS

“We somewhat had a roadmap but after looking at this [assessment] it really **shed light on how we need to enhance our roadmap**. You know after this, I thought to myself we need to build out a very detailed extensive roadmap. And we need to cover all of these things. And a lot of them were things **I would've never thought about before**. So in that regard it was very helpful.”

- State Health Department

For more information, contact CDC  
1-800-CDC-INFO (232-4636)  
TTY: 1-888-232-6348 [www.cdc.gov](http://www.cdc.gov)

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

