ICHOM
International Consortium for
Health Outcomes Measurement

Case Study

Driving Value-Based Healthcare in Brazil: Grupo IAG Saúde's Implementation of ICHOM Sets

Grupo IAG Saúde Profile

Location: Brazil

Provider type: Scientific consulting organization, VBHC innovation

Sets: Stroke, Breast Cancer, Colorectal Cancer, Prostate cancer, Diabetes, Coronary Artery Disease, Chronic Kidney Disease, Older Person, Hand and Wrist conditions, and Hip and Knee Osteoarthritis

Grupo IAG Saúde is a private, independent Brazilian health-innovation and scientific consulting organization, founded in 1992, dedicated to transforming healthcare with intelligence, purpose, and passion, and committed to building a system that is fairer, more efficient, and truly centered on people., headquartered in Belo Horizonte. For over 30 years, it has reached 593 hospitals, 210 payers, and more than 38 million people across Brazil's mixed public-private health system. Operating as a health-innovation and scientific consulting group, Grupo IAG Saúde provides technology, consulting, and outcome-measurement solutions to a wide range of institutions.

Grupo IAG Saúde has supported the implementation of multiple ICHOM Sets across 23 institutions, integrating PROMs and clinical outcomes into routine workflows using its BEL digital platform and a phased, scalable implementation model. Thirteen institutions are currently actively collecting data, generating data from 1.950 patients across conditions such as stroke, breast cancer, diabetes, CAD, CKD, and more. The initiative led to very high response rates (100% in Breast Cancer, >90% in Older Person) and helped reveal actionable insights, such as unmet emotional needs among breast cancer patients, which prompted redesign of care pathways. Key lessons learned include the need for strong leadership alignment, embedding PROMs at natural workflow points, using early data trends to build engagement, and ensuring sustainability by relying on existing clinical teams. This work provides a clear and practical framework for implementation, and from this point forward we—and our client institutions—will continue to share data and learnings generated across projects to strengthen value-based care delivery.

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1. Introduction

The concept of value based healthcare has circulated in the global market for many years, though often in an incipient or superficial way. Perhaps organizations were not yet mature enough to fully grasp that change was not optional - it was necessary. When we observe the state of healthcare worldwide, regardless of geography, we encounter a recurring pattern: rising costs, declining revenues, exhausted professionals, and patients who are not achieving the outcomes they deserve. This reflects a structural flaw in how most health systems were originally designed. Yet this is also a natural process - time passes, contexts evolve, and systems must be periodically reimagined.

That is the role of innovation: to transform what must be changed without abandoning pragmatism or the practical realities of care delivery. It requires clarity of purpose - a vision of where we want to go. In any sustainable care model, all components must operate within a continuous cycle in which clinical practice and measurement are inseparably linked - care generates data, data guides care, and this feedback loop sustains improvement over time, ensuring that outcomes are consistently evaluated in relation to the resources invested. From this cycle emerges one of the cornerstones of Value-Based Healthcare (VBHC): the measurement of outcomes that matter to patients.

Many institutions still struggle to understand how to organize this measurement effectively. It is from this challenge that our product, and our partnership with ICHOM, was born. At Grupo IAG Saúde, our mission has always been to deliver measurable results and true client satisfaction. Integrating patient-reported outcomes into our innovation cycles is a natural extension of that mission. We hope that our experience serves as an inspiration for other organizations to begin measuring what truly matters, so that together, we can transform not only health systems but also the lives of the people they serve.

1.1 The Role of Outcome Measurement in Value-Based Healthcare

Value-Based Healthcare (VBHC), as defined by Michael Porter and Elizabeth Teisberg in their seminal work, frames value as the health outcomes that truly matter to patients divided by the resources required to achieve them. This definition makes explicit why outcomes are central to the model: they serve as the numerator of value and guide the reorganization of health systems toward more effective, efficient, and patient-centered care. At the heart of VBHC is a simple but powerful concept - measuring outcomes that reflect patient priorities and using those insights to improve care delivery. While the theoretical foundation is widely accepted, its practical implementation varies substantially across countries and institutions, especially in middle-income contexts such as Brazil, where resource constraints and health system fragmentation introduce additional complexity.

In this landscape, the International Consortium for Health Outcomes Measurement (ICHOM) provides a global standard. ICHOM's condition-specific Sets offer rigorously developed tools to capture both clinical and patient-reported outcomes. By defining when, how, and what to measure, these Sets help healthcare organizations establish a culture of transparency, benchmarking, and patient-centric performance improvement.

1.2. The Brazilian Context: Opportunity and Challenge

In Brazil, many of the systemic challenges that hinder care delivery, such as regional disparities, limited continuity of care, and the absence of standardized outcomes data, also present a unique opportunity: the potential to shift toward value by adopting globally validated tools. However, implementing ICHOM Sets in this context requires adaptation to Brazil's local realities, including variation in electronic medical record (EMR) capabilities, workforce models, and patient literacy.

Grupo IAG Saúde recognized these challenges early. As a leading company with decades of experience in Diagnosis Related Groups systems, clinical auditing, and VBHC-aligned consulting, the organization saw ICHOM as a natural extension of its mission. Rather than building isolated measurement tools, we aimed to anchor our value-based platform around internationally comparable outcomes - and to do so in a way that was scalable, feasible, and meaningful within the Brazilian health ecosystem.

1.3. About Grupo IAG Saúde and Its Strategic Motivation

Founded over 30 years ago, Grupo IAG Saúde has evolved from healthcare services consultancy to a VBHC enabler with a robust suite of technology products and analytics solutions. Our tools support public and private institutions in analyzing clinical performance, economic efficiency, and care quality across the continuum. Integrating ICHOM Sets was not a one-off project; it was part of a larger movement to embed outcomes at the core of system performance.

Our platform integrates consulting, technology, and education, reaching more than 38 million people, 593 hospitals, and 210 payers across the country. We foster communities of innovation and collaboration, supporting measurable, science-based improvements in care.

ICHOM Sets aligned well with the organization's vision to transition its client network from volume-based logic to value-driven transformation. By standardizing outcomes and integrating them into routine workflows, we hoped not only to improve care but also to lay the groundwork for future innovations in value-based reimbursement and population health management.

1.3.1. Capacity Building and ICHOM Education

Successful implementation of ICHOM Sets relies not only on technology, data infrastructure, and process design, but fundamentally on people. Recognizing that methodological rigor and shared expertise are essential for transforming outcomes into real improvement, Grupo IAG Saúde placed education at the center of its strategy.

To reinforce the project's foundations, three senior physicians leading the ICHOM initiatives at Grupo IAG Saúde completed the official ICHOM Education certification in High Value-Based Healthcare provided by The Health Value Academy. This program, masterfully conducted by global leaders Scott Wallace, Elizabeth Teisberg, and Kathy Carberry, has become one of the most respected educational references in the field. Through a curriculum rooted in the origins of VBHC at Dell Medical School, participants are trained not only in theory but in the real-world application of outcome measurement, patient-centered value creation, shared decision-making, and implementation science.

For the clinical leaders involved, the experience was transformative. The certification created a common language and a shared analytical lens across the team, enabling them to guide institutions through the complexities of adopting standardized outcomes with confidence and precision. Equipped with advanced frameworks, practical tools, and insights from pioneers of the movement, these physicians became key ambassadors of VBHC within the organization - translating global knowledge into solutions tailored to the Brazilian context.

The investment in capacity building also strengthened the credibility of the initiative. Clients recognized that the project was not merely a technology deployment, but a comprehensive value-based transformation supported by professionals trained directly by the thought leaders who shaped the VBHC model. This positioning elevated trust, accelerated adoption, and laid the groundwork for sustainable culture change within partner institutions.

As the team moved from conceptual preparation to real-world execution, this educational foundation became a compass, ensuring fidelity to ICHOM standards while allowing for thoughtful, context-sensitive adaptations across diverse environments.

1.4. Objectives of This Case Study

This case study presents a detailed account of Grupo IAG Saúde's experience implementing ICHOM Sets across its network of partner institutions in Brazil. Specifically, it aims to:

- Illustrate the phased implementation model and technical strategies used;
- Highlight challenges and solutions for working with diverse institutions;
- Offer reflections on early clinical and organizational impact;
- Explore the role of outcome data in future value-based contracting and policy.

This work is presented as a practical resource for global implementers, particularly those operating in resource-variable settings, who seek a path to embed ICHOM standards in routine care while balancing feasibility and fidelity.

2. Implementation Framework

2.1. Selection of Sets and Implementation Scope

We began by assessing which ICHOM Sets were most relevant for the health needs of our client institutions and aligned with national disease burdens. To support this process, the organization developed a dedicated analytics tool to guide hospitals, especially those already engaged in its broader VBHC initiatives, in selecting the most appropriate Sets. This analytics module enabled institutions to identify areas where they had higher patient volume, deeper clinical expertise, and a stronger potential to improve return on investment (ROI). Although the selection of Sets was not mandated, the dashboards provided a data-informed starting point, encouraging evidence-based decisions that aligned with VBHC principles.

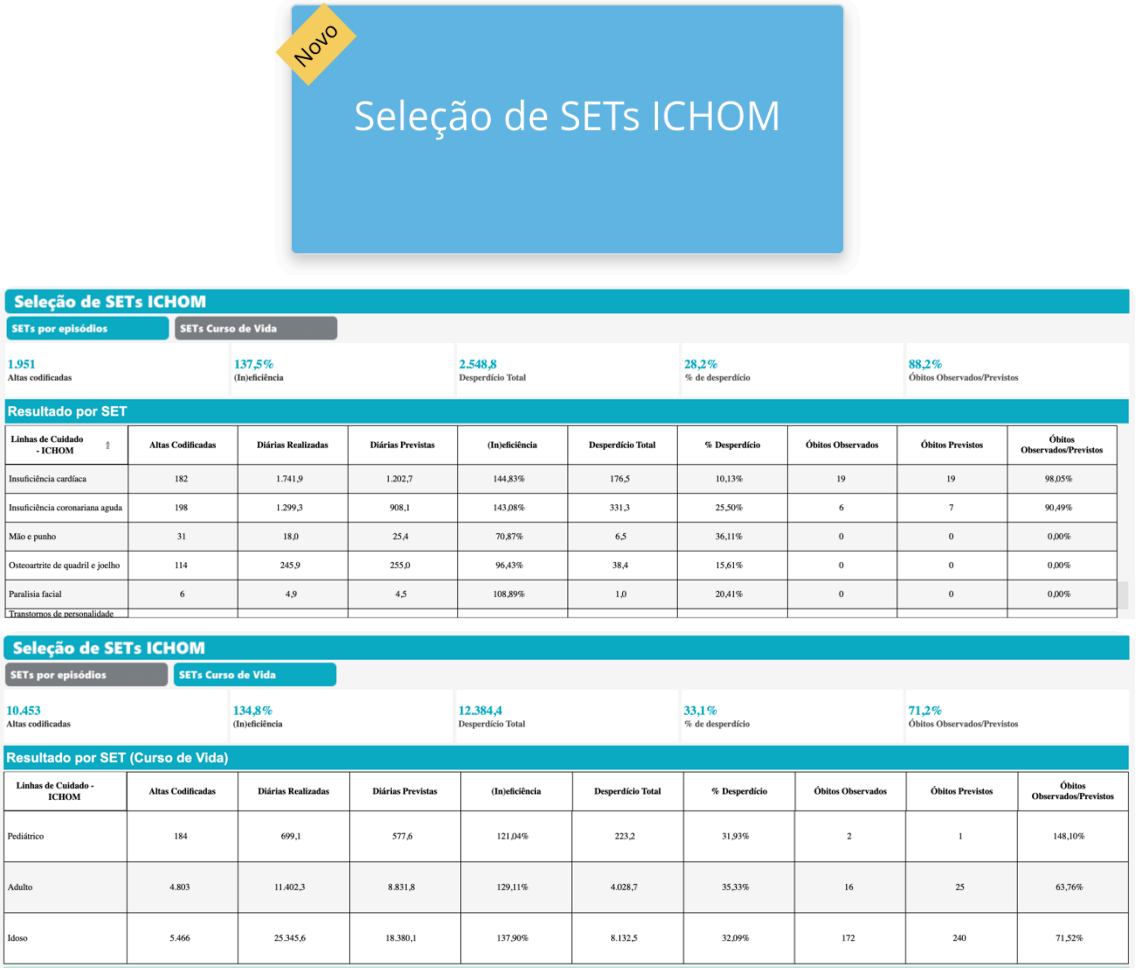

Figure 1: ICHOM Set selection dashboard.

The dashboard analysis (Figure 1) provides a strategic foundation for selecting optimal PROM Sets, guiding institutions to focus on clinical pathways where outcome measurement will generate the greatest impact. The goal is to balance feasibility with potential return on investment (ROI). High-volume clinical areas are particularly valuable because they affect many patients and generate substantial data for learning. Within these, two main strategic directions emerge. Pathways with high volume and high waste represent opportunities for transformation - they may expose structural issues in care delivery that require redesign but addressing them can lead to significant efficiency and quality gains. On the other hand, high-volume and high-efficiency pathways indicate areas of existing expertise and operational maturity. Implementing PROMs in these contexts tends to yield faster results and stronger engagement, as teams already perform well and can use outcome data to showcase excellence. Therefore, PROM selection becomes a deliberate choice: organizations can either start by consolidating strengths or by targeting areas with the greatest room for value improvement, depending on their strategy and readiness for change.

To date, implementation spans across 23 institutions, with 13 of them currently collecting patient outcomes and the remaining 10 having attempted implementation though are not currently active. In total, over 1950 patients have contributed PROMs and clinical outcome data. The sets being collected are Stroke, Colorectal cancer, Breast cancer, Localized prostate cancer, Prostate cancer, Diabetes, Coronary Artery Disease, Chronic Kidney Disease, Older person, Hand and Wrist Conditions and Hip and Knee Osteoarthritis. Some institutions opted to apply full Sets, while others implemented only primary subsets based on capacity and strategic goals. Primary subsets are a smaller set of questions defined by ICHOM

that represent the minimum level of completeness required to evaluate a specific care pathway. Not all ICHOM sets have defined primary subsets. For those that do, clients may choose to begin their implementation using the primary subset instead of the full set, while still enabling international benchmarking. This flexible approach ensured early wins without overburdening clinical teams.

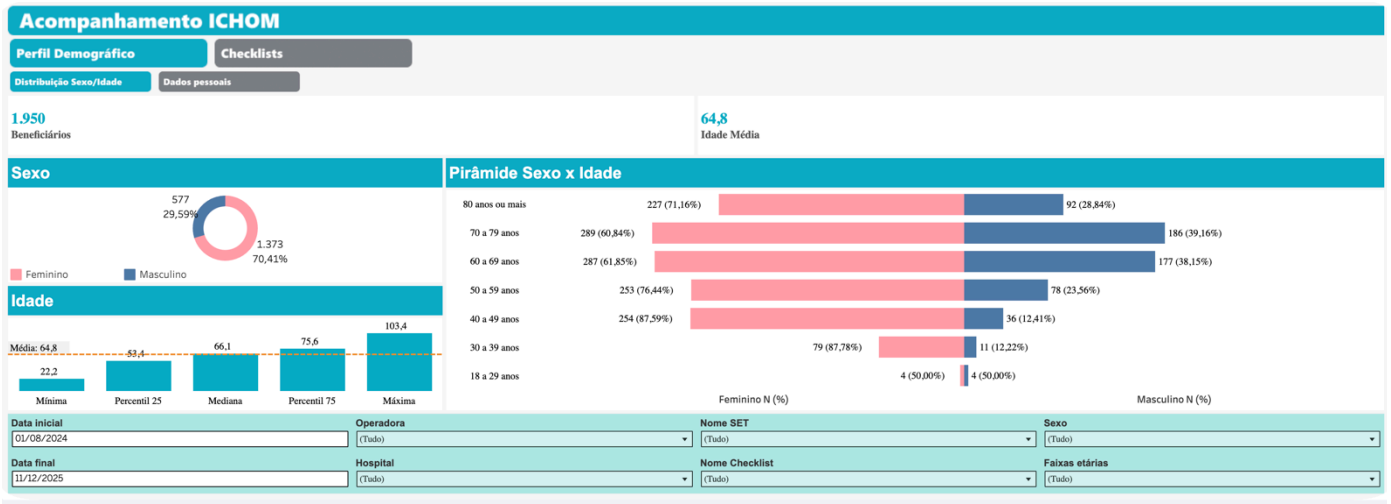

Figure 2: Dashboard view of demographic profiles of the 1950 participating patients.

Figure 2 presents the demographic profile of 1.950 patients participating in PROMs data collection between August 1, 2024, and November 30, 2025. The mean age of the cohort was 64.8 years, with ages ranging from 22.2 to 103.4 years. The median age was 66.1 years.

A total of 70.4% were female (n=1.373) and 29.5% were male (n=577). The age–sex distribution is displayed in the population pyramid on the right, showing a predominance of female participants across all age groups, particularly between 60 and 79 years.

The dashboard also includes percentile distribution of age (25th, 50th, and 75th percentiles), interactive filters for set name, checklist, sex, and age range, and a timeline control for data monitoring. This visualization is part of the ICHOM Monitoring Tool, which enables continuous tracking of patient-reported outcomes and demographic characteristics over time.

The PROMs currently being collected cover a wide range of ICHOM condition sets, including stroke, colorectal cancer, breast cancer, prostate cancer and localized prostate cancer, diabetes, coronary artery disease, chronic kidney disease, older person, hip and knee osteoarthritis, and hand and wrist surgery. Among these, the leading sets in terms of data collection during the same period were breast cancer, with 837 patients, followed by coronary artery disease with 433 patients, older person set with 245 patients and chronic kidney disease (CKD) with 146 patients.

2.2. Phased Implementation Approach

To support institutions in implementing value-based healthcare frameworks effectively, we have assembled a multidisciplinary project team that works closely with hospitals to ensure both strategic and operational alignment. Each implementation involves medical and nursing consultants from the group who help define, within the patient journey, the most appropriate professionals for data collection. Operational roles, such as physicians, nurses, physiotherapists, auditors, and nutritionists, are selected according to the institution's structure and project scope. On average, institutions complete the initial phases up to active

data collection within three months, following a clear timeline of milestones that ensures smooth progress and sustained engagement from all stakeholders.

Our implementation model relies primarily on existing hospital teams, ensuring sustainability and minimizing additional costs. Institutions do not need to hire new staff; instead, the project is structured to integrate seamlessly into current operations. In some cases, interns are engaged to support data entry activities, particularly during the initial implementation phase, helping maintain data quality and continuity while allowing clinical teams to focus on patient care and outcome interpretation. This approach reinforces the model's scalability and adaptability to different institutional realities.

We have developed a phased framework to guide institutions through the implementation process:

Phase 1: Strategic Alignment and Leadership Buy-In:

Each project begins with a thorough diagnostic and alignment session involving senior leadership. This ensures that implementation is not perceived as a technical add-on but as a strategic priority. The presence of a clinical champion is essential to promote engagement from frontline teams.

Phase 2: Process Mapping and Customization:

Together with clinicians, nurses, and administrators, the IAG Saúde team conducts workshops to map existing workflows and identify optimal points for data collection. Roles are assigned based on existing capacity, and unnecessary steps are eliminated. Institutions receive support to adapt workflows without introducing unnecessary friction.

Phase 3: Training and Data Collection:

Training sessions are provided on PROMs administration, the use of digital tools, and effective patient communication. Data is structured using the proprietary BEL platform, and there is also integration directly into existing EMRs via API for some of the data collection. For clinical indicators or questions that must be answered by physicians using information already available in the medical record, this integration is an excellent solution.

Phase 4: Monitoring, Visualization, and Continuous Improvement:

Structure plays a crucial role and makes a real difference in the success of outcome measurement projects. For this reason, each client has a dedicated area with their project registered, including all stages clearly described for monitoring by both the client and their consulting duo, a physician and a nurse, as well as a senior medical leader (director or president). Each step is closely followed, and the Project Management Dashboard (Figure 3) is shared with the client, who becomes a co-manager of the project. All updates and pending items on the platform are automatically sent by email, facilitating communication. In addition, each project has its own specific timeline, allowing actions to be tracked and bottlenecks easily identified.

Institutions also receive dashboard access and review support. Dashboards visualize key trends and generate discussion on care improvement. Feedback loops are established, allowing clinicians to reflect on patterns and adjust care pathways accordingly.

This structured, adaptive approach allows institutions to achieve early success, while preparing them for more ambitious goals like benchmarking and value-based contracting.

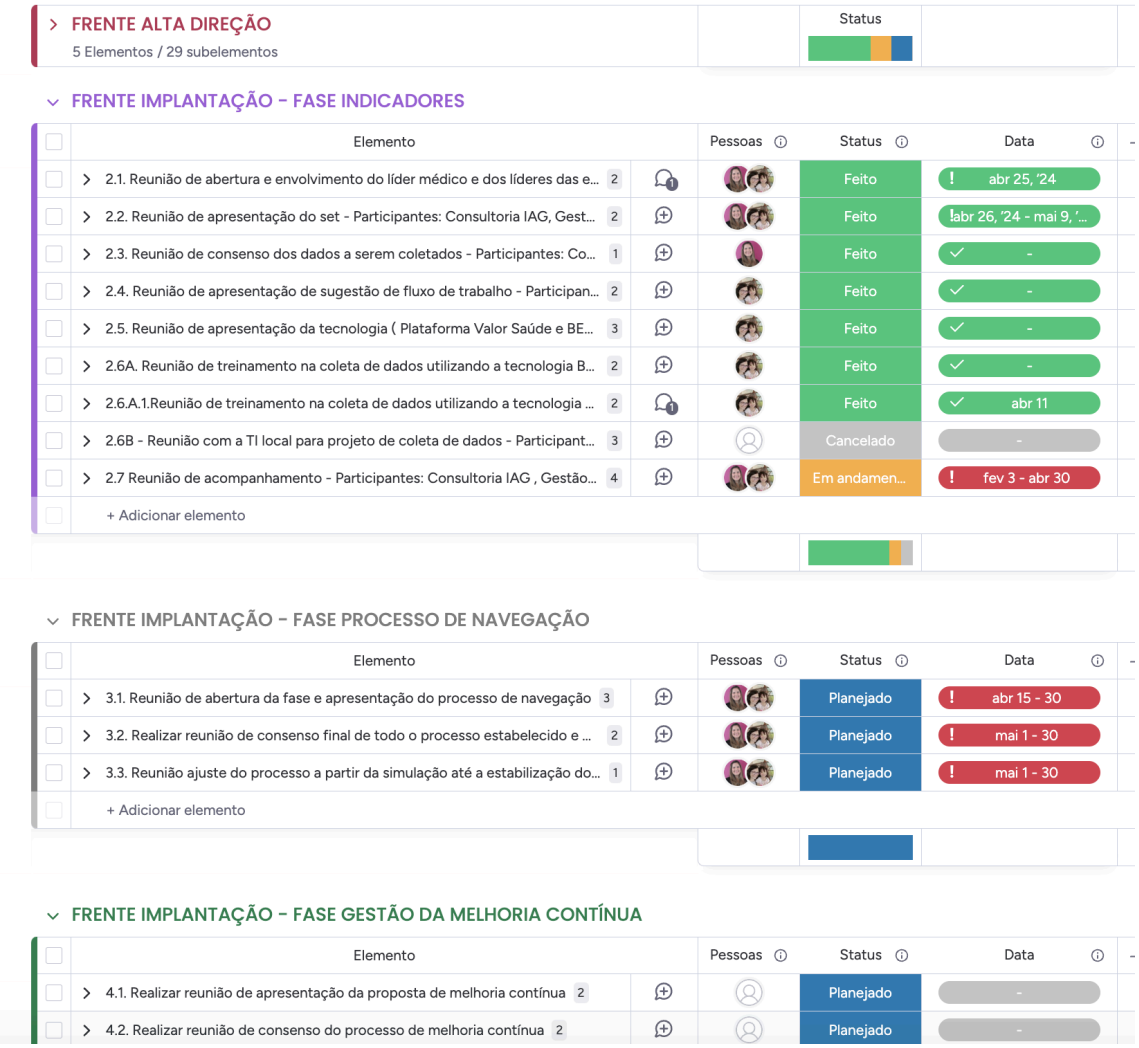

Figure 3: Project management dashboard shared with client.

2.3. Integration into Clinical Workflow

A defining feature of Grupo IAG Saúde's approach is its emphasis on seamless integration. PROMs collection is embedded into standard operating procedures, often assigned to nursing teams or administrative staff to avoid overloading physicians. Reminders are automated based on set collection milestones and real-time dashboards help ensure timely measurement.

Institutions have access to a Navigation Dashboard (Figure 4) that allows them to monitor pending questionnaires and contact patients directly through the platform's secure messaging system, or, if the patient is not using the app directly, to reach out through their usual communication channels. The care team can also track actionable questions - specific responses that may require clinical follow-up, such as reports of pain or deterioration in general condition. These actionable questions are fully customizable by each institution, giving care teams the flexibility to define their own intervention criteria.

In addition, if a patient has a scheduled event or appointment and does not attend, the dashboard automatically notifies the team. Having a Navigation Dashboard greatly simplifies the manual follow-up work that is often required in the later stages of a patient's journey, reduces the burden on clinical teams,

improves response times, and ensures that no patient is left without timely attention.

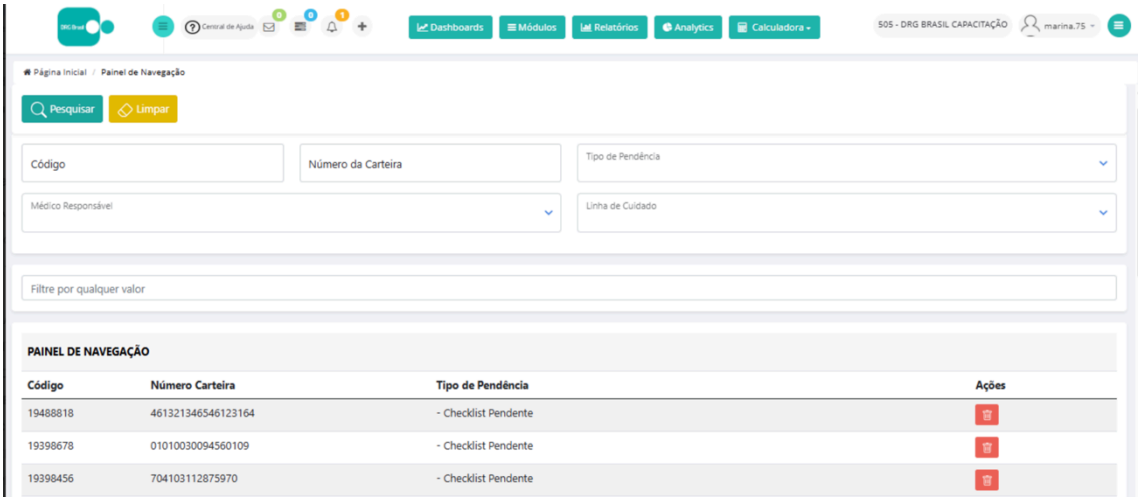

Figure 4: Navigation Dashboard for monitoring pending patient questionnaires.

Data are collected primarily through patient interviews, usually during consultations at the institution. For example, patients may complete questionnaires on a tablet while waiting for their appointment.

Data is not siloed. Instead, it informs multidisciplinary discussions, performance reviews, and care redesign initiatives. In some institutions, outcome dashboards are integrated into existing clinical governance routines, ensuring sustainability and relevance.

3. Operational and Clinical Insights

We observed that outcome measurement, when properly integrated, becomes more than just a reporting requirement - it becomes a tool for clinical transformation. Institutions began using data from ICHOM Sets to identify specific areas of improvement and adjust their care models accordingly.

Importantly, we've emphasized that high response rates were crucial for making this data actionable. In the five institutions collecting the Breast Cancer Set, response rates reached 100%. For the Older Person Set, which presented more complexity in implementation, response rates still reached 93%. This success is attributed to the integration of PROMs collection during clinical encounters and the use of reminder systems within the patient pathway. Challenges such as low health literacy were mitigated through simplified language, training for staff on patient communication, and plans for broader community engagement.

Furthermore, the company has promoted a philosophy of "use the data early." Institutions are encouraged not to wait for a full cycle of longitudinal data but instead begin reflecting on early trends. These real-time insights have sparked meaningful conversations among clinical teams and accelerated engagement with outcome-based thinking. Review sessions provide opportunities for sharing success stories, discussing anomalies, and planning quality improvement actions collaboratively. Within the project structure, periodic data analyses with clients are already planned and have always been an intrinsic part of the scope of our consulting team - not only for this initiative, but historically across all projects. Initially, these analyses and presentations were developed directly by our consultants using the data-export functionality

available on the platform, which allows clients to extract their full dataset in Excel format and work with the raw data freely. This process has served as the foundation for the second phase of the project: the development of set-specific analytics. By working closely with the raw datasets, the team has been able to identify the unique analytical needs of each ICHOM set. These insights are now being consolidated into an intuitive BI dashboard that will enable users, even those without deep knowledge of VBHC, to extract meaningful insights from the data and directly associate them with improvement actions.

This is an example of early data analysis from the Breast Cancer ICHOM Set, illustrating how PROMs can reveal meaningful patterns in patients' lived experience. The emotional functioning chart shows that a substantial proportion of women report worry, tension, irritability, and depressive symptoms, highlighting unmet emotional and psychosocial needs that are often not visible in routine clinical encounters. The Global Health Status and Overall Quality of Life scores further demonstrate significant variation in how patients perceive their health, signaling opportunities to strengthen supportive care, patient education, and symptom management. Together, these early insights help identify gaps in care pathways and inform targeted improvements to enhance patient-centered outcomes.

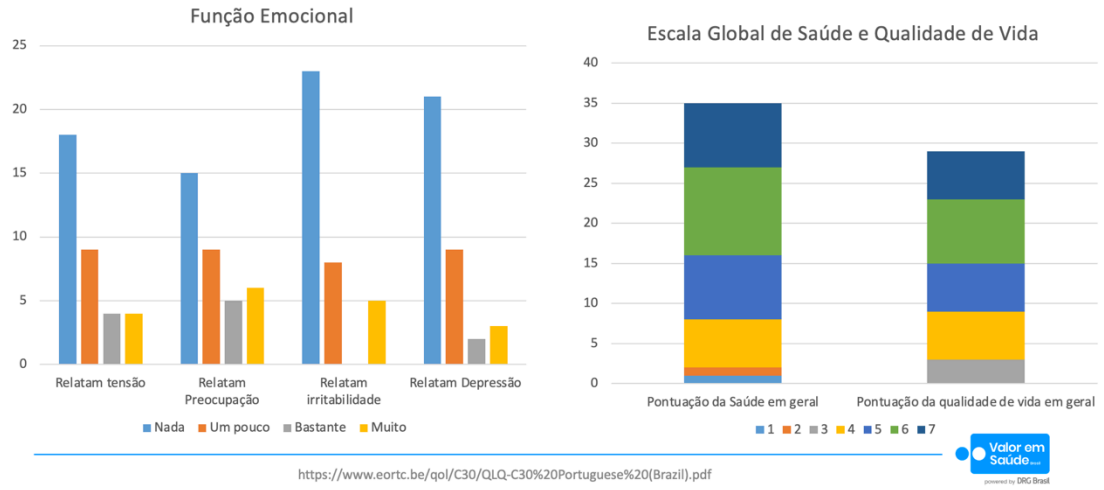

Figure 5: Data from the EORTC QLQ-C30's Emotional Functioning and Global Health Status/Quality of Life scales for Breast Cancer.

4. Technology and Data Infrastructure

Implementing ICHOM Sets across a diverse network of Brazilian institutions required a flexible and pragmatic approach to technology and data management. We've prioritized adaptability to local IT capabilities while maintaining alignment with the global structure of each ICHOM Set. Institutions were supported in integrating outcome measurement into their existing digital infrastructure, ranging from advanced hospital information systems to Excel-based tracking tools.

The collection of PROMs was facilitated through the proprietary BEL platform. For institutions with more advanced systems, direct integration into the electronic medical record (EMR) is possible. APIs are used to send and retrieve data, enabling the construction of analytics dashboards and ensuring secure data storage. We emphasize simplicity and security: minimal manual entry, automatic prompts for follow-up points, and role-based access to ensure confidentiality.

Data collected is consolidated in centralized repositories managed by each institution, with technical oversight from our analytics team. Dashboards allow clinicians and administrators to view longitudinal trends, filtered by variables such as checklist, age and sex. “Checklists” is the term used within the company’s technology to designate groups of questions assigned to different members of the care team or to patients. These are structured blocks of questions (Figure 6) that, together, form a complete set. The filter functionality is also used to segment analyses by specific team roles and to provide a cleaner, more focused view of the results reported directly by patients.

We ensure compliance with Brazil’s data protection regulations, offering guidance on secure hosting and anonymization practices. The aim is not only to collect data, but to build a digital culture where outcome measurement is seen as a core part of care and quality strategy.

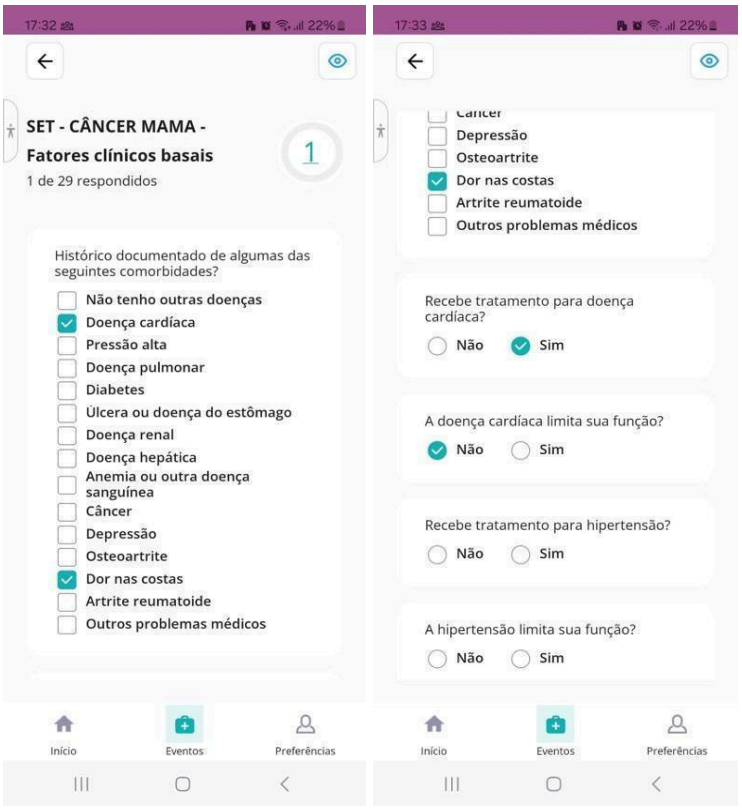

Figure 6: Example of a structured block of questions presented to the care team or patients.

5. Challenges and Lessons Learned

While implementation has yielded strong results, it has not been without its challenges. There is often initial resistance from senior leaders, which is precisely why our first implementation phase focuses on high-level management buy-in. This is not a departmental initiative but an institutional project that must be recognized as such from the outset. The transition to value-based healthcare requires a cultural shift - measuring what truly matters to patients. Overcoming barriers tends to be easier in mature institutions that already understand the strategic importance of outcomes measurement and view it as a source of market competitiveness. Our main strategy to secure leadership engagement is to clearly demonstrate the opportunities for financial return and operational efficiency, emphasizing that implementation can be

achieved with minimal disruption to clinical teams. By presenting the initiative as both a strategic and practical investment, resistance often evolves into advocacy, laying the groundwork for long-term success.

Another significant barrier was clinician resistance, especially in settings where providers are already overwhelmed. Physicians expressed concerns about the added burden of PROMs collection and were skeptical of the practical value. To address this, we introduced flexible collection models that redistributed data collection tasks to nurses and administrative staff, with clear demonstration of how outcome data could be used to improve care and reduce long-term inefficiencies.

An additional challenge involved literacy levels among patients. Particularly in public sector settings or underserved regions, patients had difficulty understanding some PROMs questions. To mitigate this, the team provided guidance on effective patient communication and trained staff on the Sets to ensure they could support patients during completion. Although no new technologies were implemented directly, institutions were encouraged to adapt their approach based on their patient population's needs.

Time and workflow constraints also impacted initial response rates. By working closely with clinical champions, the group helped institutions refine their processes to embed PROMs at the right moments - neither too early in the care process nor too late for follow-up relevance.

A key lesson is that success depends less on the sophistication of the digital tools and more on the engagement of people: leadership support, clinical champions, and patient trust are what ultimately enable the use of data for meaningful improvement.

6. Future Directions

We see outcome measurement not as a project, but as a foundation for long-term transformation. Several initiatives are now underway to deepen and expand the use of ICHOM Sets:

1. **Social and Patient Engagement Projects:** The company is launching partnerships with patient associations to support PROMs education, promote shared decision-making, and improve completion rates in harder-to-reach populations. These initiatives will offer patient-friendly platforms and free health education content in exchange for engagement with the outcome platform.
2. **Value-Based Contracting:** Grupo IAG Saúde is in early discussions with employer-sponsored health plans and insurers about piloting shared-risk models. PROMs and clinical outcomes will serve as a key metric in these contracts, rewarding providers for improving patient experience and health status, not just volume.
3. **International Benchmarking and Scientific Publication:** With two institutions participating in the ICHOM Breast Cancer Learning Collaborative, we aim to engage in cross-national benchmarking and contribute findings to the scientific community.
4. **Expanding the Scope of Implementation:** The next phase will involve scaling Sets to additional hospitals and testing more complex Sets. The team is also exploring integration of data to complete the value equation.

7. Conclusion

Grupo IAG Saúde's experience demonstrates that it is possible to embed patient-centered outcomes measurement in routine care, even within the constraints of middle-income health systems. Through a pragmatic, flexible, and collaborative approach, the organization has laid the foundation for value-based transformation in Brazil.

The key factors for success included leadership buy-in, role-based integration of data collection, early use of data to demonstrate relevance, and continuous support to frontline teams. By making PROMs collection a part of everyday care and using the insights to drive improvement, institutions became more attuned to patient needs and more agile in adapting care pathways.

We are committed to advancing the use of outcomes for quality, equity, and sustainability in healthcare. The journey with ICHOM Sets is still ongoing, but already, the lessons learned are helping shape a future where value is not just a goal, but a lived reality in every clinical interaction.

This work provides a clear and practical framework for implementation, and from this point forward we, and our client institutions, will continue to share data and learnings generated across projects to strengthen value-based care delivery.

Prepared by Grupo IAG Saúde with support from participating institutions and the ICHOM global community.