International Journal of Medical Science and Clinical Research Studies

ISSN(print): 2767-8326, ISSN(online): 2767-8342

Volume 04 Issue 12 December 2024

Page No: 2178-2187

DOI: https://doi.org/10.47191/ijmscrs/v4-i12-14, Impact Factor: 7.949

Building an Integrated Automated Accreditation Management Platform: Experience of a Large Tertiary Care Organization

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ABSTRACT

Background. Acquiring recognized accreditations is critical for healthcare organizations to demonstrate their competency and credibility. However, the journey can be daunting and time-consuming. Organizations striving to earn and maintain multiple accreditations with different requirements, standards, timeframes, and processes face significant logistical challenges. Integrating an automated accreditation platform facilitates the process.

Objective. This quality improvement project describes the steps to develop an *Automated Integrated Accreditation Management Platform* in a large tertiary care center.

Method. This quality improvement project was developed and implemented following an organizational performance improvement methodology called IACT that comprises four phases: Identify, Analyze, Change, and Transform. The *Automated Integrated Accreditation Management Platform* is designed to streamline the process of maintaining accreditation standards across the organization. It centralizes hospital-wide and departmental accreditation information, monitors compliance gaps with accreditation standards, and enables efficient tracking of progress on required tasks. It reduces manual efforts and ensures real-time monitoring of all accreditation statuses. The platform integrates with other organizational systems. The main dashboard gives access to three core components of the accreditation cycle management: 1) Accreditations Data Bank, 2) Compliance Gap Monitoring Module, and 3) Post-Survey Findings Tracking & Escalation Module.

Conclusion. The platform provides a centralized view of the accreditation compliance status and performance metrics, making relevant information accessible to all stakeholders. This transparency helps everyone understand how their contributions impact the accreditation efforts, and fosters shared accountability and commitment across the organization. Automating the accreditation readiness journey offers several benefits, including improving efficiency, accuracy, and consistency.

KEYWORDS: Healthcare accreditation, accreditation management, quality improvement, Automation.

ARTICLE DETAILS

Published On:
06 December 2024

Available on:
https://ijmscr.org/

INTRODUCTION

In healthcare organizations, ongoing quality assessments lead to performance improvement and are one of the pillars when striving for the highest quality of care (Tabrizi & Gharibi, 2019). These assessments can be conducted internally or externally. External reviews, such as accreditations which measure an organization's compliance against a set of pre-defined standards, promote organizational changes, improve service delivery, and raise quality standards (Hussein et al., 2021). These accreditation standards go beyond legal requirements. Independent expert reviewers conduct these assessments. Therefore, the process promotes transparency and accountability. It focuses on operational and clinical aspects (Alkhenizan & Shaw, 2011). Some accreditations are mandatory, others voluntary, some are overseen by governmental bodies, others by non-profit or private entities (WHO, 2022). The scope of an accreditation can cover the entire healthcare organization or focus on a specialty or field.

Accreditation has a dual role. Firstly, it provides a position that signifies adherence to quality and safety standards set by accrediting bodies. Secondly, it demonstrates an ongoing commitment to self-evaluation and external review (WHO, 2022). By sustaining these high standards, organizations foster a culture of continuous improvement (Bhat & McCammon, 2021). While some hospitals opt for state inspection to limit costs and administrative burden, most choose external accreditations (Desveaux et al., 2017). Several organizations invest significant time and resources in acquiring multiple accreditations in a competitive landscape. These earned designations are considered effective in enhancing organizational and clinical performance and are viewed externally as markers of quality (Lam et al., 2018; Manzo et al., 2012). Beyond meeting standards, accreditation drives continuous improvement. It encourages self-assessment, evidence-based practices, and a culture of excellence.

Challenges with Acquiring and Maintaining Accreditations

Acquiring an accreditation is a critical process for institutions, organizations, and individuals to demonstrate competency and credibility (Hegazi, 2015). However, the process can be daunting and time-consuming, as well as requiring meticulous preparation and attention to details (Hegazi, 2015). It involves significant administrative expenses, dedicated staff time, and other resources (Mosadeghrad & Ghazanfari, 2021). Balancing the costs versus benefits is crucial. In addition, organizations striving to earn and maintain multiple accreditations, each with different requirements, standards, timeframe, and processes, face additional significant logistical challenges. As a result, there has been an increasing demand for automation tools to streamline the process (Hegazi, 2015).

Benefits of Automation

Automation plays a pivotal role in streamlining accreditation readiness activities by reducing the burden of manual processes, improving accuracy and consistency, enhancing collaboration and communication, and increasing overall efficiency (Di Nitto et al., 2008; Jha, 2018; Hegazi, 2015). Automated processes minimize human error and enhance the reliability of accreditation-related information. For example, by being linked to a system like *Oracle*™, a Human Resources software used to manage employees' information, an integrated automated digital platform can automatically retrieve employees' contact information and send emails containing tasks related to the accreditation process. In addition, real-time communication through this type of platform allows users to better manage non-compliance with task completion by sending automatic reminders through the employee chain of command. Consequently, it facilitates prompt corrective actions.

Challenges of Automation

However, implementing automation also presents several challenges (Zivnuska, 2023). These include the need for technical expertise, the cost of implementing these tools, the potential for data security risks, and stakeholders' resistance to change (Zivnuska, 2023). Additionally, organizations must ensure that their automation tools comply with accreditation standards and regulations (Di Nitto et al., 2008).

Available Resources to Integrate an Automated System

Several resources are available to healthcare organizations to integrate an automated system to assist with accreditation readiness processes. These resources include software, consulting services, and online communities (Di Nitto et al., 2008). A commonly used software is the *Task Stream* by *Watermark*™ (Di Nitto et al., 2008). This platform offers customizable features such as workflows, data visualization, and real-time reporting (Alzahem, 2022). Other software, including *Weave* by *Yellowdig*™, *Chalk & Wire*™, *Blackboard Learn*™, and *Service Now*™. Consulting services, are available to help organizations navigate the accreditation process and implement automation tools (Alzahem, 2022). These services provide expertise in data management, compliance, and accreditation standards (Alzahem, 2022). Finally, several online communities, such as the *Accreditation Resource Centre* and the *Accreditation Professionals Forum*, provide a platform for organizations to share their best practices, ask questions, and connect with peers in the accreditation community.

Aim of Project

This quality improvement project describes the steps taken to develop and integrate an *Automated Integrated Accreditation Management Platform* in a large tertiary care center.

METHOD

Setting

King Faisal Specialist Hospital & Research Centre (KFSH&RC) is a tertiary care center with clinical, research, and education capacities. It was established in 1975 in Riyadh, Saudi Arabia. The organization comprises multiple specialized centers: a Heart Centre, a Cancer Centre of Excellence Centre, a Neurosciences Centre, an Organ Transplant Centre of Excellence, and a Centre for Genomic Medicine. It has 60 specialties, with the top five being oncology, organ transplant, neurosciences, heart, polyclinics, and family medicine. It serves an adult and pediatric population. In 2023, there were 42,149 new patients, 1,939,507 outpatient visits, 444,449 inpatient visits, and 159,425 emergency visits. It is also an important center for education in the region, with 2,999 medical trainees. Strategic partnerships have enabled the organization to achieve its mission and vision. It counts over fifteen local and international partners.

Since 1980, KFSH&RC has acquired several local and international accreditations, starting from the *College of American Pathologists* (CAP), accredited by the Department of Pathology and Laboratory Medicine in 1984. Another milestone was achieved in 2000 with the *Joint Commission International* (JCI) accreditation. Since then, the organization has acquired several other designations, such as the *Academic Medical Centre Accreditation* (AMC) by JCI, *Emergency Management Accreditation Program* (EMAP), National Accreditation by the *Saudi Central Board for Accreditation of Healthcare Institutions* (CBAHI). Currently, the organization counts 49 accreditations & certifications, among which 13 are mandatory and 36 voluntary.

The organization's governance structure comprises the Board of Directors, the Chief Executive Officer, and the Audit & Risk Committee. The *Board of Directors* is the governing body's mandated to oversee policy formulations, set strategic goals, and ensure the organization's financial stability. The *Chief Executive Officer* (CEO) works with an Executive Management team, including a Chief of Staff, a Supply Chain Management representative, and senior executives heading various departments (e.g., Human Capital, Finance Affairs, Transformation, Risk and Compliance, Capital Projects and Facilities; Corporate). The *Audit & Risk Committee* deals with the following departments: Internal Audit, Legal Affairs, Data Management, and the Wellness Centre (Almansour & Aljuaid, 2024). This higher management level supports all accreditation processes through an *Accreditation Committee*, chaired and co-chaired by executive leaders. This committee reports to the *Performance Improvement Council*, which in turn reports to the *Corporate Performance Improvement Council* and, at the very end, provides the CEO reports from all of these entities **(Figure 1)**. In addition, in regards to acquiring and maintaining accreditations, the *Quality Management Department* plays a significant role in developing and implementing quality standards, conducting quality audits and assessment, monitoring and reporting on quality indicators, leading continuous improvement initiatives, facilitating education and training, and collaborating with departments, and preparing the survey visits (Qureshi et al., 2012).

Project Team

Initially, a taskforce was set in place with key stakeholders involved from the planning phase to ensure their collaboration and as less resistance as possible while implementing changes. The core project team comprises eight members representing different departments (e.g., Accreditation section, Nursing Affairs, Medical & Clinical Affairs, Health Informatics, Laboratory & Pathology Department, Pharmaceutical Care Division). This quality improvement project took approximately one year until it became operational.

Multiphase Project Development and Implementation

This quality improvement project was developed and implemented following an organizational performance improvement methodology called IACT. The IACT methodology comprises four phases: Identify, Analyze, Change, and Transform (Figure 2).

- **Phase 1 Identify**
  This phase involves stating the problem and establishing SMART objectives (Specific, Measurable, Achievable, Relevant, Time-Bound) for the project. The project team defined the project scope and objectives, including setting specific compliance targets or efficiency improvements. The team identified stakeholders, required resources, and explored suitable and achievable system automation solutions with the Health Informatics department.
- **Phase 2 Analyze**
  This step involves an initial evaluation of current systems, processes, and gaps. The project team conducted a needs assessment and gap analysis. Some identified gaps were a lack of accreditation readiness progress tracking and inconsistent communication between stakeholders **(Figure 3).**
- **Phase 3 Change**
  This step involves implementing changes step by step. Firstly, the first version of the automated platform was configured and customized to meet the specific needs of the organization and its accreditations' requirements. Secondly, existing systems, such as the Human

Resources software *Oracle*™ and the Policy Management System, were connected to the new platform to automate processes. Then, staff training and capability development took place through seminars and hands-on training sessions.

- **Phase 4 Transform**
  This step ensures that improvement is brought following assessment and that changes are sustained over time. Following the implementation of the platform, performance tracking monitoring of the new system's performance against established goals and metrics regularly took place. Feedback was also sought from end-users to identify any faulty issues and areas for improvement. Adjustments and optimizations were made to optimize the platform's functionality and enhance the user experience. Human resources were assessed and adjusted to ensure sustainability planning, support, and maintenance of the project. Finally, the organization's leaders were granted access to the platform to support and participate in accreditation readiness activities.

Description of the Automated Integrated Accreditation Management Platform

The *Automated Integrated Accreditation Management Platform* is designed to streamline the process of maintaining accreditation standards across the organization. It centralizes hospital-wide and departmental accreditation information, serves to monitor compliance gaps with accreditation standards, and enables efficient tracking of progress on required tasks. It reduces manual efforts and ensures real-time monitoring of all of the accreditation statuses. The platform integrates with other organizational systems, including the *Oracle*™ system used by Human Resources, and contains all employees' names, work titles, and contact information. This type of integration facilitates exchanges (e.g., sending tasks to specific individuals and escalating non-completed tasks through their chain of command). Following is the description of the platform's main components.

Dashboard

The main *Dashboard* serves as the central control hub of the platform, offering a real-time overview of crucial accreditation processes and compliance metrics **(Figure 4)**. It consolidates data from all integrated components, providing users with insights on hospital-wide and departmental accreditation validity periods, information on accreditation cycles, systematic and operational compliance gaps, and pending findings highlighted during the accreditation surveyors' visits. With intuitive tools like visual charts and alerts, the *Dashboard* helps users to quickly identify compliance gaps. Moreover, its streamlined interface allows for easy navigation, enabling healthcare administrators to monitor performance, track tasks, and ensure continuous readiness for accreditation review. The dashboard gives access to three core components of the accreditation cycle management: 1) Accreditations Data Bank, 2) Compliance Gap Monitoring Module, and 3) Post-Survey Findings Tracking & Escalation Module **(Figure 4)**.

Component 1 Accreditations Data Bank

The *Accreditations Data Bank* oversees the continuous process of preparing for, maintaining, and renewing accreditation across departments. This component consolidates hospital-wide and departmental information for all accreditations. An updated standardized one-page containing all the accreditation-related information, including this accreditation team leaders, stakeholders, objectives, validity status, source, standards manual, and last updated certificates, can be accessed for each accreditation. It tracks the accreditation cycle validity, from the initial assessment to the re-certification, and provides real-time updates **(Figures 5 and 6)**. As an example of automation, the system sends automatic reminders three months ahead of an accreditation renewal due date. It allows the team to finalize actions related to closing operational and systematic compliance gaps, budget approval, and resource allocation. Positive feedback from end-users was received for this component of the platform.

Component 2 Compliance Gap Monitoring Module

The *Compliance Gap Monitoring Module* generates detailed reports highlighting gaps, enabling departments to develop targeted corrective action plans **(Figure 8)**. Gaps for each ongoing accreditation can be easily visualized on the dashboard of this module. The gaps are initially entered manually following reviews and comprehensive assessments of the accreditation readiness, followed by automated tasks and reminders sent through the chain of command. Examples of gaps that can be entered to be closely followed until competition are disparities in risk assessment for home medication reconciliation, nursing protocols, patient care practices, and facility safety plans are examples of gaps. In addition, the module allows to organize and maintain required documents for accreditations, thus ensuring that documents such as internal policies, procedures, forms, departmental function documents, plans, guidelines, multidisciplinary policies, department function documents, and bylaws are consistently updated. The platform categorizes these documents, tracks their latest revisions, and ensures version control **(Figure 7).** As an example of automation, automatic notifications are sent to concerned individuals to review policies and send feedback on task completion to the leader in charge of overseeing this development (e.g., the Policy Management System team).

This *Compliance Gap Monitoring Module* includes seven specific indicators that drill down ownership of the identified gaps and reflect the different kinds of actions done by utilizing the following:

- Numbers of Identified Operational gaps per Department/Services/Section
- Status of Controlled Documents Validity
- Controlled Documents Due for Revision as of Today
- Controlled Documents proactively identified to be reviewed prior to the survey visit
- Outdated Controlled document by type
- Escalation Level for the identified gaps
- Number of Escalations sent per each identified gap

Overall, this platform component fosters a proactive approach to compliance. As a result, it expedited the approval of more than a hundred controlled documents, reduced the total number of follow-up memos by about 50%, and decreased follow-up meetings to address and close gaps by about 70%. It also eased communications with different departments, service leaders, and stockholders.

Component 3: Post-Survey Findings Tracking & Escalation Module

The *Post-Survey Findings Tracking & Escalation Module* was developed to ensure the timely completion of identified gaps during the accreditation body site visit. Gaps are manually entered using the surveyor's report. The automation then enables immediate corrective actions through tasks, reminders, and escalatation through the chain of command as needed, as with the two other components **(Figures 8 and 9)**. The dashboard of this component also lists all the gaps on one page with a color-coded indicator to easily identify which finding have been fully addressed and which need further action.

Performance assessment of the Platform

Since the implementation of the *Automated Integrated Accreditation Management Platform*, regular performance assessments are being carried out to improve its capabilities. Through the platform, metrics data related to compliance are analyzed, and different outcomes are audited. Regular performance reports are generated, providing insights into trends, strengths, and weaknesses across various departments during the accreditation journey. Key performance indicators (KPIs) were established to measure the organization's success against accreditation standards, allowing for objective overall performance evaluations. Stakeholders' feedback was gathered from all levels, from frontline workers and department heads to executive leaders. Surveys, focus groups, and feedback sessions provided valuable insights into user experiences and the system's effectiveness. Encouraging staff participation in the assessment process of the platform fostered a culture of openness and collaboration, which led to more comprehensive evaluations. The automated platform is regularly updated to address gaps.

Strengths and limitations

The implementation of the *Automated Integrated Accreditation Management Platform* has several strengths. It allows for real-time tracking of compliance metrics across departments ensuring employees are informed of their responsibilities and can proactively address gaps. It improves collaboration and communication by centralizing all required documentation and processes related to each accreditation process. The platform is also highly customizable and its interface can be tailored to an organization's needs. For example, additional components such as internal mock surveys and compliance evidences depository can be added. However, the platform has limitations. For examples, giving access to more super users/users engender considerable license costs. Also, with new changes regularly come resistance that needs to be addressed at every levels.

CONCLUSION

The platform provides a centralized view of the accredition compliance status and performance metrics, making relevant information accessible to all stakeholders. This transparency helps everyone understand how their contributions impact the accreditation efforts and foster a shared accountability and commitment across the organization.

Automating the accreditation readiness journey offers several benefits, including improving efficiency, accuracy, and consistency. However, implementing automation tools can be challenging. By leveraging resources such as software tools, consulting services, and online communities, healthcare organizations can successfully automate their accreditation process and focus on their core mission of providing high-quality education and services. Their use promotes better time management, enhance communication, and promote a quality culture among healthcare providers, leading to quality healthcare services.

Declaration of conflicting interests

The authors declare no potential conflicts of interest regarding the research, authorship, and/or publication of this article.

Funding Information

This research received no grant from public, commercial, or not-for-profit funding agencies.

Ethics procedures

Not applicable.

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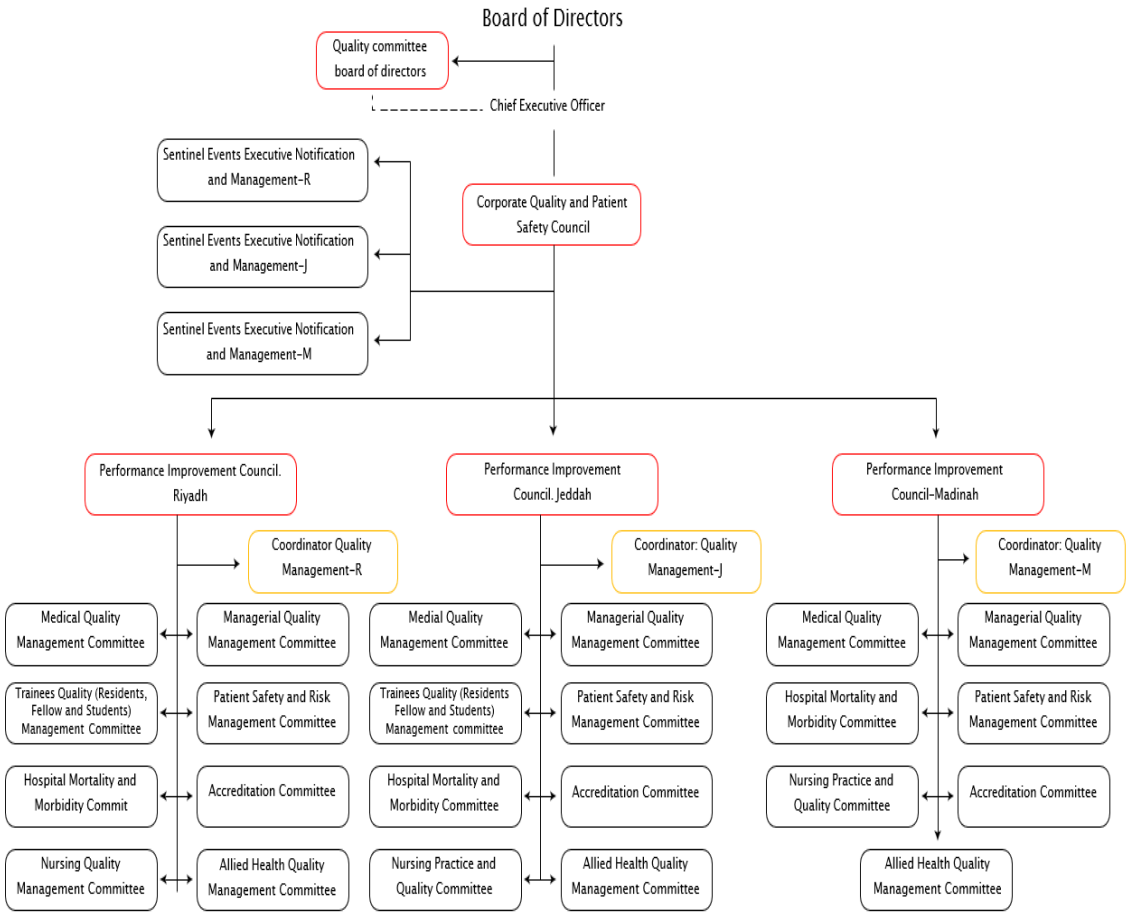

Figure 1. Organization's Governance Structure

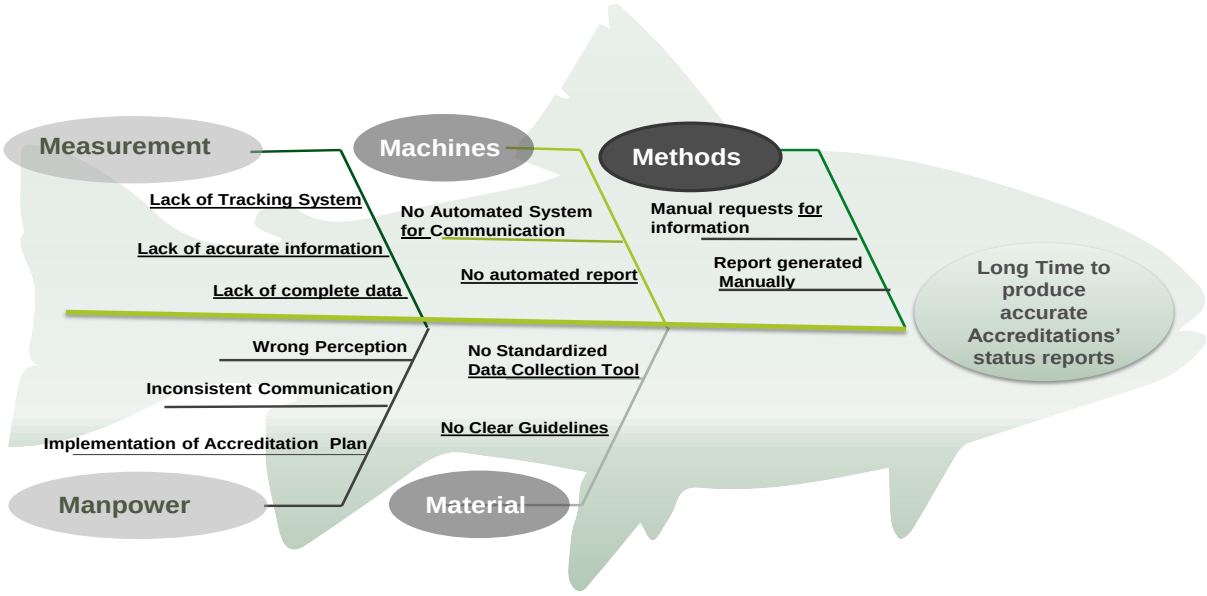

Figure 2. Pre-Implementation Assessment Needs and Gaps Analysis

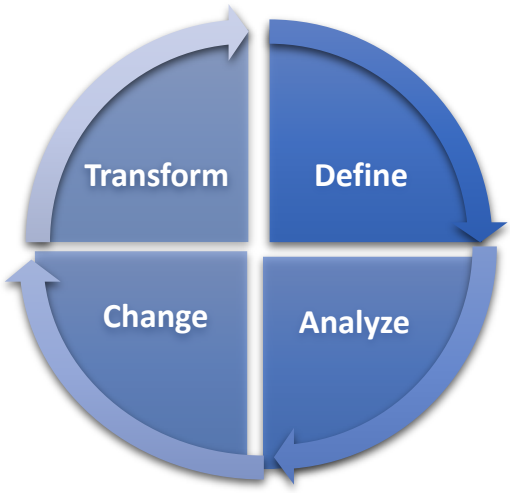

Figure 3. Performance Improvement Methodology (IACT) to Implement Changes

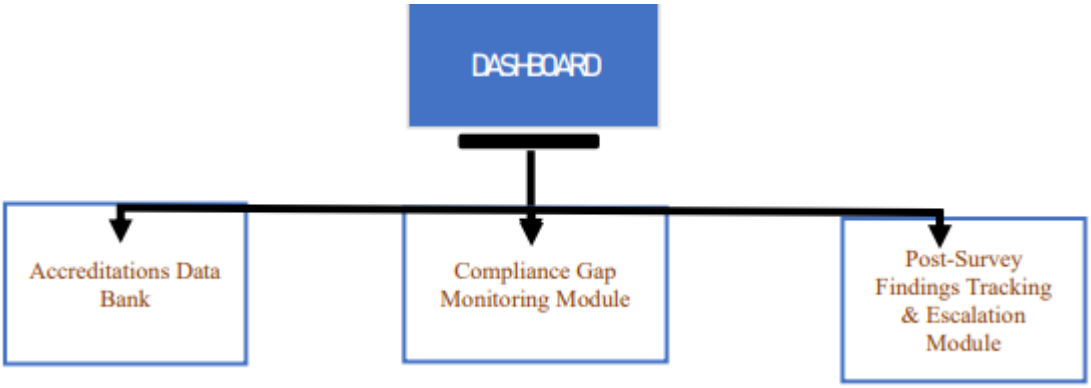

Figure 4. Automated Integrated Platform Main Interface

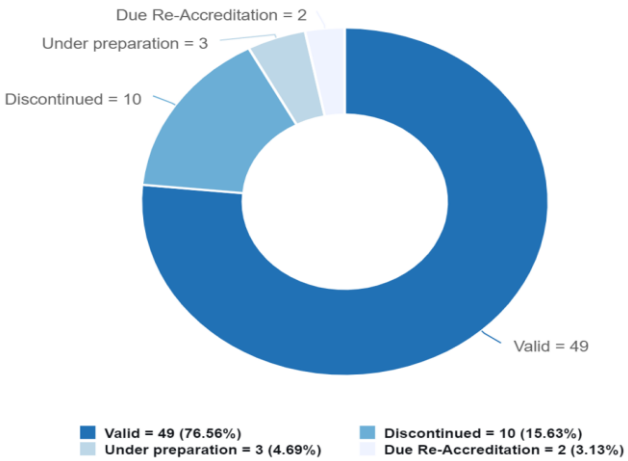

Figure 5. Accreditation & Certifications Status on the Dashboard

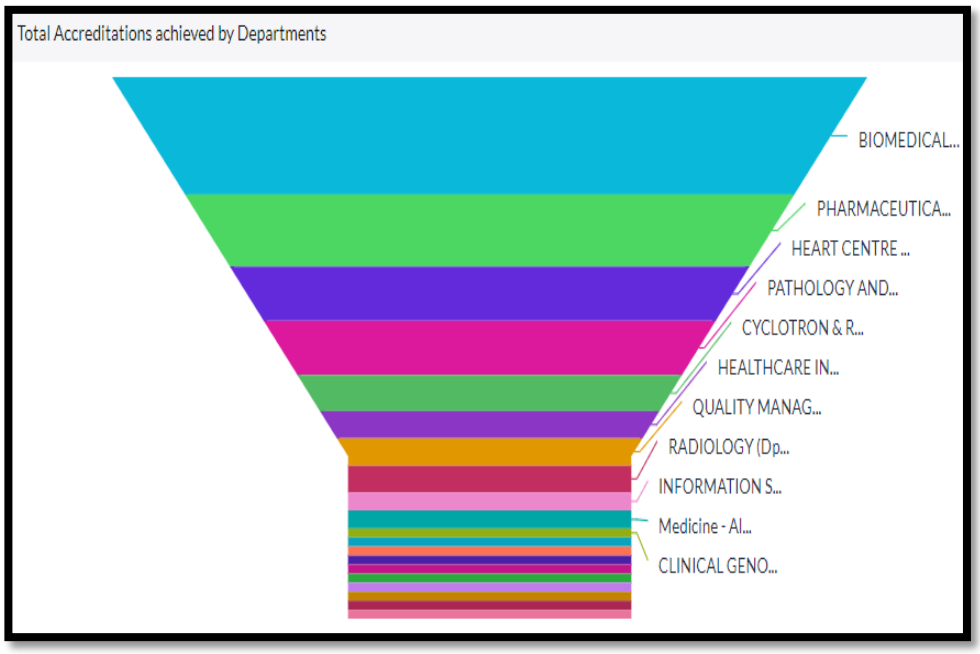

Figure 6. Completed Accreditations per Department on the Dashboard

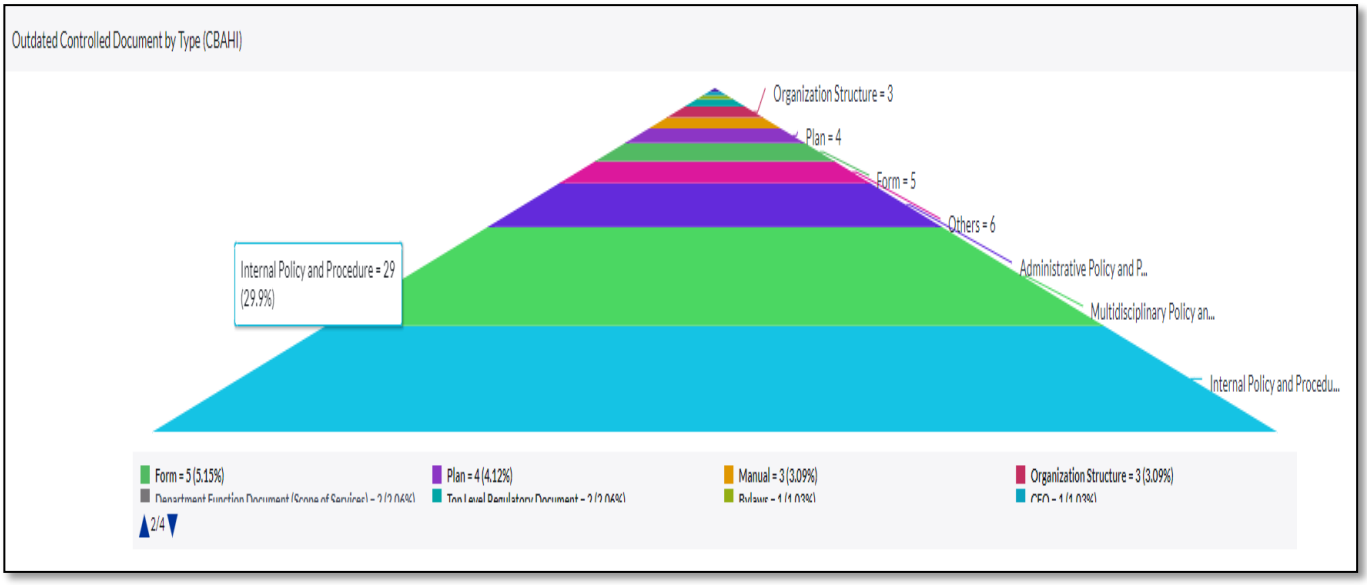

Figure 7. Outdated Controlled Documents Report on the Dashboard

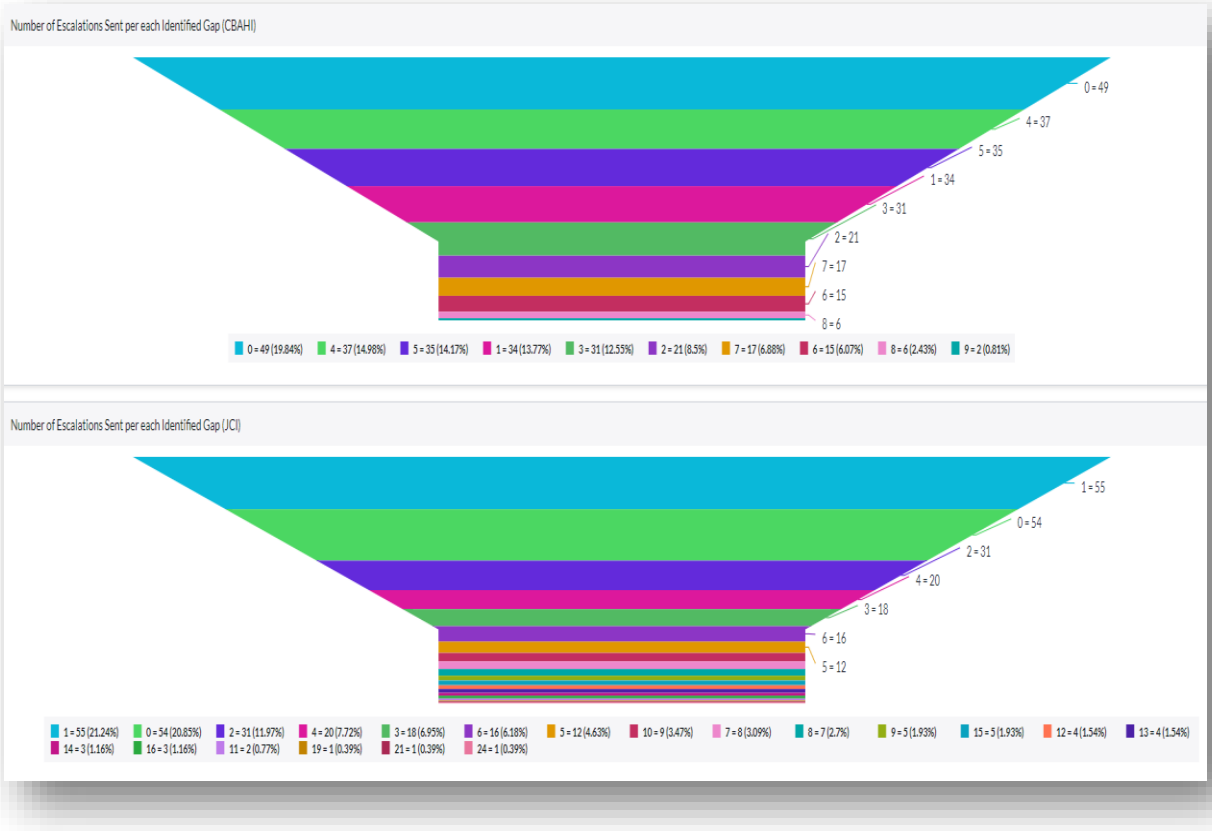

Figure 8. Escalations sent per Identified Gap

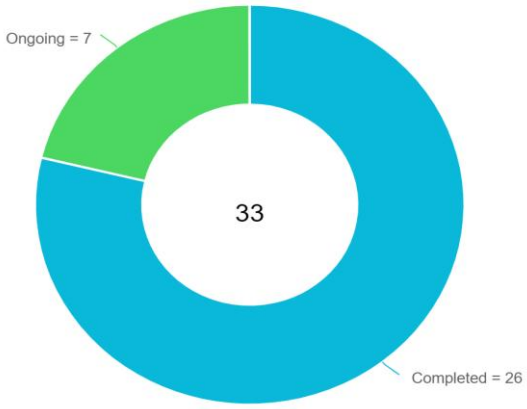

Figure 9. Post-Accreditation Survey Visit Gaps Corrected