ORIGINAL ARTICLE

The importance of accurate member identity in the performance of payer organizations

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ABSTRACT

Objective: To describe perceptions among healthcare payers of the importance of and challenges in ensuring accurate member identity in payer organizational operational performance.
Methods: A survey of 35 US healthcare payer executives evaluated perceptions of the importance of accurate member identity to efficient operations and achieving payer strategic priorities, improved financial performance and member satisfaction, and the associated challenges.
Results: Healthcare payers were highly aware that accuracy of member identity is essential to operational effectiveness and efficiency (90.0%). Leading organizational challenges were managing high risk members (43.3%) and effective member engagement (40.0%), both impacted by member misidentification. A majority (73.3%) indicated that current system capabilities do not enable the capture and sharing of accurate, complete member identity, with 43.0% stating it was extremely/somewhat difficult to add member data sources and remove member record duplicates. Only 10.0% were moderately or highly satisfied with the accuracy of their existing member identity management solutions.
Conclusions: Inability to know "who is who" is perceived by payer organizations as impeding financial performance and growth, operational efficiency, and member engagement/satisfaction. While recognizing that member identity impacts nearly every aspect of payer operations, most payer executives lacked confidence in their organization's ability and deployed technology to achieve a complete and accurate 360-degree view of members.

Key Words: Patient identity, Patient misidentification, Member identity, Identity accuracy, Digital transformation, Healthcare strategic priorities, Payers, Health plans

1. INTRODUCTION

Payer challenges caused by inaccuracies in member identity

Healthcare payers and plans have a critical role in their members healthcare beyond paying claims and providing guidance on appropriate care service delivery to their covered populations. Complete and accurate member-patient data is critical to achieving the objectives of payers. For this study, "patient identity" is defined as the certain and accurate identification of a unique individual patient with a single past medical history and electronic health/medical record. Patient identification is the process of matching a patient to diagnostic and care interventions, including communicating accurate information about the patient's identity consistently across all sites where care is delivered. Patient identification encompasses not only physical identification of the patient, but technologies capable of improving the accuracy of patient identification.

For payers, having a 360-degree view of each member enables more effective member engagement, care management,

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quality reporting and efficient operations. In addition, payers need longitudinal patient identity data that is highly interoperable across different care organizations. A member may utilize healthcare when covered by payer A and over different transitions in employment and/or geographic settings change to payer B, then possibly to payer C, and then return to Payer A. This requires having an accurate member identity in order to be able to follow the member across such payer and care migration. Patient misidentification in healthcare systems, which increases identity challenges for payers, can occur as a result of three primary causes, including duplication of patient records, overlay of patient data from different patients into a single record, and incorrect matching of patient data and identity from disparate patient data sources.

Healthcare data sources, including electronic health records (EHRs) and other financially or clinically pertinent data, can frequently contain incomplete or redundant patient-member data that adds complexity and risk to payer operations. Payers need clinical data to perform provider audits and request health records to complete risk adjustments, and this data is only useful if the patient is accurately identified. Payers have engaged care improvement initiatives advanced within Medicare such as the Star rating system, and Healthcare Effectiveness Data and Information Set (HEDIS) measures. Yet payers struggle to match supplemental clinical data to membership data, negatively impacting the quality measurement process. Incomplete patient-member identity matching can impede documentation of favorable HEDIS ratings.

In order to evaluate quality metrics and enhance care, payers connect to many clinical systems and utilize digital health point solutions to engage members. Having inclusive and accurate member data has become a pressing issue in connecting disparate data systems. Ability to aggregate fragmented member data has growing urgency as payers increasingly need to share real-time member data internally and externally. The Trusted Exchange Framework and Common Agreement (TEFCA) advances principles and benefits embodied in the 21st Century Cures Act, establishing a secure technical infrastructure for healthcare networks. Payers, providers and patients can utilize a network to securely share information. Qualified Health Information Networks (QHINs) are networks of organizations that work together to share data, connecting with each other to achieve interoperability between the networks they are a part of, and enabling payer-payer and payer-provider interoperability.

Difficulties in matching patient-members across disparate databases arises from several contributors. Patient-member identity matching is a challenge because demographic data is key to matching records together, but is continually changing. On average, 12.0% of US patient-members change addresses or names each year.[1] Member data is highly error-prone—on average, 6.0% of patient data is entered with errors. It is also frequently incomplete—on average, 5.0% of patient records are missing data or have default data entries.[1]

Errors in patient-member identification disrupt care and harm patients in virtually every stage of healthcare delivery, including diagnostic testing and medication administration, and increase the complexity of administrative processing for health plans/payers, resulting in unnecessary delays in reimbursement and denial of claims.[2–19] Payer healthcare provider data management also requires high accuracy in identifying providers, in addition to patient-members, including indexing and assembling information about providers–both individual practitioners and provider entities. Table 1 summarizes payer organizational needs for and value derived from improved accuracy in patient-member identity.

In this study a survey of US healthcare payer executives was conducted to evaluate their understanding and perceptions of the importance of accurate patient-member identity in potentially improving payer system performance, and examined the impact of member identity challenges on payer strategic objectives, priorities and organizational performance.

2. METHODS

2.1 Study objectives

A survey of US healthcare payers executives sought to gather insights into payer objectives and operations as impacted by the current status of – and specific challenges in – payer organizations achieving high accuracy in member identity.

2.2 Study design and setting

An online survey was conducted of 35 healthcare executive leaders working within payer organizations across the United States. Respondents worked in diverse plans, including commercial, Medicare Advantage, managed Medicaid, dual eligible and other payers.

2.3 Respondent selection

Survey respondents were drawn from a cross-section of major, representative US healthcare payers. Specific payer organization executives were recruited to participate in the survey on the basis of their positional title within the organization indicating an enterprise leadership role in health information technology and management, quality and safety, digital transformation, and/or improving clinical, operational or financial organizational performance. With respect to information technology organizational role and influence, roughly one-third of respondents were represented in each category of key decision makers, key influencers and stakeholders. Po-

tential survey respondents were drawn from the Definitive Healthcare database, and all opted in. Initial identification of survey respondents included titles indicating a potential understanding and appreciation of existing gaps in organizational accuracy of patient identification and need to reduce patient misidentification (see Figure 1). Further on a scale of 1 to 5 all respondents needed to have indicated a familiarity score of at least 3 or higher with the issue of accuracy in patient identity in order to qualify for the survey; almost 80% of respondents had a familiarity score of 5. The Definitive Healthcare database was used to search for and identify a broader list of key titles for payer survey executive recruitment. Invitations to participate in the survey were sent to a total of 18,395 potential respondents. While respondents completed the survey from 29 different US states, no effort was made to ensure that survey invitations or completions reflected the distribution of the US population. Just under one third were based in western U.S. states, one quarter were in southern states, and one third were in northeastern or central states.

2.4 Data captured and analyses completed

The survey captured payer executive responses to questions about their organizational role, organizational characteristics, strategic organizational priorities in general as well as with a focus on understanding payer perceptions of the function, importance, and impact of accuracy in managing member identity. Perceived challenges to achieving organizational strategic priorities were assessed, and respondents were surveyed on their views of the importance of accurate member identity in achieving payer organizational growth and operational objectives, and efficiency, as well as in improving care/disease management initiatives, member experience and satisfaction, and attracting and retaining members.

Table 1. Summary of the characteristics and findings of included studies

Payer Member Identity Need	Payer Organizational and Member Value
Consumer/Member Engagement	• Better understand each person/patient care needs and health status with comprehensive, consolidated member data • Foster more engagement with members and consumers through a digital front door, member portals, and new forms of virtual outreach with enhanced data • Prepare personalized relevant and timely services and tools for more effective and sustained member engagement, and enable greater opportunities to reduce avoidable care utilization
Population Health	• Monitor network utilization and utilization management, and drive greater value-based care reimbursement • Better address healthcare inequities and support better preventive/wellness care and disease management through more comprehensive and enriched member data
Quality Reporting and Data Analytics – HEDIS, Medicare Stars Ratings	• Improve understanding of micro and macro trends for more effective and faster care and preventive intervention • Increase understanding of and ability to positively influence members' complete health journeys • Improve quality measures by increasing the match rate of member claims, clinical and supplemental data; rating system and regulatory compliance
Information Sharing	• Facilitate better collaboration with health systems by enriching demographic/social determinants of health data • Target care coordination and member outreach on the highest at-risk populations • Visualize and understand members and populations more clearly by resolving redundancy in person records across data systems and sources
Trusted Exchange Framework and Common Agreement (TEFCA)	• Interoperability; regulatory compliance

In addition, survey items assessed respondent views on current member identity-related data management capabilities, and the impact of member misidentification on digital transformation efforts, on payer financial performance, and on key initiatives such as population health. Respondents were queried about the difficulty of adding data sources and removing duplications from their member data, ability to match supplemental clinical data to membership data, and estimated the level of accuracy in member identity achieved presently within their organization. Solutions currently employed to improve the accuracy of member identity were identified. Payer perceived importance and need for member enrichment and social determinants of health data were also evaluated.

Survey data was analyzed using stratified contingency tables crossing key variables and responses of greatest pertinence to understanding the current state of member identity accuracy in payer organizations, gaps in identification capabilities, and payer concerns and needs across organizational strategic, operational and financial priorities, including improving member engagement and satisfaction.

Ethical statement

This analysis was not based on an experimental design utilizing human subjects and none were involved in completing this study. All survey respondents opted in and affirmed that their data could be used for analytic and publication purposes. No formal ethical committee review was needed or pursued.

3. Results

3.1 Respondent organizational title and responsibility for ensuring member identity accuracy

All respondents were from healthcare payer organizations within the United States, and 30.0% were in information technology related roles, followed by analytics leaders and chief strategy or innovations officers (see Figure 1). Other roles included Vice President of Strategy, Medical Director, Quality Improvement Director, and Vice President of Quality and Care Management. Respondents included information technology purchasing decision-makers (36.7%), influencers (36.7%) and stakeholders (26.7%), and 90% were moderately or very familiar with the critical organizational importance and impact of member identity accuracy in payer operations and objectives. The most influential leaders and decision-making stakeholders in payer organizations responsible for ensuring high accuracy of member identity were identified as the chief information officer (57.7%), the chief medical officer (30.8%), and the chief medical information officer and chief operating officer (26.9% each).

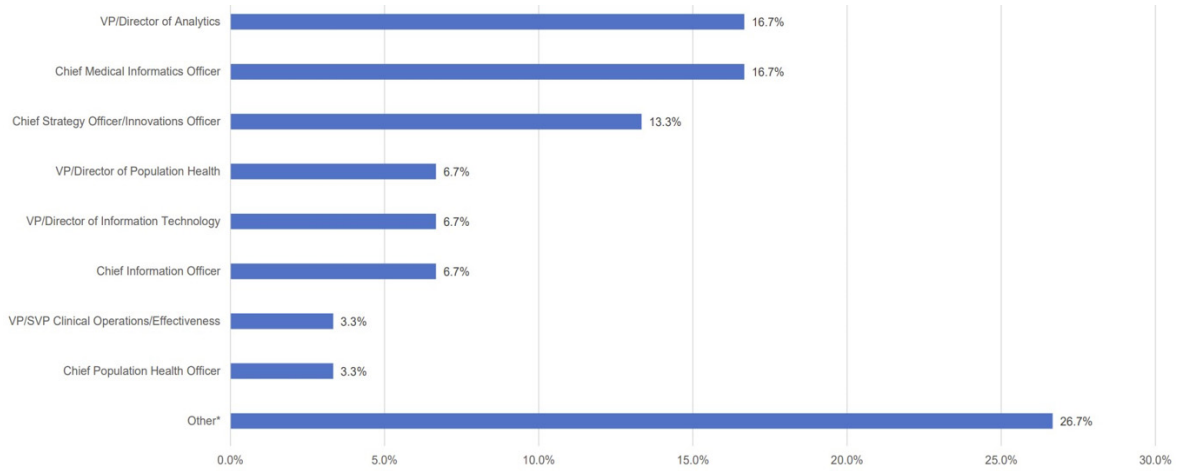

Figure 1. Respondent payer organizational role/title

3.2 Payer plan type and size

Respondents were drawn from organizations providing multiple different plans to members, and varied considerably in membership size, as shown in Figure 2.

3.3 Payer organization strategic priorities

Payers are focused highly on financial performance objectives, including reducing total cost of care (66.7%), growing membership (40.0%) and acquiring new members (36.7%). Next highest priorities were digital transformation initiatives, increasing participation in value-based care and improving quality scores (see Figure 3).

3.4 Key challenges to achieving payer strategic priorities

Key challenges to achieving strategic organizational priorities top ranked by respondents included managing high risk members (43.3%), increasing effective member and provider engagement (40.0%) and reducing claims data processing lag (40.0%) (see Figure 4).

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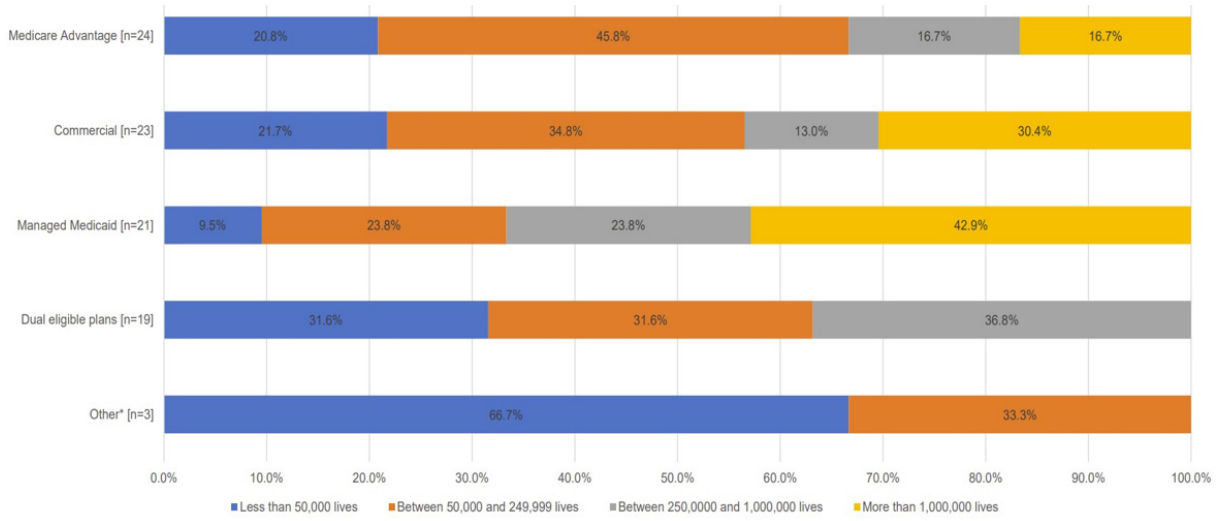

Figure 2. Respondent payer membership size

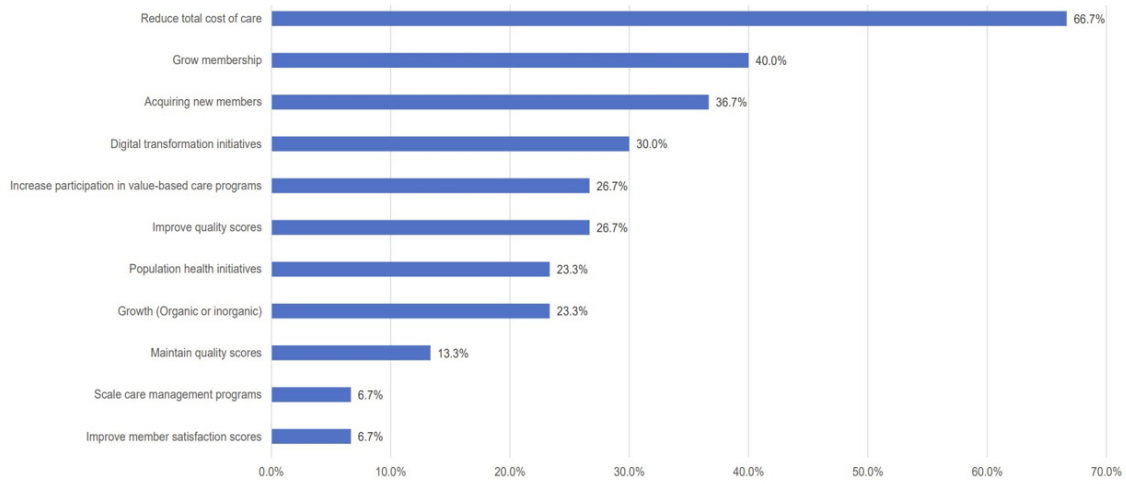

Figure 3. Payer strategic priorities

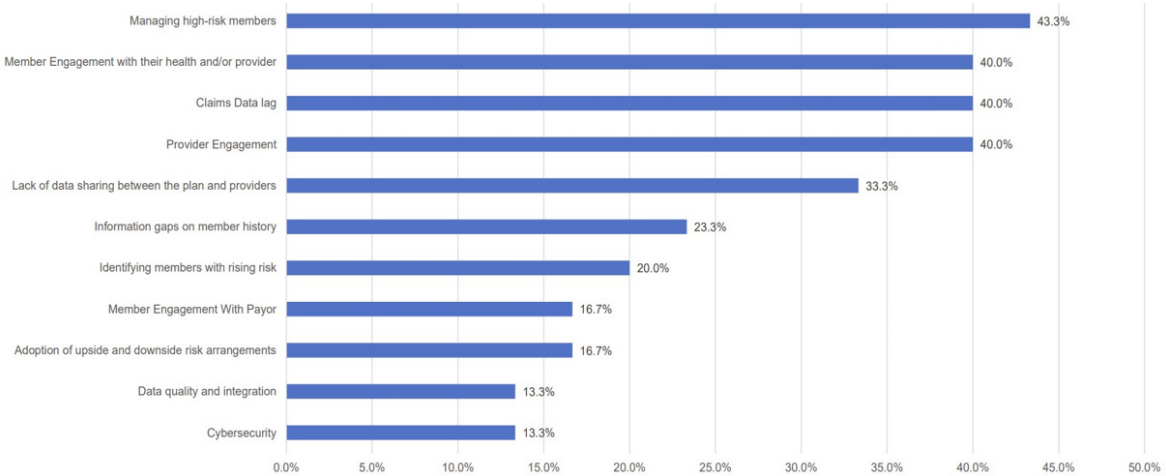

Figure 4. Challenges to achieving payer strategic priorities

3.5 Payer views on the importance of accuracy in member identity to overall organizational effectiveness and efficiency

A large majority of payer respondents (90.0%) recognized the critical role accurate member identity plays in driving business operations, in the quality of reporting and for productivity of reimbursement efforts. Payers reported a significant impact of member misidentification on their organizational ability to serve members effectively and efficiently (see Figure 5).

3.6 Perceptions of the extent to which existing payer organizational capabilities do not effectively ensure accurate member identity

Three-fourths of respondents either somewhat or strongly agreed that their current organizational capabilities to ensure accuracy of member identity do not allow for easily and effectively capturing and sharing the most accurate, complete and trusted member identity information (see Figure 6). Zero respondents strongly disagreed, and only 10.0% somewhat disagreed, asserting that their current organizational capabilities could resolve member identity with high accuracy, and were moderately or highly satisfied with the accuracy of their existing member identity management solutions.

3.7 Ease of adding data sources and removing duplicates within member data

Nearly half the respondents (43.3%) stated it was somewhat or extremely difficult to add member data sources and/or to remove member record duplicates from member data. One-third indicated doing so was somewhat easily accomplished, and zero stated that it was extremely easy to add new member data sources or to remove member record duplicates (see Figure 7).

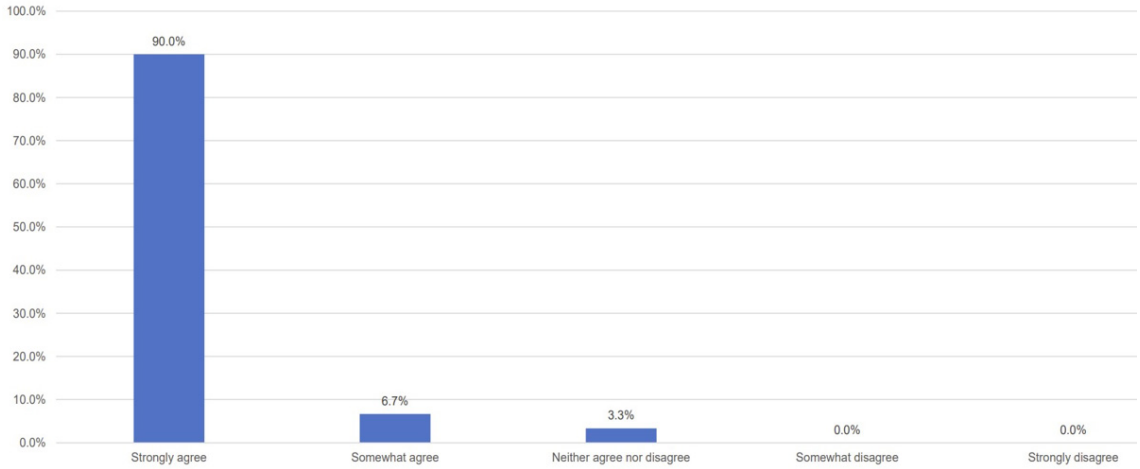

Figure 5. Payer views on the critical importance of member identify accuracy to operational effectiveness and efficiency

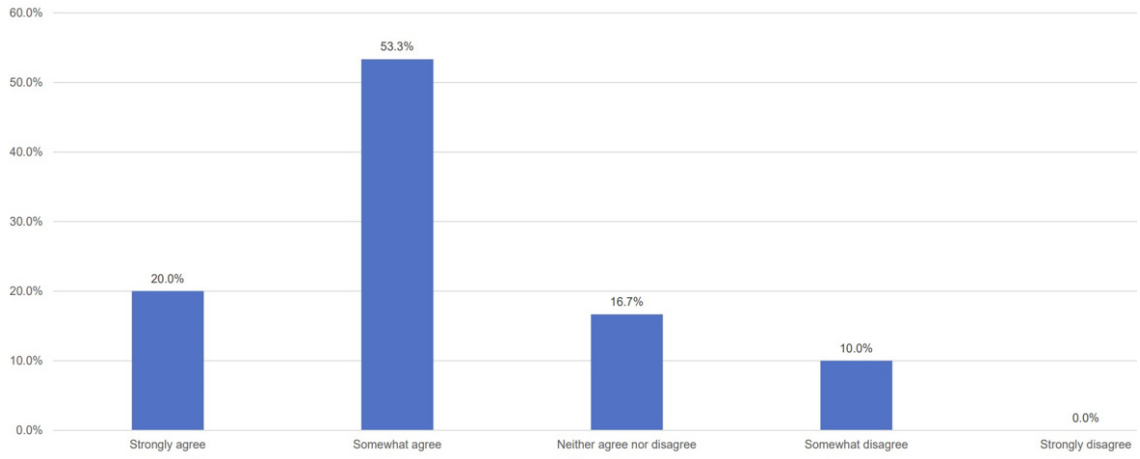

Figure 6. Extent to which existing payer data management capabilities do not enable capture and sharing of accurate/complete member information at the level needed

Regarding the ability of payer organizations to effectively match supplemental clinical data to membership data, zero respondents reported being able to do so extremely well, only 23.3% indicated that their organizations did so very well, and almost one-third (30%) stated their organization did so slightly well or not well at all. The balance stated that their organizations performed moderately well in this regard (46.7%).

3.8 Importance of accuracy in member-patient identity to specific payer operations

Across 14 specific critical functions of payer operations, a large majority of respondents (80.0%) stated that high accuracy in patient-member identity is somewhat or extremely important in 9 functional areas, including improving care management, population health, improving patient experience and access, analytics and consumer-centric transformation (see Figure 8). Ninety percent so indicated for improving quality and risk measures, managing complex and disparate data sets, and shifting to value-based care (see Figure 8). Of the remaining functional areas, over 70.0% of payers indicated that improving provider experience, operational efficiency, and performance of the health information management (HIM) department were impacted significantly by accuracy of patient identity.

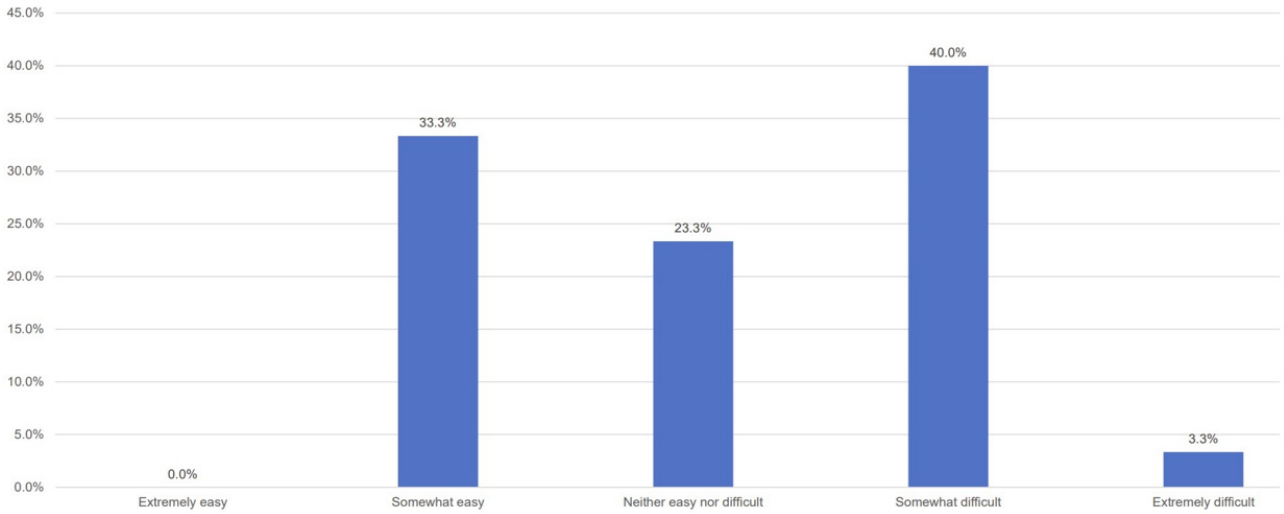

Figure 7. Payer ease of adding data sources and removing duplicates within member data

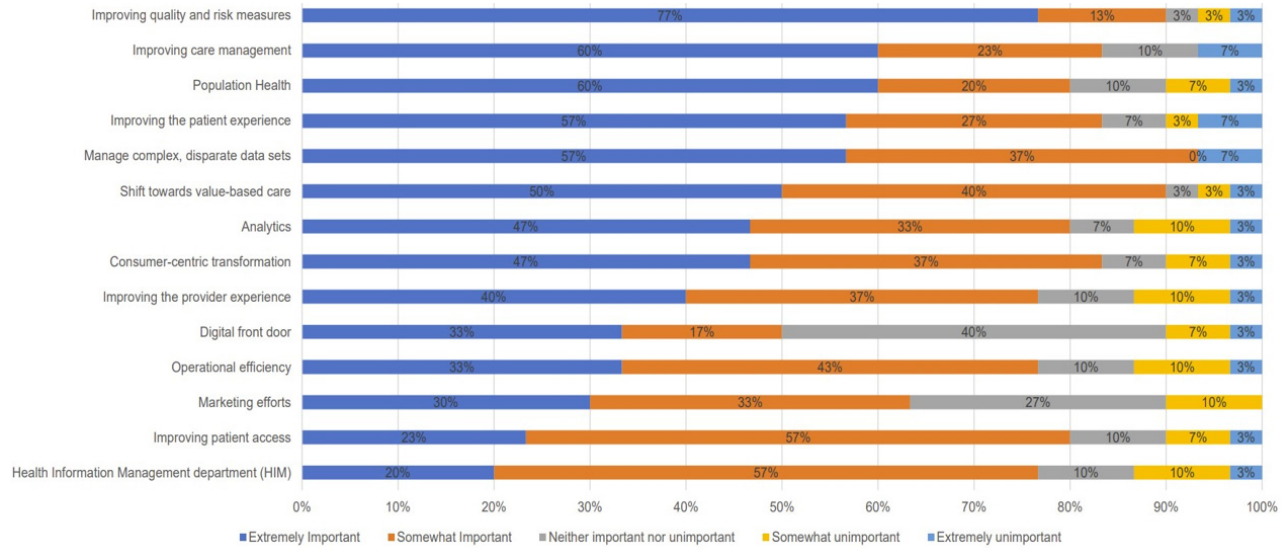

Figure 8. Importance of member identity to specific payer operations

3.9 Importance of member-patient data enrichment of social determinants of health data

Almost 90.0% of respondents reported that having member enrichment and social determinants of health data is important to achieving high priority strategic organizational objectives, with 50.0% indicating this data was extremely important, and 36.7% somewhat important. Organizational objectives cited as most impacted by having enrichment data included analytics.

3.10 Payer current use of an MDM or EMPI solution to manage member-patient identity

While 40.0% of respondents did not know if their organization had an EMPI (enterprise master patient index) or MDM (master data management) platform to enable more accurate management of member-patient identity, 36.7% indicated they have an EMPI or MDM solution, and 23.3% stated they have none. Of those with a solution, 10 different providers were identified.

3.11 How improving accuracy of member identity would be of value to payer organizations

Better care management initiatives, increased operational efficiency, and enhanced member and provider experience were the most frequently cited benefits that respondents anticipated from improvements in accuracy of member identity (63.3%-66.7%) (see Figure 9). One-half perceived direct potential financial performance benefits, and 46.7% envisioned improved member and/or provider satisfaction as well.

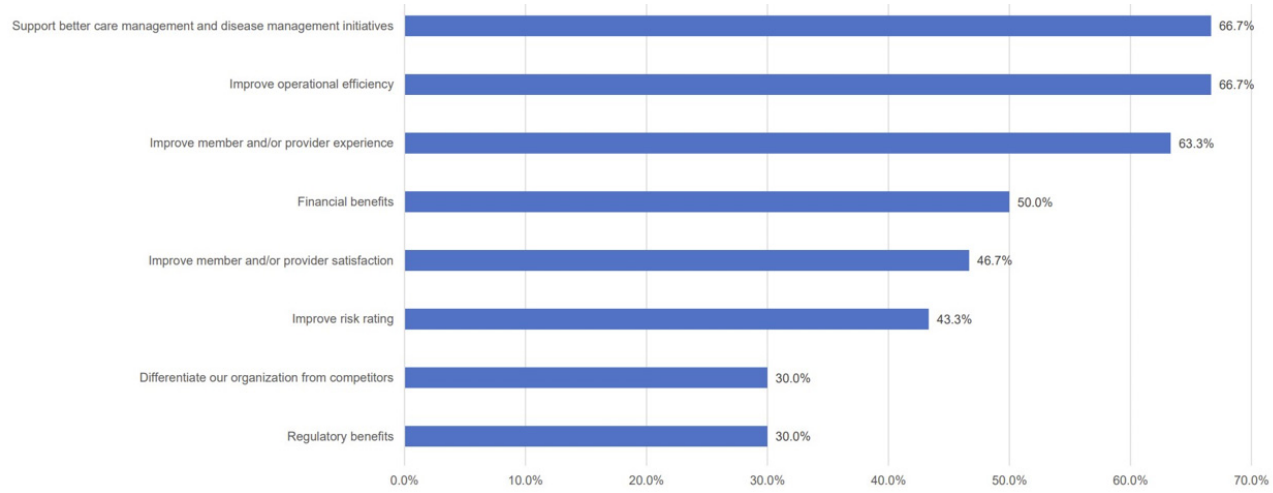

Figure 9. Areas of payer organizational performance that would benefit from improved accuracy of member identity

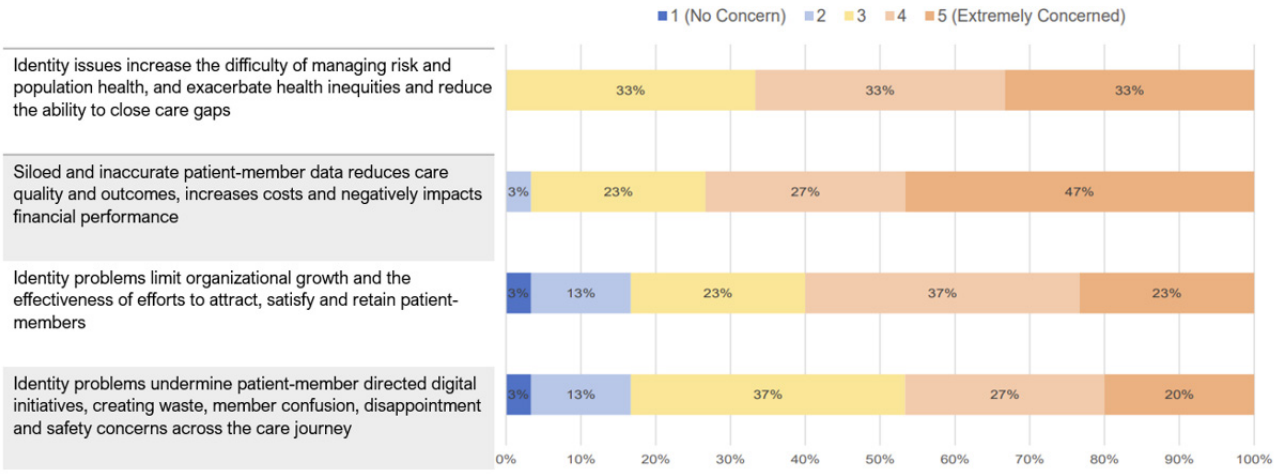

Figure 10. Payer concerns about the impact of member misidentification

3.12 Payer concerns about the negative impact of member misidentification

Two-thirds of respondents were moderately or extremely concerned that member identity issues increase the difficulty of managing organizational risk and population health, exacerbate healthcare inequities, and reduce ability to close care gaps (see Figure 10). Almost three-fourths stated that inaccurate patient-member identity data reduces care quality and negatively impacts patient outcomes, increases costs and impedes financial performance. Sixty percent indicated that misidentification limits organizational growth and the effectiveness of efforts to satisfy and retain members.

4. Discussion

Payers' most important strategic priorities focused on organizational financial performance, including reducing total cost of care, growing membership and increasing participation in value-based care programs. Greatest perceived challenges were managing high risk members, improving member engagement, claims data processing lag, and lack of data sharing with providers. Payers overwhelmingly recognized the importance of accuracy in member identity to achieving organizational effectiveness and efficiency, and a large majority reported existing organizational capabilities for capturing and sharing accurate, complete patient-member information were inadequate.

Payers reported difficulty in adding patient-member data sources and removing duplicates from member databases, and that inability to do so impacts operational efforts to improve quality and risk measures, care management, population health and patient-member experience. Payers also recognized the value of patient-member enrichment and social determinants of health data. Remarkably, however, 40.0% of respondents did not know if their plan had an EMPI or MDM, and only a minority (36.7%) reported their organization did. Yet two-thirds understood that improving accuracy in patient-member identity would improve care management initiatives, operational efficiency, member and provider experience, and half believed it would improve financial performance. Other member identity concerns included managing organizational risk, population health, and reducing care inequities/gaps. Payer executives understood that inaccurate member identity data reduces quality of care delivered and negatively impacts clinical outcomes, increases care costs and compromises efforts to satisfy and retain patient-members.

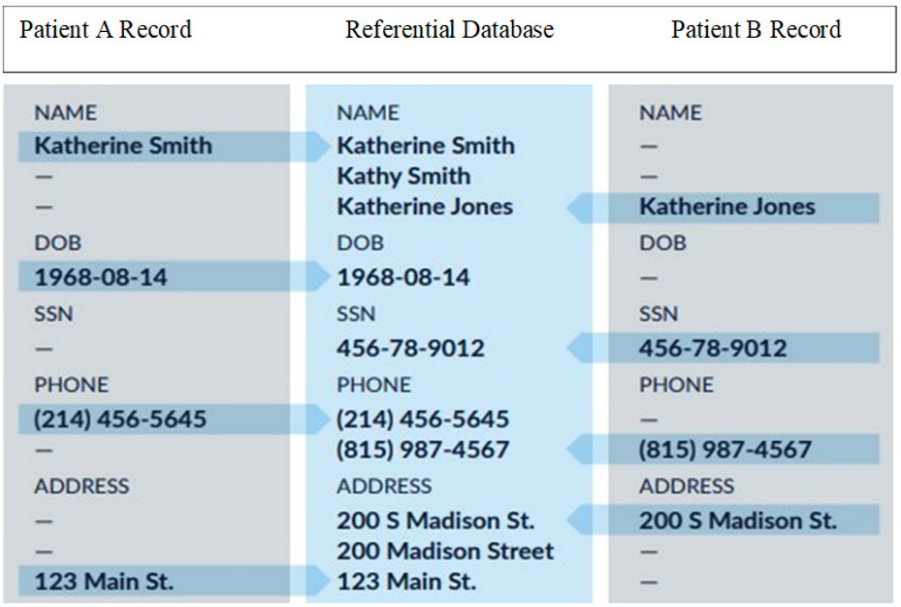

Figure 11. Referential matching database showing matching of disparate patient-member records

To achieve the highest possible accuracy in patient-member identity, member identities need to be matched against an external referential database that exceeds the depth and enlarges the diversity of data sources currently available to payers. Conventional member identity matching technologies directly match demographic data from two member records to determine if they belong to the same individual. However, referential member matching technologies match demographic data from each member record to a comprehensive, continuously updated, and highly curated national reference database of identities (see Figure 11).[20] A referential database of patient identities draws upon numerous

data sources beyond those typically utilized in healthcare in order to accurately identify individuals, including publicly available government data as well as consumer, financial and other data streams. Reference data derives from commercially available, non-healthcare sources, including credit header data and federal, state, and local government person records. A referential algorithm uses probabilistic matching techniques within a curated reference dataset of all US adults and additional logic adapted to data characteristics that vary when patient and reference data are combined.[20]

Matching member identity against a referential database enables higher rates of identified duplicate or overlaid member records.[20] Payer organizations require high quality, inclusive and robust referential datasets. In the US technology platforms exist that match demographic data to a comprehensive, continuously updated reference database of over 300 million identities spanning a 30-year history. By matching records within a referential database instead of matching disparate databases to each other, member identity matches are enabled that conventional identity MDM technologies cannot complete-even if two member records have demographic data that is out-of-date, incomplete, incorrect or different (see Table 2).[20]

5. Conclusions

Avoidable healthcare related errors cause 210,000-400,000 US deaths a year, a leading source of preventable mortality.[21,22] Error-caused morbidity, including avoidable increases in hospital length of stay and acute readmissions, human suffering and avoidable care costs also result from the ongoing crisis in US healthcare safety. Failure to accurately identify patient-members, with clinicians managing care using incomplete EHR clinical data and records combining clinical data from more than a single individual, are significant contributors to poor patient safety and outcomes. Payers require a complete view of each member's data/record that cuts across customer relationship management systems, data warehouses, patient portals, claims data, EHRs and healthcare facilities - anywhere patient-member data is created, maintained and aggregated.

Powerful solutions are available that can help payers increase accuracy of member identity and reduce member record duplication and overlay rates.[20] HITRUST-certified, cloud-based identity platforms enable interoperability across the complex digital healthcare ecosystem with unprecedented accuracy of member identity.[20] These solutions ensure that payer organizations correctly ascertain member identity across the healthcare lifecycle and are easily deployed to connect and integrate patient/member/consumer data from any source.[20] Such platforms can help payers improve member experience/engagement, operational performance, population health management, and information sharing using next generation MPI technologies that convey a complete 360-degree view of each member, supplementing other MDM solutions in place.[20] Given the sobering concerns articulated by payer executives in this survey, engaging an enterprise-wide single source of truth for member identity is clearly an imperative for payer organizations.

Acknowledgements

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Authors contributions

Dr. Gellert wrote the article, interpreted the data, compiled the tables and figures, and completed the literature review. Mr. Erwich contributed to the design of the survey, and was responsible for implementation of the survey. Ms. Krivicky-Herdman assisted with survey development and implementation, as well as the data analysis. All authors read and approved the final manuscript.

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Conflicts of Interest Disclosure

MEE and SKH work for a health information technology service provider that focuses on improving the accuracy of patient identity by leveraging a proprietary referential database software solution set. GAG is an external medical advisor to the same service provider.

Ethics approval

The Publication Ethics Committee of the Sciedu Press. The journal's policies adhere to the Core Practices established by the Committee on Publication Ethics (COPE).

Provenance and peer review

Not commissioned; externally double-blind peer reviewed.

Data availability statement

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

Data sharing statement

No additional data are available.

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