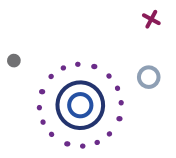![Mindtree — A Larsen & Toubro Group Company]

Healthcare ⟶

Driving growth and elevating experience via hyper-personalization and next-best action engine

AUTHORS:

Amar Prasad, General Manager and Healthcare Industry Solutions Leader

Suresh Perichetla, General Manager and Payer Solutions Leader

The healthcare industry faces myriad challenges. A few key ones include **growing** the consumer base, **increasing** access to care, **elevating** consumer experience, **managing** growth in data along with sharing and appropriate usage, and **reducing** overall cost of care.

Healthcare, unlike banks, retailers, hotels, etc. is a complex ecosystem and requires active interactions over a prolonged period between patients, clinicians, caregivers, insurers, employers, third-party service providers, and many others coming together in a highly-regulated industry. Consumer experience is not limited to purchasing insurance but includes care delivery, payment, and support beyond the event such as covering chronic conditions, education, wellness, and socio-economic and environmental factors. Consumers today demand simplicity, convenience, choice, affordability, and transparency that meets their personal requirements, like their experiences in other industries. Thus, personalized experiences are the need of the hour.

> **The future is to adopt a hyper-personalized strategy using the right data, advanced analytics, and AI technology to enhance the next generation consumer experience.**
>
> — Dr. Zafar Chaudry, SVP, Chief Digital and Information Officer at Seattle Children's

Personalized healthcare is a journey that requires a synthesis of experience design, data, content, and delivery technologies. The maturity level of each element impacts the pace and distance of the journey. It requires data collection and mining at multiple touchpoints of consumer engagement, to measure satisfaction, predict retention, and increase loyalty.

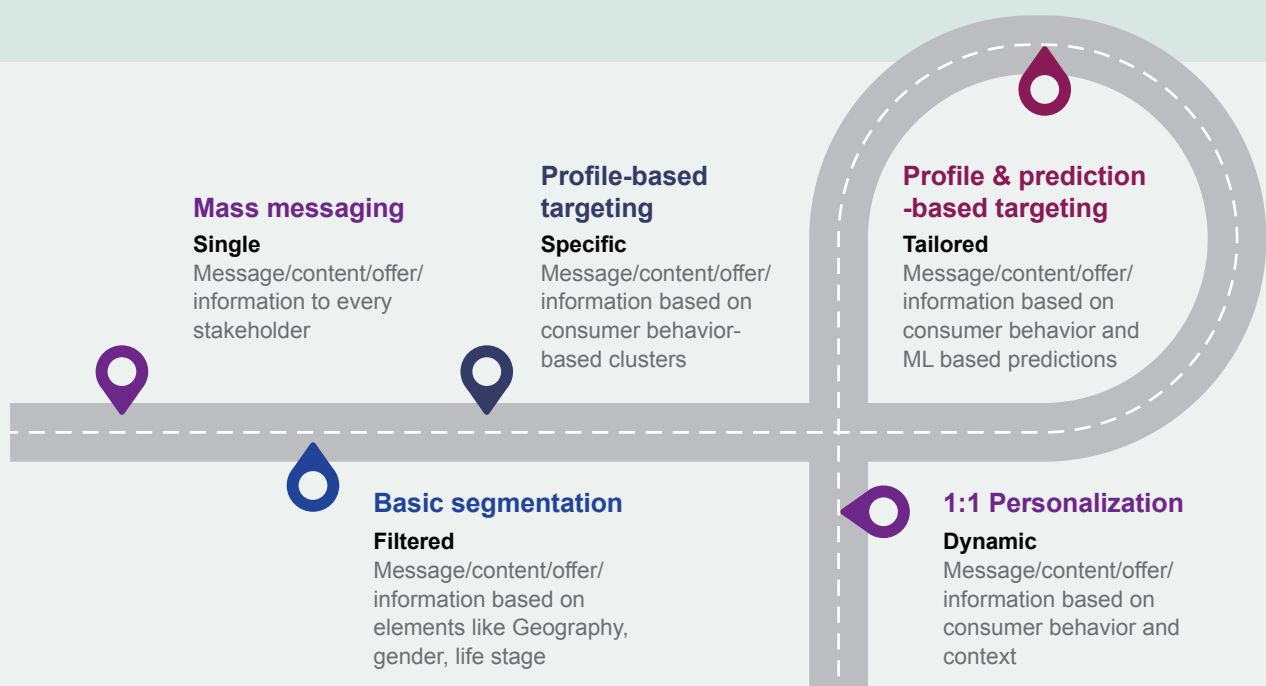All of this can only be achieved with hyper-personalization strategies and data-driven intelligence.

Mass messaging
Single
Message/content/offer/
information to every
stakeholder

Profile-based targeting
Specific
Message/content/offer/
information based on
consumer behavior-
based clusters

Profile & prediction -based targeting
Tailored
Message/content/offer/
information based on
consumer behavior and
ML based predictions

Basic segmentation
Filtered
Message/content/offer/
information based on
elements like Geography,
gender, life stage

1:1 Personalization
Dynamic
Message/content/offer/
information based on
consumer behavior and
context

Figure 1: Hyper-personalization strategies for healthcare

Challenges inhibiting personalization and superior consumer experience

While we have mentioned the industry-level challenges, organizations encounter a different set of challenges that are much more tactical in nature. A few of these are:

1. Member journeys exist but lack specificity in detailing elements of personalization.
2. Lack of real-time integration inhibits the optimal use of existing tools and systems in the organization.
3. Lack of experience in delivering data-driven personalization use cases at scale across the enterprise.
4. Content structuring and metadata management are not well-established despite the presence of content management systems.
5. Automation of personalization rules is limited to specific channels and tools.
6. Multiple stakeholders drive personalization without consideration for prioritization, scalability, and enterprise applicability, leading to competing priorities, duplicative efforts, and parallel solutions.
7. Distribution of ownership between IT and business requires an overarching governance structure to enable personalization at scale.

> **Consumers are demanding personalized engagement and unique experiences. Success necessitates meeting them where they are, with the right content, through the right channel, and at the exact proper time.**
>
> — Allen Rios, Planning and Strategy Director and BI and Analytics Head, Abbott Nutrition

Approaches to consumer experience journeys and hyper-personalization

Attract, acquire and retain

As mentioned above, consumer experience with healthcare starts during the sales process when consumers shop for a plan or a specific service. Being a first-time experience, it is important to make this interaction as convenient as possible. Payers need to present their products innovatively in an easily understandable format, so that the buyers receive appropriate help to assess and compare various products, services, and options available to them. The purchase journeys must be designed considering the healthcare needs of consumers over the years to present the right product choices and cost of care estimates across plans.

Personalized offerings and products

Too often, healthcare organizations adopt a uniform, safe, and generic approach to designing products and services. In reality, there is no one-size fits all. Product adoption and usage is driven by variances in region, culture, socio-economic, life stage, and many other factors.

Payers should leverage claims history data and personalize the product choices for consumers' subsequent shopping. Retaining consumers is 5 to 25 times less expensive than acquiring new ones and losing them costs an average of $250 per consumer. Also, it is up to 16 times harder to establish and build relationships with new consumers than existing ones.

Communication and engagement to build loyalty

With the advent of multiple digital channels, it is important to understand a customer's channel usage and topics of relevance. Customer segmentation, understanding search relevancy and ranking, and bringing up relevant topics with the highest priority are important approaches used in effective communication and engagement across other industries. The implementation of a Digital Front Door methodology for an omnichannel engagement can go a long way in building and improving consumer loyalty.

A six-step approach to build data-driven hyper-personalization

1 Create a single view of the consumer

The bedrock of personalization is data and not just any data but that which is derived from myriad sources such as clinical, administrative, third-party, SDoH, etc. While the goal of creating a Golden Record of master data management remains unchanged, this stage of the personalization journey presents organizations a unique opportunity to establish the appropriate governance, privacy, and compliance standards.

In order to create a "Golden record", numerous customer interactions must be consolidated from various marketing interfaces such as CRM, billing, etc. Although marketing sits outside the healthcare domain, the onus of capturing the data for business use lies on that function. To this end, it is essential to design certain systems correctly and leverage data to enable organizations to build a Golden Record. This enables organizations to:

1. Reach wide and engage right

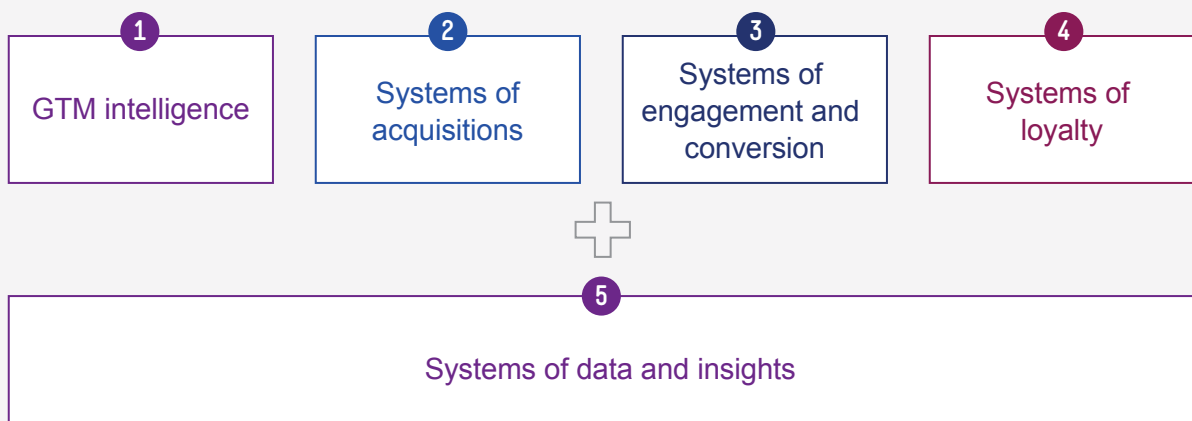2. Convert faster and higher

3. Drive loyalty and adoption

Figure 2: Healthcare domain systems to improve

It is important to collate the complete data of the customers in a single-view i.e. Customer 360 view, to know current and potential customers and gain a deeper understanding of the variations in their behaviors, needs, attitudes, and motivations. This understanding plays an important role in providing personalized healthcare advice on how an individual can improve their health risks, while motivating them to stick to a care plan. It can even go as far as meeting customers wherever they are on their healthcare journey in terms of resources, information, and therapies.

2   Better segmentation

Segmentation and unification are two sides of the same coin. As healthcare organizations focus on unified consumer records, the shortcomings of segmenting using administrative data sources such as claims are all too apparent. As the figure below illustrates, better segmentation is only possible by combining traditional administrative data such as claims and membership with other sources such as clinical (EMRs), social determinants, engagement, call center, and third-party sources. As the classic example[1] of Prince Charles (Prince of Wales) and Ozzie Osbourne (Prince of Darkness) demonstrates, when two individuals who are seemingly identical from a demographic standpoint have absolutely contrasting personas. The same goes for healthcare, a family of four living in the same zip code on an employer-sponsored plan will have different needs than a similar family on ACA or Medicaid. The figure below illustrates a sampling of rich data that can be used to understand consumers from a multidimensional perspective. Segmentation can also help in the following five key areas:

1. Design and recommend products/benefits that are the "right fit".

2. Choose the appropriate channel, language, frequency, etc. for engagement.

3. Find and obtain care that is optimal considering cost, criticality, and convenience.

4. Tailor interventions that address clinical, administrative, and social issues.

5. Identify and retain dissatisfied consumers.

ACQUIRE Meet consumers where they are in life		ENGAGE Cultivate a sincere & reliable relationship		RETAIN Build trust to enable intrinsic behavior change	
Data-driven outreach	Life-event marketing	Utilization patterns	Health recommendations	Sentiment analytics	NBA/ NBO
Channel modelling	Campaign performance	Risk scoring/probability	Real-time interventions	Utilization patterns	Network optimization
Channel performance	Product performance	Monitoring/preventive	Financial analytics	Churn propensity	Incentive programs
Product recommendation	Conversion prediction	Adherence (Rx/program)	Incentive programs	Product recommendation	Channel performance
Bounce rate	Enrollment rate	Channel performance	Sentiment analytics	Retention rate	CSAT, NPS etc.

Data foundation

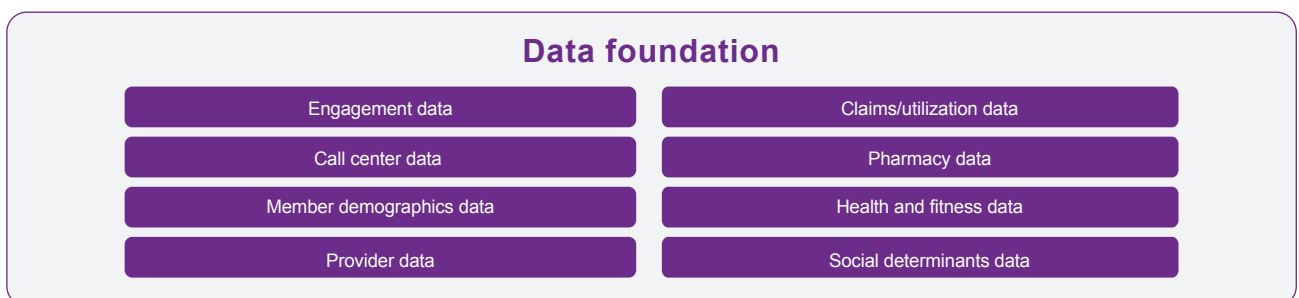| Engagement data	Claims/utilization data
Call center data	Pharmacy data
Member demographics data	Health and fitness data
Provider data	Social determinants data

Figure 3: Sampling data from various sources

3 Data-driven intelligence to drive engaged customers and employees

AI plays a crucial role in enhancing the experience of consumers and patients. AI can also help to segment the population appropriately and drive engaged consumers and employees who provide service to consumers. There are efforts underway to develop and market AI tools to segment customers, provide insights about their interaction preferences and methods, and how to engage these segments.

In some organizations, AI enabled chatbots are having engaged conversations with consumers at every step of their journey. For some, AI tools can help analyze the consumer sentiments in real-time, through their choice of words and tone of the voice. Data captured during these interactions can drive more engaged customer service representatives. It enables them to better understand the customer's concerns in real-time, so they can tweak their interactions every step of the way.
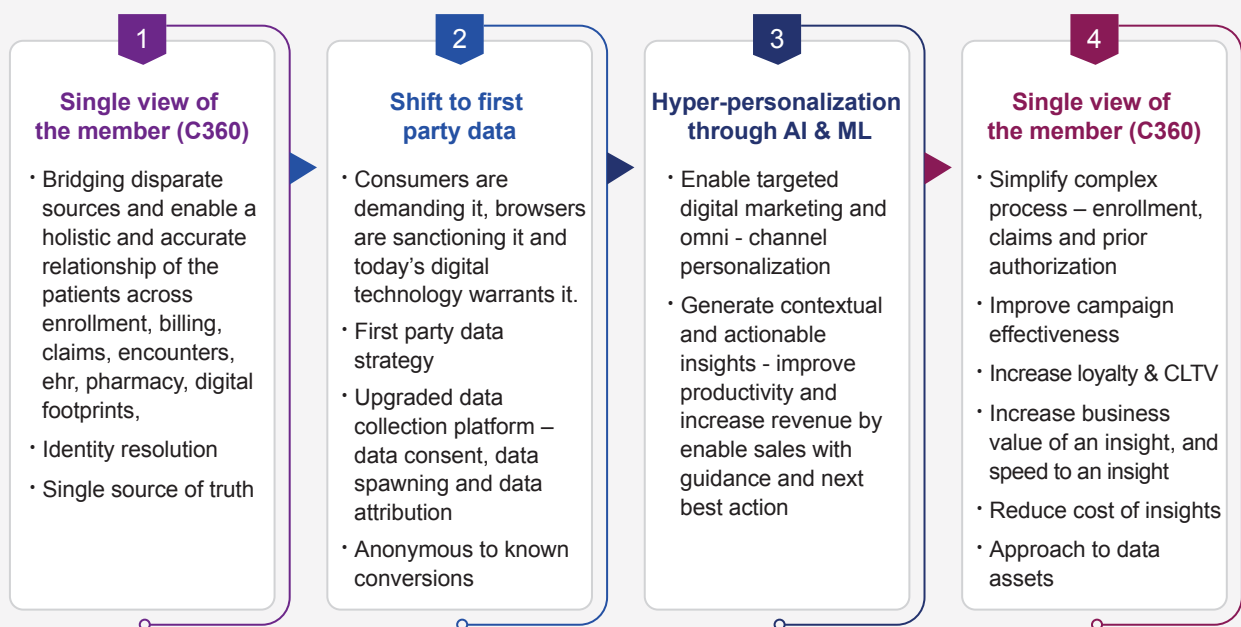
1

Single view of the member (C360)

- Bridging disparate sources and enable a holistic and accurate relationship of the patients across enrollment, billing, claims, encounters, ehr, pharmacy, digital footprints,
- Identity resolution
- Single source of truth

2

Shift to first party data

- Consumers are demanding it, browsers are sanctioning it and today's digital technology warrants it.
- First party data strategy
- Upgraded data collection platform – data consent, data spawning and data attribution
- Anonymous to known conversions

3

Hyper-personalization through AI & ML

- Enable targeted digital marketing and omni - channel personalization
- Generate contextual and actionable insights - improve productivity and increase revenue by enable sales with guidance and next best action

4

Single view of the member (C360)

- Simplify complex process – enrollment, claims and prior authorization
- Improve campaign effectiveness
- Increase loyalty & CLTV
- Increase business value of an insight, and speed to an insight
- Reduce cost of insights
- Approach to data assets

Figure 4: Strategic focus on data-driven experiences post-pandemic

4 Customer 720 and AI/ML driven Next-Best Action (NBA) engine

Customer 720 is a multi-dimensional view, based on deep analytics that helps to understands customers, behaviors and most importantly the needs and patterns. Many healthcare organizations have successfully created Customer 360 view and insights in standalone mode. This model only provides a fragmented view of customer information. To create Customer 720, organizations need to blend internal and external data sources i.e., administrative, clinical, social and behavioural data sources and apply deep analytics using AI & ML, create comprehensive view of customers along with insights on the next best action in every customer touchpoint. If all of these are done right i.e., leveraging emerging technologies, social media, cloud-based services, and analytics, organizations can create a model to sustain lifelong customer relationships and loyalty.

For example, when a sales lead reaches a sales agent, the agent should provide the right choices of products understanding the customer's journey so far, the products they have already explored during the journey, the current product that they are attached to, and suggest the right product or service choice. It is a guided, intelligent flow directing the customer to the next best possible step to close the customer requirement with the shortest path in the journey, and is extensively used in other industries like retail, banking etc.

A big portion of a person's healthcare journey and experience is often related to care delivery which is getting increasingly distributed, as much of the delivery is moving beyond the walls of the hospital. It is all the more important to have an integrated approach that bridges the phygital (physical-digital) barrier by integrating data across the ecosystem and leverage AI/ML to drive preventative care, situational interventions, and behavioral changes to manage conditions.

Communication & engagement
· Automatic campaigns on health camps and promotions
· Network / provider (hospitals, clinics, urgent care) updates
· Recommendations to optimize benefits usage

Allied services
· Generic vs branded, mail order recommendation, cost savings projections
· Event triggered coordination of DME equipment including rent vs. buy options

Clinical interventions
· Mental & behavioral health interventions
· Proactive suggestions to discuss with physicians on individual's health
· Care gap management- immunizations, vaccines, and screenings

Care and population health
· Risk stratification and segmentation
· Proactive interventions to reduce hospitalizations/readmissions
· Condition progression monitoring

Purchase and enrolment
· Personalized product recommendation
· Other HDHP - HRA/HSA/FSA/DFSA product options and savings view
· Predict estimated usage and value based on planned treatments

Renewal and retention
· Personalized renewal & retention campaigns
· Utilization pattern-based product suggestion
· Other HDHP options and savings view
· Network choices and savings

Find and obtain right care
· Provider/specialty recommendation based on symptoms
· Care delivery options - (nurse helpline, virtual, urgent care, etc)
· Alternate treatment options - cost savings and health outcomes
· Recommend care access - transportation, navigation, door-to-door options etc.

Lifestyle and wellness management
· Personalized program recommendation
· Rewards and saving projections
· Personalized interventions to motivate members
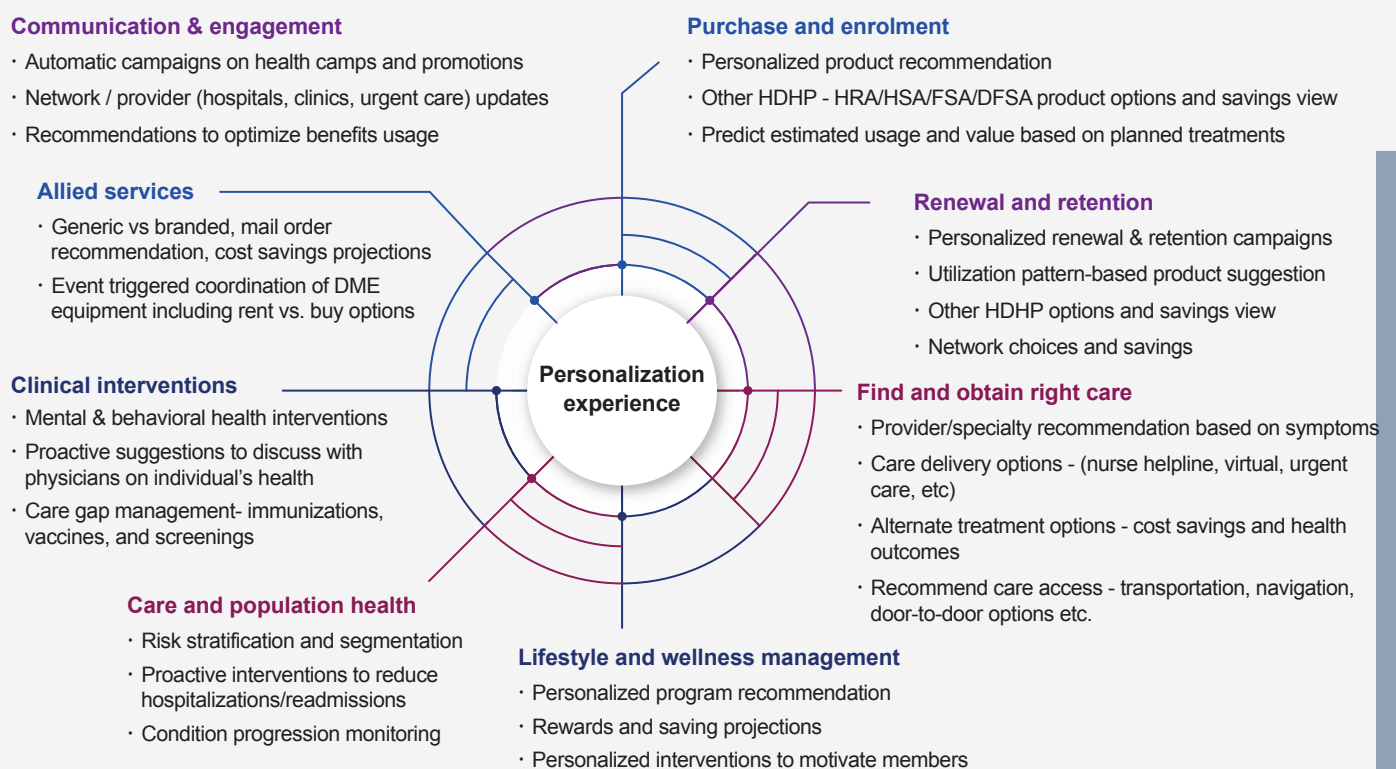
Personalization experience

Figure 5: Spectrum of the personalization experience

Data can play a disruptive role in plan personalization for a health plan and provide consumers with a true retail experience.

With the cost transparency regulation implementation, consumers can even go to the extent of comparing the hospitals or providers of their choice for their care plan. They can then arrive at the actual out-of-pocket expenses of plan A vs B before they purchase a plan.

5   SDoH and personalization

SDoH (Social Determinants of Health) data help plans to address many healthcare challenges faced by the populations and individuals. Health plans can improve quality indicators such as HEDIS, CAHPS, and overall ratings by combining data, community interactions, and targeted communication of their members. They could also improve the health and stability of their communities.

Many health plans have started using SDoH data to effectively address problems faced by their members such as food sensitivities, nutritional challenges, and childhood immunizations etc. They are even going so far as to customize the homes of disabled or aged individuals to ease their access and mobility inside their house to self-manage some of their day-to-day activities. SDoH parameters also helped to manage members during this pandemic to help sustain their health and reduce the infection rate by launching various programs to these members of the population. The level of personalization can even go to as far as addressing some of their financial problems too.

> " **Technology and SDoH data can deliver the power of hyper-personalization that makes an impact to individuals and communities.** "

6   Improve search and recommendation

An automated search engine evaluation tool can help gauge the effectiveness of the performance across users with various search terms combination to enhance the overall experience and quality.

The evaluation engine is not only automated but also built to be configurable to compare results between multiple search engine endpoints in terms of fluctuations in metrics and perform A/B testing. It can cluster and abstract the search results broadly on healthcare categories such as disease-related, doctor search, etc.
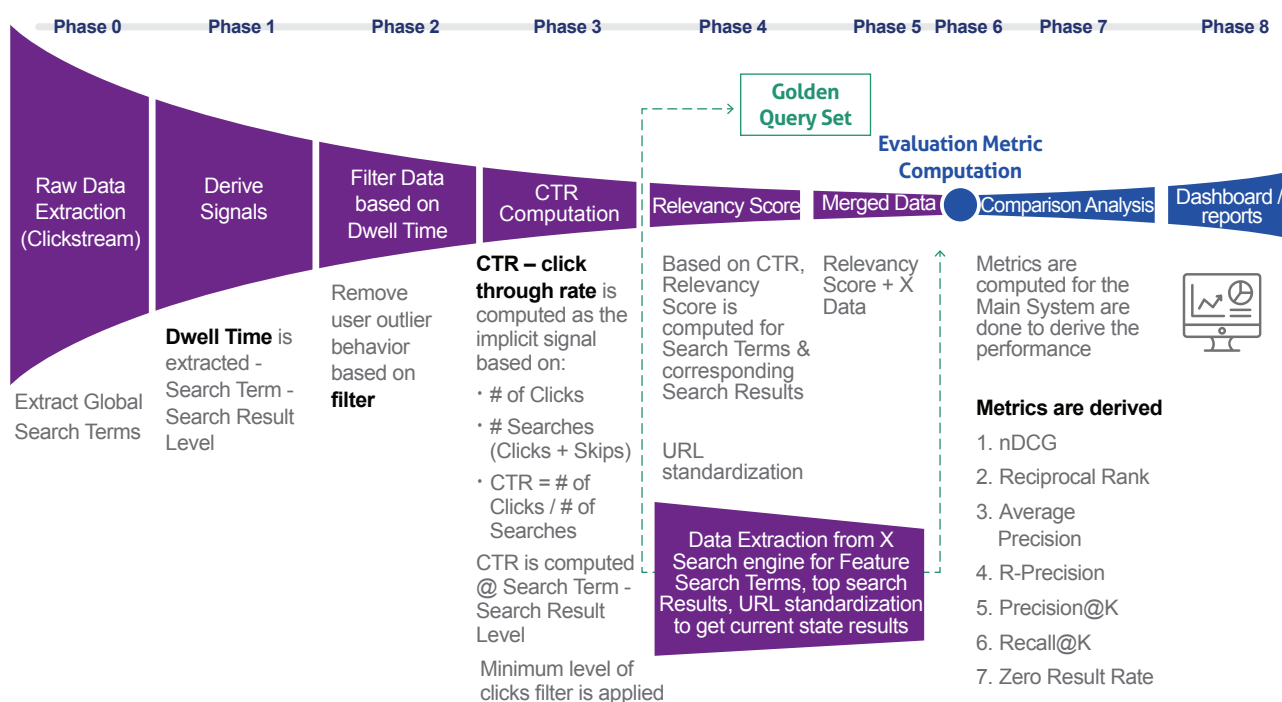

Figure 6: Effectively implementing search relevancy automation engine

In conclusion, the approach to build data-driven hyper-personalization can be the foundation for elevating consumer experience through their personal journeys across the healthcare continuum. But, in order to build a resilient process it is necessary to evaluate and enhance the implemented processes at each step.

A comprehensive digital strategy backed by ROI metrics to gauge the effectiveness of consumer experience related investments

One of the main challenges that healthcare organizations face is how to measure acquisition and retention. Acquisition lends itself to ease of measuring as the data is present in CRM systems that have the ability to determine a new customer. However, measuring retention is infintely harder given the lack of attribution.

In certain industries, the use of a retention offer (immediate action) can help measure retention. Healthcare is unique as it follows a somewhat annual cycle for re-signing. It is all the more difficult when it comes to provider organizations. Hence, devising a measureable set of KPIs is critical as illustrated by the diagram below. While these KPIs are visible there needs to be a focus on the **invisible metrics** such as **cost of an insight, cost of an activation,** and **enhancing the value of a consumer record.**

| Member for life value (CLTV) | + | Net promoter score | ≫ | Cost of acquisition | + | Cost of retention |

Figure 7: Critical KPIs to track

> " **An increase in net promoter score and customer lifetime value, if measured and managed with hyper-personalization, can reduce the cost of acquisition and cost of retention of members by significantly improving their loyalty.** "

Tying all of the above together requires a comprehensive digital strategy that encompasses human-centered design, data foundation, content creation and delivery, decision engines, real-time orchestration coupled with multiple channels such as portals, mobile, tablet, bots, and others to enable consumers to discover, access, transact, and engage with healthcare services.
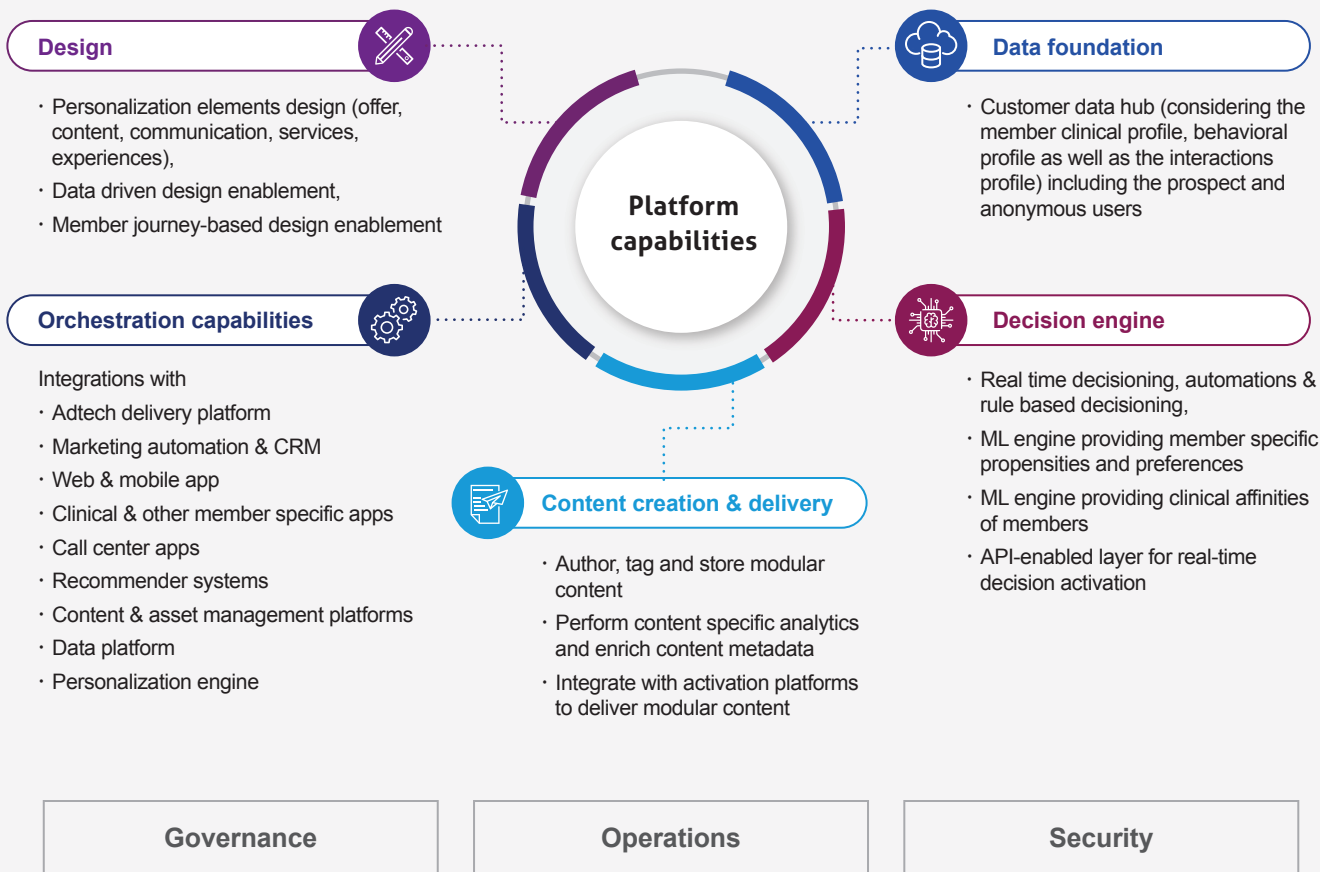
Platform capabilities

Design
- Personalization elements design (offer, content, communication, services, experiences),
- Data driven design enablement,
- Member journey-based design enablement

Data foundation
- Customer data hub (considering the member clinical profile, behavioral profile as well as the interactions profile) including the prospect and anonymous users

Orchestration capabilities

Integrations with
- Adtech delivery platform
- Marketing automation & CRM
- Web & mobile app
- Clinical & other member specific apps
- Call center apps
- Recommender systems
- Content & asset management platforms
- Data platform
- Personalization engine

Decision engine
- Real time decisioning, automations & rule based decisioning,
- ML engine providing member specific propensities and preferences
- ML engine providing clinical affinities of members
- API-enabled layer for real-time decision activation

Content creation & delivery
- Author, tag and store modular content
- Perform content specific analytics and enrich content metadata
- Integrate with activation platforms to deliver modular content

Governance	Operations	Security

Figure 8: Comprehensive digital strategy for hyper-personalization

Our recommendations based on over 260+ engagements

1. **Ensure** understanding and documentation of end-to-end consumer journey(s).
2. **Identify,** harness, and integrate data and turn them into "actionable" insights.
3. **Foster** predictive and real-time journey orchestration.
4. **Laser-focus** on business outcomes. Measure (and improve) KPIs that matter.
5. **Be** compliant, secure, and above all, authentic at all times.

> " Resolving the data silos is the first step and the most important step to draw the blueprint for enterprise personalisation platform, most of the other things could fall in place if that's done correctly.
>
> — Ganesh Nathella, Business Unit Head, Health Industry Group, Mindtree

Conclusion

In conclusion, while many organizations claim to be data-driven, a scalable and personalized approach to consumer **CARE** (communication, acquisition, retention, and engagement) requires re-thinking the approach to data and experience delivery.

References

1. https://www.bbc.com/news/technology-37307829

2. https://www.mindtree.com/insights/resources/data-driven- aproach-fuel-growth-and-elevate-experience-healthcare

About the Authors

Amar Prasad
General Manager and Healthcare Industry Solutions Leader, Mindtree

Amar brings a unique mixture of payer, provider, and health tech experience with prior stints at Kaiser Permanente, United Health and Wipro. Amar is passionate about the role of technology in healthcare and initiatives that enhance patient care, provide operational benefits, integrate clinician & non-clinical systems, and reduce cost of care.

Suresh Perichetla
General Manager and Payer Solutions Leader, Mindtree

Suresh is Healthcare Solutions leader with over 22 years of experience in Payer and Provider markets. Suresh is instrumental in envisioning, solutioning and implementing digital solutions to Fortune 500 clients in US and worldwide to address their journeys in Cost optimization, value-based care, digital engagement, and Enterprise analytics.

Visit our industry page on Mindtree.com

Mindtree [NSE: MINDTREE] is a global technology consulting and IT services company that enables enterprises across industries to drive superior competitive advantage, customer experiences and business outcomes by harnessing digital and cloud technologies. A digital transformation partner to more than 275 of the world's most pioneering enterprises, Mindtree brings extensive domain, technology and consulting expertise to help reimagine business models, accelerate innovation and maximize growth. As a socially and environmentally responsible business, Mindtree is focused on growth as well as sustainability in building long-term stakeholder value. Powered by more than 35,000 talented and entrepreneurial professionals across 24 countries, Mindtree — a Larsen & Toubro Group company — is consistently recognized among the best places to work.