

Design and Application Effect of the IAFs Management Program in Tertiary Hospital Health Management Centers Based on “Physician-Nurse Collaboration”

Xinrong Mai, Zisui Qiu*

Department of Health Management Center, Hengqin Hospital, The First Affiliated Hospital of Guangzhou Medical University, Zhuhai, 519000, China

*Corresponding author

Abstract: Against the backdrop of increasingly refined health demands among residents and the growing need for quality health management services, traditional models in tertiary hospital health management centers often lack physician-nurse collaboration. This deficiency leads to intervention plans that deviate from residents' actual needs and limits service quality, thereby constraining both residents' health benefits and the professional value of the institutions. This paper focuses on the application of the IAFs management program in improving service quality. The program establishes a physician-nurse collaboration mechanism whereby nurses' detailed health information about residents supports doctors in developing intervention plans, followed by regular communication and adjustment during implementation. Data show that, after adoption, the accuracy of intervention plan adjustments and the early detection rate of chronic disease risks improved significantly, while the proportion of residents suspending execution due to unsuitable plans dropped sharply. These findings indicate that the IAFs management program effectively addresses pain points in traditional service quality, promotes a shift in health management services from merely “completing tasks” to “solving problems,” and provides a feasible pathway for the high-quality development of tertiary hospital health management centers.

Keywords: Tertiary Hospital; Health Management Center; Physician-Nurse Collaboration; IAFs Management Program; Service Quality

1. Introduction

With growing health awareness among residents, tertiary hospital health management centers are increasingly tasked with health assessment, intervention, and guidance. In traditional health management models, disconnections often occur between doctors' and nurses' responsibilities, resulting in stalled service processes and wasted professional resources, which makes it difficult to meet residents' demands for efficient and high-quality health services. Against this backdrop, exploring management programs centered on “physician-nurse collaboration” has become key to breaking through the developmental bottlenecks of tertiary hospital health management centers. The IAFs management program focuses on role positioning and functional integration of doctors and nurses, using systematic design to overcome the shortcomings of traditional models. Studying its design and application effects not only provides pathways for optimizing the operation of health management centers but also offers micro-level practice support for the implementation of the “Healthy China” strategy on the healthcare service side, carrying significant theoretical and practical value.

2. The Mechanism of Physician-Nurse Collaboration in Health Management

2.1 An efficient linkage mechanism throughout the health management process

The entire health management process involves appointment booking, examinations, result analysis, intervention plan formulation, and follow-up tracking. Smooth coordination across these stages directly determines service efficiency. In traditional models, nurses mainly handle examination procedures, while doctors are responsible for result analysis and plan development^[1-2]. The lack of real-time

communication often leads to delayed data transfer and intervention plans misaligned with actual checkup results. The physician-nurse collaboration mechanism clarifies role responsibilities at each stage and identifies key points for communication, enabling real-time information sharing. Health details collected by nurses during examinations can be immediately conveyed to doctors, providing supplementary evidence for precise result analysis. Once doctors formulate intervention plans, nurses can then provide targeted health guidance during follow-ups, ensuring that all stages are seamlessly connected, as shown in Table 1.

Table 1: Linkage Mechanism across the Health Management Process

Sorting out perspectives	Specific contents
Process links	Appointment for physical examination, implementation of examination, result analysis, formulation of intervention plan, follow-up tracking
Mechanism effectiveness	1. Eliminate information barriers throughout the entire health management process. 2. Reduce waiting times between each link. 3. Enhance the operational efficiency of the entire health management process. 4. Ensure that residents can quickly obtain comprehensive health management services.

2.2 A value integration mechanism for complementary professional expertise

Doctors bring strong medical expertise in health risk assessment, disease diagnosis, and intervention plan formulation, while nurses contribute rich clinical experience in health guidance, process execution, and resident communication. Their professional abilities are naturally complementary. Relying on only one side risks creating an imbalance, such as “emphasizing diagnosis but neglecting execution” or “emphasizing process but neglecting expertise.” The physician-nurse collaboration mechanism maximizes the value of both sides by integrating their strengths. During the health risk assessment phase, doctors use medical knowledge to analyze examination data and identify potential health risks, while nurses, through in-depth communication with residents, gather details about lifestyle habits, family medical history, and more to supplement the doctors’ evaluation. In the intervention execution phase, once doctors design personalized plans, nurses are responsible for translating medical knowledge into understandable guidance for residents, while also monitoring execution progress to ensure the plans are effectively implemented^[3-4].

3. Design of the IAFs Management Program Based on “Physician-Nurse Collaboration”

3.1 Optimizing Organizational Structure

In traditional tertiary hospital health management centers, organizational structures are generally divided by function, with doctors and nurses belonging to separate departments and collaboration requiring cross-departmental communication. The IAFs management program takes physician-nurse collaboration as its core and optimizes the organizational structure by breaking down functional barriers and establishing cross-professional health management teams. Each team is composed of one attending (or senior) physician and two to three specialized nurses, directly responsible for specific service populations, such as high-risk groups for chronic diseases or elderly health management cohorts. A new role of physician-nurse coordination officer is added, responsible for resource allocation and communication across teams, addressing problems that arise in team cooperation. This adjustment clarifies roles and responsibilities within each team, reduces cross-department communication costs, and allows medical staff to focus on meeting the needs of their service groups, ensuring efficient delivery of health management services.

3.2 Restructuring Service Processes

Traditional health management processes often center on “completing checkups,” with workflow design focused on accelerating examination procedures. The IAFs program restructures service processes from the perspective of physician-nurse collaboration, dividing them into three stages: health assessment, intervention implementation, and follow-up. At the health assessment stage, nurses collect

residents' basic information and examination data, while doctors conduct preliminary health risk screenings, working together to complete the assessment report. During intervention implementation, doctors design personalized intervention plans, while nurses are responsible for executing the plans and guiding residents. Weekly physician-nurse meetings are held to adjust plan details. In the follow-up stage, nurses conduct follow-ups according to the plan, compiling data every two weeks to feed back to doctors, who evaluate the intervention effects and decide whether to revise the plan. This restructuring ensures that physician-nurse collaboration is embedded at every stage, preventing process fragmentation.

3.3 Establishing a Training System

Steady progress in physician-nurse collaboration depends on both parties' recognition of the concept and improvement in collaborative skills. Traditional training often focuses on separate professional skills for doctors and nurses, without cultivating collaborative capacity. The IAFs program addresses this gap by building a training system encompassing collaborative philosophy, collaborative skills, and professional integration. Training in collaborative philosophy uses case-based teaching to help doctors and nurses recognize the value of collaboration and foster a "1+1>2" mindset. Collaborative skills training emphasizes communication and role awareness, using scenario-based simulations to improve practical teamwork efficiency^[5]. Professional integration training requires doctors to learn basic nursing knowledge and processes, while nurses study common disease knowledge to better understand doctors' plans. Training combines online learning and offline practice, with monthly centralized training sessions and quarterly collaboration skill assessments, thereby providing a strong human resource foundation for the collaboration mechanism.

3.4 Building an Information Management Platform

Health management generates examination data, intervention plans, and follow-up records, all of which are essential for collaboration. Traditional paper-based recording hampers real-time information sharing. The IAFs program establishes an information management platform with three modules: data collection, information sharing, and process tracking. The data collection module allows nurses to directly input residents' health data during examinations, automatically uploading them to doctors' terminals. The information-sharing module enables both physicians and nurses to access residents' complete health records—examination reports, intervention plans, and follow-up notes—while also supporting online annotations and communication. The process-tracking module displays the progress of each stage of health management in real time, reminding staff of pending tasks such as reports to be reviewed by doctors or follow-ups to be completed by nurses. The platform is also integrated with the hospital's HIS system, ensuring connectivity between health management and clinical care data, thereby providing comprehensive information support for healthcare teams.

3.5 Developing a Performance Evaluation Mechanism

A sound performance evaluation system can motivate physicians and nurses to actively engage in collaboration. Traditional performance evaluations mainly emphasize doctors' diagnostic numbers or nurses' checkup counts, without reflecting collaborative outcomes, which can lead to neglect of teamwork. The IAFs program designs a performance evaluation system oriented toward physician-nurse collaboration, with indicators in three categories: collaboration efficiency, service quality, and resident satisfaction. Collaboration efficiency includes communication timeliness and process coordination rates, assessing teamwork levels. Service quality indicators include the accuracy of intervention implementation and the completion rate of follow-ups, assessing actual outcomes. Resident satisfaction is measured through surveys evaluating perceptions of collaborative services. Results are directly linked to performance pay and professional recognition, with extra incentives for outstanding teams. The evaluation cycle combines monthly reviews with quarterly summaries, ensuring timely feedback and continuous improvement in the collaboration process.

4. Evaluation of the Application Effects of the IAFs Management Program

4.1 Improvement in Service Efficiency

Before the implementation of the IAFs management program, tertiary hospital health management

centers often faced delays in issuing examination reports and prolonged cycles in intervention plan formulation. The main reason was poor communication between physicians and nurses, leading to process stagnation. After the program was implemented, organizational restructuring and the establishment of an information management platform greatly improved communication and information transfer efficiency among staff. The time required to issue examination reports was reduced from the previous seven working days to three. Within 24 hours of completing a checkup, intervention plans could now be formulated, and follow-up tracking efficiency also improved. The completion rate of nurses' follow-up tasks increased from the former 80% to over 95%. The few unfinished follow-ups were mostly due to residents' personal schedule conflicts rather than process-related issues. The core of these changes lies in the physician-nurse collaboration mechanism, which removed information barriers and clarified responsibilities, ensuring that every step in the process could proceed smoothly.

4.2 Improvement in Service Quality

Service quality is the core standard for evaluating whether tertiary hospital health management centers meet residents' needs and demonstrate professional value. Before applying the IAFs management program, poor physician-nurse collaboration often led to intervention plans that did not match residents' actual conditions. Some residents reported that the recommended exercise intensity exceeded their physical capacity, making it difficult to continue interventions. This was mainly because physicians lacked full knowledge of residents' habits and capabilities when formulating plans^[6-7]. After the implementation of the program, physicians and nurses jointly conducted health assessments, with nurses providing detailed health-related information to support physicians in designing more accurate plans. Regular exchanges during execution allowed timely adjustments. Data showed that the accuracy rate of intervention plan adjustments increased from 75% to 92%, the proportion of residents suspending interventions due to poor plan fit dropped from 15% to 3%, and early chronic disease risk identification rose by 18%, demonstrating significant improvements in actual service outcomes (Figure 1).

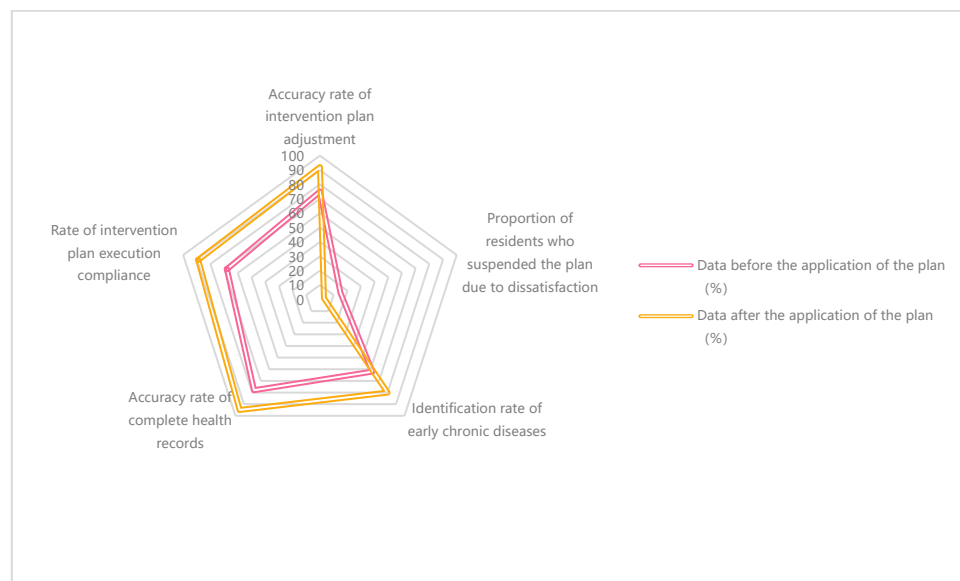


Figure 1 Service quality data comparison before and after the IAFs program

4.3 Optimization of Patient Experience

As residents' expectations for health services have shifted from "basic availability" to "high-quality care," patient experience has become a key indicator of service quality. Prior to the IAFs program, residents often encountered difficulties such as "not knowing who to contact" or "not receiving timely answers," due to the lack of designated service contacts and efficient communication channels. Satisfaction with health management services was only 82%. After the program was introduced, each resident was assigned to a fixed health management team with clearly defined physician and nurse roles. Residents could promptly reach out to their assigned team for questions, with doctors participating in scheduled follow-ups to address medical concerns, while nurses provided detailed

health counseling. Survey results showed overall satisfaction increased to 96%. Satisfaction with “timeliness of communication” and “professionalism of answers” rose by 21% and 19%, respectively. The proportion of residents actively participating in follow-ups increased by 25%. Some residents even recommended the service to family and friends, contributing to a strong reputation for quality service (Figure 2).

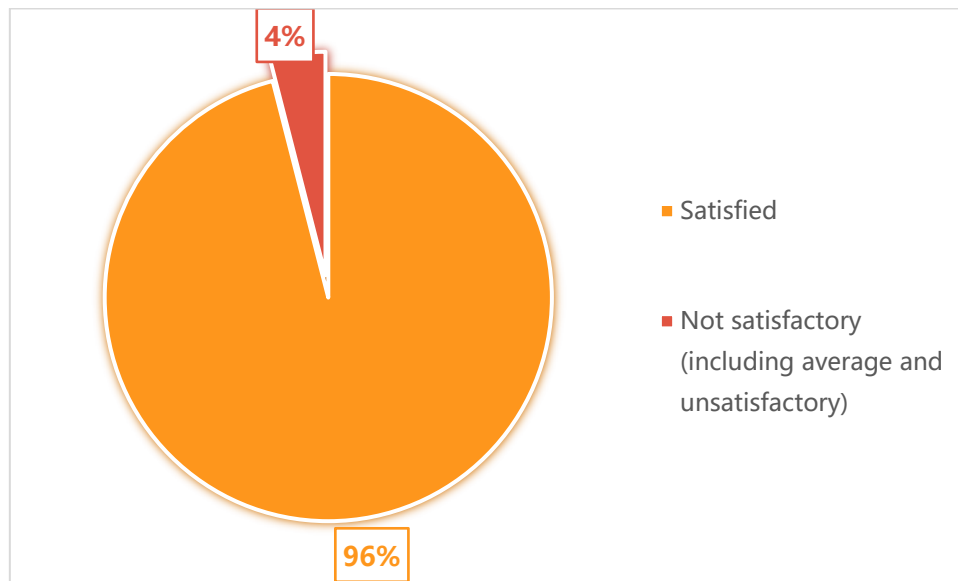


Figure 2 Resident satisfaction with health management services after program implementation

4.4 Strengthening of Team Collaboration

Team collaboration is a cornerstone for the efficient operation of tertiary hospital health management centers and the continuity of service delivery. Prior to the IAFs program, physicians and nurses mostly worked independently, with limited motivation to collaborate. When problems arose, responsibility was often shifted back and forth, preventing effective teamwork^[8]. After implementation, organizational restructuring and performance evaluation reforms fostered collaborative physician-nurse teams with shared service goals. During daily operations, communication frequency significantly increased. Weekly collaborative meetings had 100% participation, with discussions evolving from routine task coordination to in-depth analysis of service quality. Mutual recognition between physicians and nurses also improved: physicians acknowledged the value of nurses in patient communication and process execution, while nurses gained deeper understanding of physicians' professional logic in plan design^[9-10].

5. Conclusion

In sum, service quality is the core competitiveness of tertiary hospital health management centers, directly influencing residents' health outcomes and the institution's professional value. Prior to the IAFs program, the lack of physician-nurse collaboration often resulted in intervention plans disconnected from residents' actual conditions, making interventions unsustainable and limiting service quality. After implementation, the collaboration mechanism enabled nurses to provide detailed health information for physicians' plan design, while regular communication during execution ensured adaptability. Data indicated that the accuracy of intervention plan adjustments and early chronic disease risk identification improved significantly, while the proportion of residents suspending interventions due to poor fit dropped sharply. The IAFs management program thus offers a feasible path for high-quality development of tertiary hospital health management centers and lays a solid foundation for residents to access high-quality health management services.

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