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The State of State Health & Human Services (HHS) Technology Programs:

A Thought Leaders Survey

September 2019

Introduction and Research Methodology Overview

The purpose of this annual research initiative is to gain and share insights from state and local HHS thought leaders relative to agency IT issues, challenges, trends, and perspectives. The results are being shared nationally for the benefit of HHS agencies and to raise visibility of how agencies are addressing those challenges.

With the dynamically changing HHS environment, the survey topics are reevaluated annually for relevancy as well as to identify other emerging topics to research. This year's four major areas of research include:

- **Service Delivery Modernization/Transformation**
- **Analysis of Emerging Technologies**
- **Modularity**
- **The State of Data and Analytics in the Human Services Enterprise**

The research was conducted by the Human Services Information Technology Advisory Group (HSITAG), a unit of the not-for-profit Computing Technology Industry Association (CompTIA), in partnership with the American Public Human Services Association (APHSA).

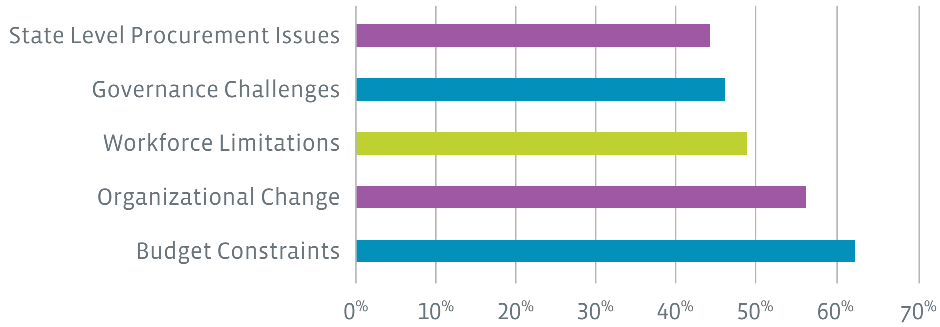
Responses were kept confidential and are not attributable back to individual respondents or states. However, if initiated by respondents, HSITAG members may have discussed survey questions in more detail with respondents during and after the survey period offering further insight and context into responses. HSITAG members, in partnership with the CompTIA research team, have collated and analyzed the results which were then announced and shared at the annual **APHSA ISM Conference in September 2019 in Milwaukee.**

1 Service Delivery Modernization/Transformation

Since the early 2000s, HHS agencies have been embarking on service delivery modernization to improve the efficiency and effectiveness of their program operations. As State agencies were asked to do more with less, early adopters started adding technology supports such as online portals, electronic document imaging and call centers to help transform how services are delivered. This trend to modernization experienced a surge following the passage of the Affordable Care Act (ACA) in 2010 which further fueled a focus on modernizing service delivery options and transforming supporting technologies. Nearly 10 years after the passage of the ACA this trend continues with respondents reporting system modernization as the biggest initiative State agencies are facing in the coming year.

TRANSFORMING SERVICE DELIVERY - Although modernization has been a primary focus of State agencies for years, when asked to characterize the completeness of their transformation, only 29% of the respondents report being 50% or more complete. This is down from last year when that percent stood at 42%. When probed for the top barriers impacting the achievement of their modernization goals, five reasons stood out in the results, with budget constraints leading the field.

Top 5 Barriers to Modernization Goals

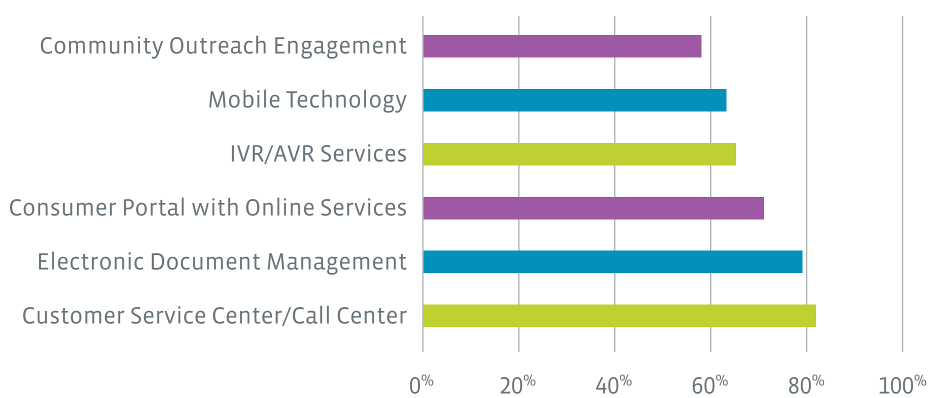


However, when asked whether the expiration of the A-87 cost allocation waiver could be considered the driving factor for their budget constraints, a whopping 92% of the respondents answered no.

Undoubtedly, there continues to be ongoing efforts to transform service delivery systems to create greater efficiencies and expand consumer access. When coupled with continual advances in technology that are specifically leveraged to address HHS business needs in both an incremental and modular fashion, it begs the question whether the trend for perpetual transformation has finally replaced the historic large-scale projects envisioned to be "one and done" and sustain the organization for the next 10 to 20 years.

Consistent with previous years surveys, respondents weighed in with the most frequent components of their service delivery systems which include in rank order as:

Top Components of HHS Service Delivery System



Notable in the list of top components to the service delivery system is the impressive upward movement for Behavioral Economic Nudging. In 2019 this was referenced by 21% of the respondents as a part of their delivery system, up from 15% in 2018. With so much focus on data and strides being made in this area, this element may call for some additional probing next year regarding more detail for how States are applying this approach.

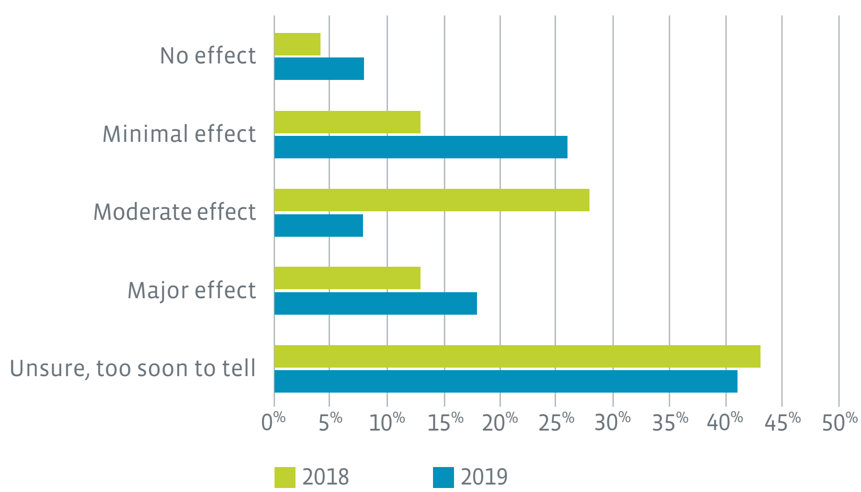
Another notable input regarding components of the Service Delivery System include input related to staffing for the Customer Service Centers/Call Centers. The results indicate about a half of the respondents report staffing these operations with merit employees, while the other half is a combination of vendor only or a mix of vendor and merit staffing. Interestingly, the percent of vendor-only staffing is trending upwards over the 2018 survey results; with the percent up from 23% to 28%.

27% of the respondents in 2019 indicated the FNS guidance (12/2017), which provided greater flexibility for using staff other than merit employees in Call Centers, impacted their decision to use vendor staff -- up from only 9% in 2018.

Moreover, when asked about the impact of the relaxed FNS guidance (which included revised Call Center Policy that specifically addresses greater flexibility to use vendor staff in SNAP Call Centers), respondents reported a significantly more favorable impact this year than last, with 27% in 2019 compared to just 9% in 2018.

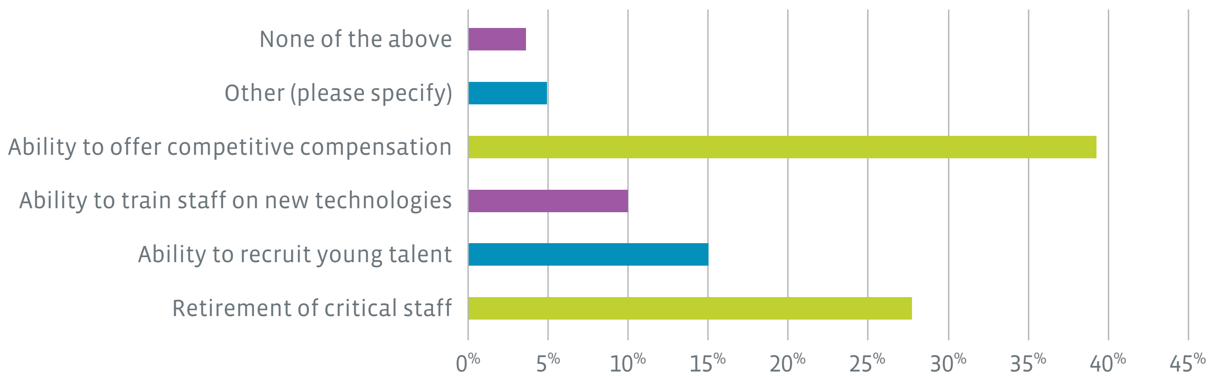
Similar to last year, when asked about the impact of the policies of the current administration on service delivery modernization, nearly one-half of the respondents continued to indicate they were unsure, or it was too soon to tell. A comparison of the responses to this same question in the 2018 and 2019 is provided below.

Impact of Current Administration Policies on Go-Forward Planning for Service Deivery Transformation



Given the dynamically changing landscape for HHS, our survey is frequently tweaked to add emerging issues or areas gaining additional attention. To that end, while not a new concern, there is a heightened focus on staffing challenges within HHS State agencies. As such, we added to our survey this year, a question to probe on the biggest staffing challenges agencies will face over the next 5 years. The results indicated two stand-out reasons, the "Ability to offer competitive compensation" and "Retirement of critical staff."

Top Staffing Challenges Next 5 Years



2 Analysis of Emerging Technologies

WHAT EMERGING TECHNOLOGIES WILL BE THE MOST IMPACTFUL OVER THE NEXT 3 YEARS?

It certainly appears that HHS leaders are very interested in the emergence of Artificial Intelligence and Machine Learning, and expect that it will be impactful over the next 3 years. This year, 61 percent of respondents chose this category, up from 45 percent a year ago. Also – Chatbots and other forms of Digital Assistants was another area of interest with 53 percent of respondents choosing this category.

WHAT IS THE CURRENT STATUS OF DIGITAL TRANSFORMATION IN YOUR AGENCY?

Agencies are clearly moving aggressively on digital transformation – as 54 percent of respondents indicated that they were either in the implementation stage (between zero percent and 50 percent complete), or advanced implementation stage (between 50 percent and 100 percent complete). This is vastly different than last year when well over 60 percent indicated that they were in some form of planning – but not implementation.

DOES YOUR STATE CURRENTLY HAVE A ONE-STOP PORTAL FOR CITIZENS TO CONDUCT HHS BUSINESS WITH THE STATE?

It appears that most states are not pursuing a one-stop portal for citizens – as 52 percent of respondents indicated that they have separate portals by program – which is up from 37 percent in the previous year.

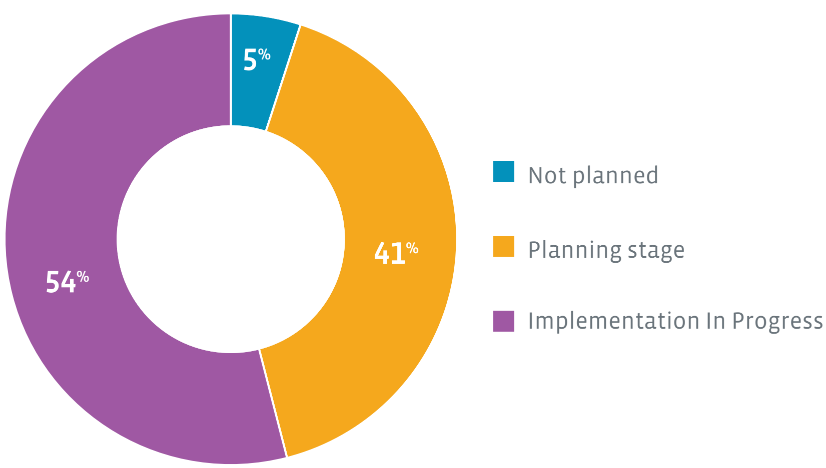
HOW SUCCESSFUL HAS IMPLEMENTATION OF A MASTER CITIZEN INDEX BEEN IN YOUR STATE?

State's are clearly moving along in establishing a Master Citizen Index. A large percentage of respondents – 57 percent – indicated that it has been somewhat successful and up and running. Similar to last year – only a small percentage – 4 percent – indicated that it has been unsuccessful so far.

DOES YOUR STATE (OR STATE AGENCY) HAVE A SEPARATE ORGANIZATION DEDICATED TO RESEARCHING AND RECOMMENDING NEW TECHNOLOGIES?

There was a small uptick in the percentage of respondents who indicated that their state does have a separate group dedicated to identifying new technologies. The percentage rose from 34 percent to 41 percent. Similarly – the percentage saying they don't have such a group dropped from 59 percent to 54 percent.

Status of Digital Transformation



3 Modularity

In recent years the federal government, in particular the Centers for Medicare and Medicaid Services (CMS) has emphasized a modular approach to system development projects. Moving away from large scale "big bang" monolithic Medicaid Management Information Systems (MMIS), Integrated Eligibility (IE), Child Support Enforcement and Child Welfare Systems, there has been a trend toward procuring these systems, or parts of these systems, in a modular or component based approach. "Modularity" as it has come to be known has become the standard for CMS in its approach to Medicaid Enterprise Systems development projects.

This year's survey looked at where states are in their thinking and approach to designing and procuring modular HHS system projects. The survey results show a marked increase in the number of states who are moving toward a modular architectural approach to their system projects. The number reporting no adoption of modularity dropped from 14% last year to 3% this year while the number of states indicating early adoption with more to come to moderate adoption jumped from 52% to 71% indicating a significant increase in the acceptance of a modular approach to system development efforts.

The other side of the coin to states embracing a modular approach are the challenges that come with having potentially multiple vendors involved in a project. Multi-vendor management challenges and governance issues were the top two areas of concern when states are looking to transform to a modular approach reflecting an adaption to the usual "one throat to choke" approach of traditional procurements where a state selects a single vendor to perform all aspects of a project and is usually held singularly accountable to the state for all components of a project.

Top Two Areas of Concern for Modularity:

- **Multi-vendor Management**
- **Governance Issues**

Interestingly, this year's survey showed an increase in respondents that indicated there are programs in their state do not lend themselves to a modular approach. Almost half (47%) said their programs are not favorable for modularity with 53% saying they were, compared to last year's results when only 34% said their programs were not modular with 66% saying they were.
Using a hybrid deployment approach (phased, incremental deployment approach using a hosted or cloud based modular solution and continuing remaining existing processing legacy) is by far the most use approach with 76% of respondents indicating utilizing this method. The next most favored solution is a hosted private cloud deployment at 21% with other approaches following close behind, which follows the results of last year's survey.

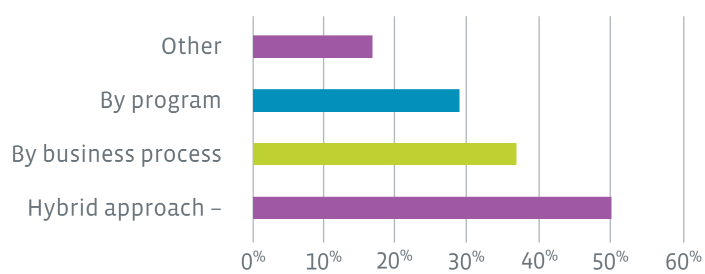
When it comes to the definition of modular, whether it is by program or by a business process, half of those surveyed (50%) said they defined it in a hybrid approach – implement a business process across two or more programs, and repeat.

The next common definition was by business process at 37% and by program at 29%. This has been an issue for states as there is not a uniform definition across programs or by federal agency and the survey is intended to obtain the state's perspectives on how they define modular in the absence of a common terminology and standards as set forth by program agencies.

In identifying which modules are currently being used within an agency the top three by far include a client/agency portal at 66%, an Enterprise Data Warehouse (63%), and a client eligibility and enrollment module (60%). The next most common module was case management at 51%. But when it comes to identifying which modules would be most likely to be procured in the next two years, case management comes out on top with 42% saying that is what will be obtained followed by a systems integrator at 36%, with financial management and business intelligence/decision support modules both identified by 33% of those responding saying those components will also be procured.

Given the increasing frequency of RFP's to include multiple modules with potentially multiple vendors we wanted to see what states were thinking when it comes to multiple modules/ multiple vendors in a procurement, i.e. if a vendor is offering to provide one module are they precluded from bidding on other modules? For example, can a Systems Integrator also bid on other modules/components? 62% of respondents indicated they were fine with this approach.

How States Define Modularity



4 The State of Data and Analytics in the Human Services Enterprise

For the first time in its existence, the HSITAG State of the State IT Survey included questions on data and analytics. Reporting is always a critical component of any data processing system. We wanted to set a baseline for its technologies and uses today and see where it is headed in the future. In general, the results show the adoption of data and analytics technologies to be starting, with plans to expand.

CURRENT STATE

Currently, the majority of respondents have implemented an Enterprise Data Warehouse (58%) in use both the cloud (50%) and on-premise(56%) solutions. Mater Data Management lags, at 36% adoption. This is significant as MDM, including Master Person Indexes, have been considered an important technology to enable base functionality across systems. State of the art technologies, such as Predictive Analytics and Artificial Intelligence (AI), have a small footprint at 22% and 11% respectively. Overall, over 40% of respondents don't have an enterprise view of data and the inference is that multiple systems data are used to operate and plan.

DATA SHARING

From the responses received, cross-agency data sharing is limited: 82% of responses have limited or no cross-agency data sharing. To enable sharing, over half reported using reciprocal, bilateral sharing agreements or having data sharing workgroups. One-third of all respondents reported administrative mandates for sharing data, while 40% reported legislatively mandated data sharing.

USES OF DATA

An overwhelming majority of respondents (80%) report using data for Operational Reporting (e.g.,Case Status, EBT payments, Outcome measures, etc.). Similarly, pervasive is the use of data for outcome measures (74%). Lagging is Population Health Analysis and Outbreak Management at 10% and 18% respectively. About half of all respondents are using their data systems for mandated reports and data integrity reporting.

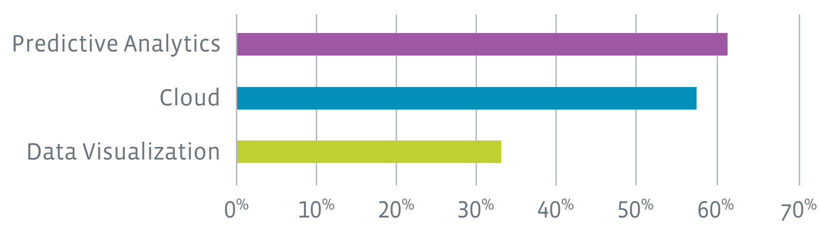
FUTURE PLANS

The future of data and analytics is predictive and in the cloud. When asked to list their top 3 planned technologies, 61% listed predictive analytics and 58% listed cloud. A lagging third was data visualization at 33%. Top reason to implement their technologies of choice was to enable new functionality (52%), with second place (36%) being to modernize old technology. Only 12% of respondents were implementing new technologies to reduce costs or achieve compliance.

Some take-aways based on these responses:

- Enterprise level data is common, but not everywhere
- Agencies don't have technologies readily available to share data and aren't actually doing very much of it
- While there is an increase in the number of respondents who believe AI will play an important role in the next three years, there are few people actually planning to implement AI at this time.

Top 3 Planned Technologies



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