Postprint: A Study on the Current Status of Interdepartmental Consultation in General Hospitals

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Date: 2025-10-20T00:00:00+00:00

Abstract

Background As China' s aging process accelerates and healthcare service demands become more complex, diseases in hospitalized patients often involve multiple systems and organs, making the traditional single-discipline diagnosis and treatment model increasingly inadequate to meet patients'holistic medical needs. Inter-departmental consultation, as an interdisciplinary and multi-professional collaborative healthcare service model, plays an increasingly important role in improving diagnosis and treatment quality and integrating medical resources. However, systematic research on the current status of inter-departmental consultations in general hospitals is relatively scarce domestically, and the actual operational situation, existing problems, and improvement pathways of inter-departmental consultations have not been comprehensively revealed. Objective To investigate the current status of inter-departmental consultations in general hospitals and analyze clinicians' views and evaluations of consultations, providing reference opinions for continuing education and training of clinicians and for medical departments to optimize clinical consultation work. Methods From August 14 to September 14, 2023, clinicians in general hospitals who voluntarily participated in an online questionnaire survey were selected as survey subjects. Based on literature analysis, a preliminary questionnaire was designed and then consulted with 2 senior clinical experts. Through 6 rounds of consultation-feedback-modification-consultation cycles, the "Survey on the Current Status of Inter-departmental Consultations in General Hospitals" was finally formed, including basic information of respondents, current status of inter-departmental consultations, views and evaluations of inter-departmental consultations, and expectations for consultation improvements. The Word document of the "Survey on the Current Status of Inter-departmental Consultations in General Hospitals" was imported into "Wenjuanxing" (a Chinese online survey platform), and after repeated testing and release, a link was

generated and sent to multiple national-level clinical physician WeChat communication groups of the researchers. Results A total of 281 questionnaires were collected, with 216 confirmed as valid (response rate 76.87%). The 216 clinicians had an average age of (38.14$±$7.79) years, 90.28% (195/216) were from tertiary hospitals, and the majority held the title of attending physician, accounting for 39.35% (85/216). General consultations and emergency consultations were mainly undertaken by attending physicians, representing 71.30% (154/216) and 62.04% (134/216) respectively, though some hospitals had residents undertaking consultation work. The proportion of general consultations completed within 24 hours was 94.44% (204/216), while emergency consultations completed within 10 minutes was only 79.17% (171/216). The 216 clinicians considered the main advantages of inter-departmental consultations to be assisting in treatment plan formulation (90.28%, 195/216), providing opportunities for professional knowledge and opinion exchange (89.35%, 193/216), and assisting in diagnosis determination (86.11%, 186/216); while disadvantages mainly focused on increased treatment and waiting time (63.89%, 138/216) and untimely and inaccurate information transmission (61.11%, 132/216). In the evaluation of inter-departmental consultations, the main reasons for dissatisfaction with consultation results were "failure to provide specific treatment recommendations (76.39%, 165/216)" and "failure to provide valuable diagnostic information (73.15%, 158/216)" . The 216 clinicians generally expected consultations to be optimized and improved in terms of consultation processes, consultation quality and safety, consultation incentives, and strengthening hospital information system construction. Conclusion Continuing education and training for clinicians should be strengthened to enhance comprehensive diagnosis and treatment capabilities; humanities curriculum training should be enhanced to improve consultation satisfaction; consultation physician qualification management should be strictly enforced to ensure consultation quality; artificial intelligence should be introduced to strengthen management and ensure consultation timeliness; and consultation processes should be optimized to improve consultation efficiency.

Full Text

Study on the Current Status of Interdepartmental Consultation in General Hospitals

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Abstract

Background: With the acceleration of population aging and the increasing complexity of healthcare service demands in China, hospitalized patients often suffer from diseases affecting multiple systems and organs. The traditional single-discipline treatment model can no longer meet patients' comprehensive healthcare needs. Interdisciplinary consultation, as a cross-disciplinary and multi-professional collaborative healthcare service model, plays an increasingly important role in improving the quality of diagnosis and treatment and integrating medical resources. However, systematic research on the current status of interdisciplinary consultation in general hospitals remains relatively scarce in China, and the actual operational conditions, existing problems, and improvement pathways of interdisciplinary consultation have not been comprehensively revealed.

Objective: To investigate the current status of interdisciplinary consultation in general hospitals and analyze clinical physicians' perspectives and evaluations of consultation services, thereby providing reference recommendations for continuing education training of clinical physicians and optimization of clinical consultation work by medical administration departments.

Methods: Clinical physicians from general hospitals who voluntarily participated in an online questionnaire survey were selected as subjects from August 14 to September 14, 2023. Based on literature analysis, a preliminary questionnaire was designed and then consulted with two senior clinical experts. Through six rounds of consultation-feedback-modification-consultation cycles, the "Survey on Current Status of Interdisciplinary Consultation in General Hospitals" questionnaire was finalized, including basic information of respondents, current status of interdisciplinary consultation, perspectives and evaluations of interdisciplinary consultation, and expectations for consultation improvement. The questionnaire word document was imported into "Questionnaire Star" platform, and after repeated testing, a link was generated and distributed to multiple national clinical physician WeChat communication groups.

Results: A total of 281 questionnaires were collected, with 216 valid questionnaires confirmed (response rate 76.87%). The 216 clinical physicians had a mean age of (38.14 ± 7.79) years, with 90.28% (195/216) from tertiary hospitals. Attending physicians constituted the majority by professional title, accounting for 39.35% (85/216). Regular consultations and urgent consultations were primarily undertaken by attending physicians, accounting for 71.30% (154/216) and 62.04% (134/216), respectively, though some hospitals had residents undertaking consultation work. Regular consultations completed within 24 hours accounted for 94.44% (204/216), while urgent consultations completed within 10 minutes were only 79.17% (171/216). The 216 clinical physicians identified

the main advantages of interdisciplinary consultation as: assisting in treatment plan formulation (90.28%, 195/216), providing opportunities for professional knowledge and opinion exchange (89.35%, 193/216), and assisting in diagnostic determination (86.11%, 186/216). The main disadvantages were concentrated in increasing treatment and waiting time (63.89%, 138/216) and untimely and inaccurate information transmission (61.11%, 132/216). Regarding evaluation of interdisciplinary consultation, the main reasons for dissatisfaction with consultation results were "failure to provide specific treatment recommendations (76.39%, 165/216)" and "failure to provide valuable diagnostic information (73.15%, 158/216)". The 216 clinical physicians generally expected consultation optimization and improvement in consultation processes, consultation quality and safety, consultation incentives, and strengthening hospital informatization construction.

Conclusion: Continuing education training for clinical physicians should be strengthened to enhance comprehensive diagnostic and treatment capabilities; humanities course training should be reinforced to improve consultation satisfaction; strict management of consultant physician qualifications should be implemented to ensure consultation quality; artificial intelligence should be introduced to strengthen management and ensure consultation timeliness; consultation processes should be optimized to enhance consultation efficiency.

Keywords: General hospital; Interdisciplinary consultation; Questionnaires; Status of consultation

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Introduction

In large general hospitals, the complexity of patient conditions and presence of multiple comorbidities demand higher continuity and comprehensiveness of medical services. Interdepartmental consultation serves as a critical link for internal hospital collaboration and holds significant importance for ensuring diagnostic and treatment quality while facilitating technical exchange between departments [1-2]. Interdepartmental consultation refers to the process where physicians from different departments engage in cross-disciplinary discussions and collaboration to jointly formulate diagnosis and treatment plans for patients [3]. With the acceleration of population aging in China, hospitalized patients often suffer from diseases affecting multiple systems and organs, making the importance of interdepartmental consultation undeniable. It not only integrates multidisciplinary diagnostic and treatment resources to improve clinical diagnostic accuracy and treatment synergy but also strengthens technical exchange and cooperation between departments, thereby promoting the overall advancement of hospital medical standards [4]. Despite its important position in the healthcare system, current research on the status of interdepartmental consultation in general hospitals remains relatively limited. This study employs a questionnaire survey to understand the current status of interdepartmental consultation

in general hospitals, analyze potential existing problems, and provide reference recommendations for continuing education training of clinical physicians and optimization of clinical consultation management by medical administration departments.

Methods

1.1 Study Subjects From August 14 to September 14, 2023, clinical physicians from general hospitals who voluntarily participated in an online questionnaire survey were selected as study subjects. Inclusion criteria were: (1) engaged in clinical medical work in general hospitals; (2) capable of independently conducting clinical diagnosis and treatment; (3) had experience with interdepartmental consultation within the past year; and (4) voluntarily participated in the questionnaire survey and provided informed consent. Exclusion criteria were: (1) medical personnel not working in frontline clinical diagnosis and treatment; (2) subjects with incomplete questionnaires or completion time less than 60 seconds; and (3) medical personnel who refused to sign the informed consent form. This study was approved by the Medical Ethics Committee of Shenzhen Longgang Central Hospital (Ethics Approval Number: 2023ECYJ064), and all study subjects signed informed consent forms.

1.2 Questionnaire Design and Distribution The researcher (a chief physician) retrieved relevant literature on interdepartmental consultation from CNKI, Wanfang Data Knowledge Service Platform, and PubMed databases. Combining clinical experience and research objectives, a preliminary questionnaire was designed and then consulted with two senior clinical experts. Through six rounds of consultation-feedback-modification-consultation cycles, the final "Survey on Current Status of Interdepartmental Consultation in General Hospitals" was developed. The questionnaire included four sections: basic information of respondents, current status of interdepartmental consultation, perspectives and evaluations of interdepartmental consultation, and expectations for consultation improvement.

The section on current consultation status used ranking questions, requiring respondents to rank relevant departments by consultation frequency. Weighted scoring was applied for quantitative analysis: 5 points for 1st place, 4 points for 2nd place, 3 points for 3rd place, 2 points for 4th place, 1 point for 5th place, and 0 points for 6th place and beyond. The comprehensive score was calculated as Σ(frequency of department ranked at each position $\times$ corresponding position score)/total frequency of the department being ranked in the top five, with higher scores indicating higher consultation demand ranking in physicians' perception. Regular consultation was defined as cases with stable conditions and no immediate life-threatening risk (such as difficult diagnosis or chronic comorbidity management), initiated through written or electronic application by the attending department, with invited departments required to arrange attending physicians or above to complete consultation within 24 hours. Emer-

gency consultation was defined as critical conditions potentially endangering life (such as shock or massive hemorrhage), centered on emergency rescue, which could be initiated verbally, with invited departments required to arrange senior physicians to arrive on site within 10 minutes, with subsequent documentation completion.

The section on perspectives and evaluations of interdepartmental consultation employed a 5-point Likert scale with scores ranging from 1 to 5, with options of strongly agree, agree, neutral, disagree, and strongly disagree. "Strongly agree" was scored as "5" and "strongly disagree" as "1" . Data analysis yielded a Cronbach' s α coefficient of 0.80 and KMO value of 0.838 (P<0.001), indicating good reliability and validity of this questionnaire section. The section on expectations for consultation improvement used closed-ended multiple-choice and single-choice questions to investigate the implementation of existing consultation systems, incentive mechanisms, and improvement recommendations in respondents' hospitals.

The questionnaire word document was imported into the "Questionnaire Star" online platform (https://www.wjx.cn/newwjx/manage/myquestionnaires.aspx). After repeated testing, a link was generated and distributed to multiple national clinical physician WeChat communication groups. In the instructions section, survey participants were informed about the study' s purpose and significance, informed consent was obtained, and assurance was provided that all original information would be kept confidential, with uniform language used to explain completion requirements.

1.3 Data Collection and Quality Control After the survey deadline, researchers closed the data collection system. Collected questionnaires were exported to Excel spreadsheets and jointly reviewed by two researchers. The review primarily checked for missing items, logical consistency between questions, completeness of key information fields (such as professional title and years of experience), and verified the reasonableness of responses against professional backgrounds. Based on quality standards, questionnaires were categorized as fully valid (all questions completed accurately), partially valid (key information complete, allowing a few secondary questions unanswered), or invalid (no signed consent, completion time less than 60 seconds, more than 30% questions unanswered, or random responses). Questionnaires that did not fully meet criteria could retain key information after discussion for partially valid ones, while invalid questionnaires were excluded to ensure data analysis accuracy and reliability.

1.4 Statistical Analysis SPSS 25.0 software was used to organize relevant data, with descriptive statistical methods employed for data analysis. Normally distributed measurement data were expressed as (x-±s) and compared between groups using t-tests. Count data were expressed as relative numbers and compared between groups using ^{2} tests or Fisher' s exact probability method. For

ranking questions, case ranking method was used to determine order. P<0.05 was considered statistically significant.

Results

2.1 Questionnaire Recovery A total of 283 electronic questionnaires were collected, of which 281 (281/283, 99.29%) were from clinical physicians who had opened and filled out the questionnaire. Among the 281 questionnaires, 233 (233/281, 82.92%) were from general hospitals and 48 (48/281, 17.08%) from primary healthcare institutions. Among the 233 questionnaires from general hospital clinical physicians, 220 (220/233, 94.42%) had conducted ward diagnosis and treatment work, of which 216 (216/220, 98.18%) indicated they had actually conducted interdepartmental consultation work, and all 216 questionnaires had completion times >60 seconds. Finally, after review and confirmation by two researchers, 216 valid questionnaires were included in this study, yielding an effective recovery rate of 76.33% (216/283).

2.2 General Information of Respondents The 216 questionnaire respondents were clinical physicians from 21 provinces, municipalities, and autonomous regions including Guangdong, Jiangxi, Zhejiang, Guangxi, and Shaanxi. Their general information is presented in Table 1 . The 216 clinical physicians had a mean age of (38.14$±$7.79) years, with 90.28% working in tertiary hospitals. There were 93 general practitioners (43.06%) and 123 non-general practitioners (56.94%). Physicians with >10 years of clinical experience accounted for 51.39%, and attending physicians constituted the majority by professional title at 39.35%.

2.3 Current Status of Interdepartmental Consultation This study analyzed the distribution of regular and emergency consultations completed by physicians of different professional titles (Table 2). The proportion of emergency consultations performed by resident physicians was higher than that of regular consultations, with statistically significant difference (P<0.05). No statistically significant differences were found in the proportions of regular and emergency consultations among attending physicians, associate chief physicians, and chief physicians (P>0.05). Comparisons of distribution patterns of physicians with different titles in regular and emergency consultations showed statistically significant differences (P<0.001), with attending physicians being absolutely dominant, followed by associate chief physicians, and residents and chief physicians being the least.

Regular consultations completed by the same day' s 24:00 and within 24 hours accounted for 94.44% (204/216), with only 5.56% (12/216) completed within 48 hours. The proportion of emergency consultations completed within 10 minutes was 79.17% (171/216), reaching 98.05% (212/216) within 30 minutes, with only 1.85% (4/216) completed within 60 minutes. When asked "In your work, what proportion of patients require interdepartmental consultation?" , 43.52%

(94/216) selected <20%, 23.15% (50/216) selected 41%-80%, and only 2.78% (6/216) selected 81%-100%.

Consultation physicians primarily completed consultations by examining patients in the ward and writing consultation notes, accounting for 85.19% (184/216) of regular consultations and 83.33% (180/216) of emergency consultations. Telephone consultations accounted for 2.78% (6/216) of regular consultations and 11.11% (24/216) of emergency consultations. New online consultation formats such as WeChat, DingTalk, and hospital information systems accounted for 12.04% (26/216) and 5.56% (12/216) of regular and emergency consultations, respectively. Clinical physicians generally believed that problems could be effectively resolved through a single consultation.

The number of patients in general practice departments requiring interdepartmental consultation [(36.80$\pm$21.54)*patients*]*washigherthanthatinnon* − *generalpracticedepartments*[(24.91$\pm$\$17.27) patients], with statistically significant difference (t=4.370, P<0.001). Regarding the frequency of consultations within a cycle for patients under clinical physicians' care (based on respondents' clinical experience reviewing consultation situations over the past 3 months) and comprehensive scores, the top five departments were Internal Medicine (6.67 points), Surgery (5.81 points), Rehabilitation and Physiotherapy (3.48 points), Otolaryngology (3.34 points), and Traditional Chinese Medicine (3.27 points). For patients with non-surgical comorbidities, the top five departments by consultation frequency and comprehensive score were Cardiology (8.81 points), Neurology (6.63 points), Respiratory Medicine (6.62 points), Endocrinology (5.75 points), and Gastroenterology (5.39 points). For patients with surgical comorbidities, the top five departments were General Surgery (7.71 points), Orthopedics (5.08 points), Vascular Surgery (4.87 points), Thoracic Surgery (4.42 points), and Neurosurgery (3.75 points).

2.4 Clinical Physicians' Perspectives on Interdepartmental Consultation Analysis of clinical physicians' perspectives on interdepartmental consultation revealed that the 216 physicians showed high agreement on items such as "interdepartmental consultation can improve medical quality" and "interdepartmental consultation can assist in clarifying diagnosis." For patients with "suboptimal response to initial treatment who may require transfer to another department," the vast majority of clinical physicians considered interdepartmental consultation necessary. Similarly, for the diagnosis and treatment of patients with "undifferentiated diseases, multiple coexisting diseases, or even difficult and complicated cases," the vast majority of clinical physicians also expressed high approval of interdepartmental consultation, as detailed in Table 3 .

Survey results showed that clinical physicians considered the main advantages of interdepartmental consultation to be assisting in formulating optimal treatment plans (90.28%, 195/216), providing opportunities for professional knowledge and opinion exchange (89.35%, 193/216), and assisting in determining correct diagnosis (86.11%, 186/216). The main disadvantages were concentrated in increas-

ing treatment and waiting time (63.89%, 138/216) and untimely and inaccurate information transmission (61.11%, 132/216). Based on personal experience, clinical physicians believed that interdepartmental consultation could frequently resolve patient problems (68.06%, 147/216) or sometimes resolve them (30.09%, 65/216).

Analysis of clinical physicians' evaluation of interdepartmental consultation showed high satisfaction rates with consultation quality by associate chief physicians and chief physicians at 97.68% (211/216) and 96.76% (209/216), respectively. In contrast, the satisfaction rate for attending physicians' consultation quality was 81.02% (175/216). Further investigation revealed that reasons for dissatisfaction with consultation results primarily concentrated on "failure to provide specific treatment recommendations (76.39%, 165/216)" and "failure to provide valuable diagnostic information (73.15%, 158/216)."

Reasons affecting consulting physicians' enthusiasm included high work pressure (65.2%, 141/216), lack of time management (62.96%, 136/216), lack of recognition and rewards (60.19%, 130/216), and lack of teamwork awareness (40.74%, 88/216). Personal reasons for consulting physicians included: lack of communication and collaboration (53.70%, 116/216), time management issues (39.35%, 85/216), low professional competence (32.87%, 71/216), and lack of care and empathy (25%, 54/216), as shown in Figure 1

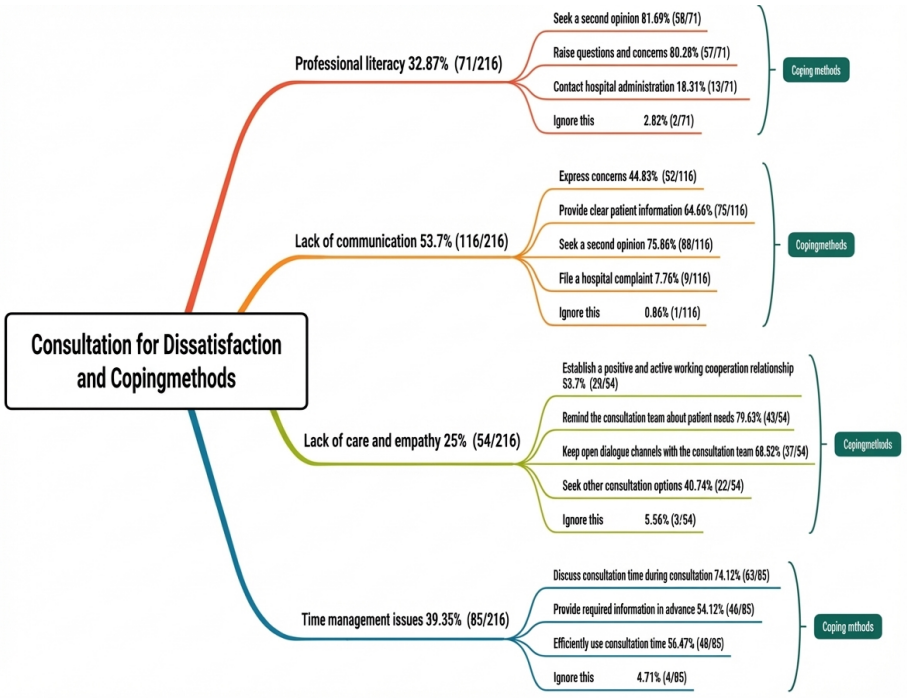

Figure 1: Figure 1

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When encountering consulting physicians with communication and collaboration deficiencies, survey results showed that clinical physicians mostly sought second opinions (75.86%, 88/116) or provided more specific patient information (64.66%, 75/116), with fewer complaints to hospital management departments (7.76%, 9/116). For consulting physicians with time management issues, applicants mostly proactively negotiated consultation times with consulting physicians (74.12%, 63/85), utilized consultation time efficiently (56.47%, 48/85), and provided required information in advance (54.12%, 46/85). When encountering consulting physicians with low professional competence, applicants mostly sought second opinions (81.69%, 58/71) or raised questions and concerns (80.28%, 57/71), with less feedback to hospital management departments (18.31%, 13/71).

2.5 Clinical Physicians' Expectations for Interdepartmental Consultation Among the 216 clinical physicians, 176 (81.48%, 176/216) reported that their hospitals had relevant consultation systems and conducted training; 168 (77.78%, 168/216) reported that their hospitals' medical administration departments regularly inspected consultation quality; and 135 (62.5%, 135/216) reported that their hospitals had established incentive mechanisms for consultation, including material incentives (37.5%, 81/216), spiritual incentives (8.8%, 19/216), both material and spiritual incentives (26.39%, 57/216), and no incentive mechanism (27.31%, 59/216).

The 216 clinical physicians expected hospital-level improvements in "consultation processes (75.00%, 162/216)," "consultation quality and safety (75.00%, 162/216)," "consultation incentives (74.54%, 161/216)," and "strengthening hospital informatization construction (64.81%, 140/216)." Most clinical physicians were willing to receive training to improve knowledge and skills in interdepartmental consultation (92.13%, 199/216).

Discussion

Interdepartmental consultation is a common medical activity in general hospitals and a fundamental medical system. Consultation types include intradepartmental consultation, interdepartmental consultation, and multidisciplinary team consultation, among which interdepartmental consultation is the most common form. Particularly at present, as clinical specialties become increasingly subdivided with prominent disease-specific treatment capabilities, some clinicians' comprehensive diagnostic and treatment abilities have weakened, unable to meet the needs of patient-centered integrated care, leading to continuously increasing demand for interdepartmental consultation [5]. This study employed a questionnaire survey to understand the current status of interdepartmental consultation in general hospitals, analyze potential problems, and propose the following strategies to provide reference recommendations for continuing education training of clinical physicians and consultation management

optimization by medical administration departments.

3.1 Strengthen Continuing Education Training to Enhance Comprehensive Diagnostic and Treatment Capabilities Survey results showed that in clinical practice, 30.03% of patients require consultation with relevant departments to assist in managing related diseases, health issues, or collaborative completion of diagnosis and treatment during a single hospitalization, indicating that disease complexity and treatment collaboration constitute a considerable proportion of all diagnosis and treatment activities. This is related to the fact that tertiary hospitals primarily treat critically ill and complicated patients, and is also associated with the acceleration of population aging and increased life expectancy leading to more patients with multiple coexisting diseases. Further analysis revealed that, compared with non-general practice departments, general practitioners managed patients requiring interdepartmental consultation at a higher proportion than specialists ($P<0.05$). This may be because general practice departments primarily treat patients with undifferentiated diseases and multiple coexisting diseases. Undifferentiated disease refers to a disease or condition at any stage where, based on clinical manifestations and examination results, a clear diagnosis cannot yet be made [6-7], requiring interdepartmental consultation or even multidisciplinary collaboration within the hospital to complete diagnosis and treatment. Patients with multiple coexisting diseases involve multiple systems and diseases, requiring high technical expertise for diagnosis and treatment. Additionally, research on diagnosis and treatment of multiple coexisting diseases is relatively weak, lacking systematic treatment guidelines, often requiring interdepartmental consultation to ensure diagnosis and treatment quality.

Regarding the question about consultation frequency within a cycle for patients under clinical physicians' care, results showed that, from high to low, the ranking was Internal Medicine, Surgery, and Rehabilitation and Physiotherapy. Further analysis revealed that for patients with non-surgical diseases, the top three departments by consultation frequency were Cardiology, Neurology, and Respiratory Medicine; for surgical diseases, the top three were General Surgery, Orthopedics, and Vascular Surgery. These findings suggest that hospital continuing education departments should strengthen postgraduate and lifelong learning education for clinical physicians, focusing on key diseases such as cardiovascular and cerebrovascular diseases, respiratory diseases, and training and assessment in orthopedics and vascular surgery. Conducting specialized knowledge lectures and training by experts from frequently invited departments through hospital or departmental organizations can address clinical physicians' weak links to some extent, thereby improving overall ability to analyze and manage cases. Additionally, during interdepartmental consultation processes, advocating active communication and exchange between consulting-requesting and consulting-invited physicians can enhance learning and understanding of professional knowledge, truly gaining knowledge from consultations and improving professional skills and diagnostic capabilities.

3.2 Enhance Humanities Curriculum Training to Improve Consultation Satisfaction A 2021 study by MGBOJI et al. [8] on the prevalence of incivility among clinical physicians during interdepartmental consultation showed that ophthalmology and emergency medicine consulting physicians frequently exhibited uncivil behaviors (such as arrogant attitudes, loud reprimands, and inappropriate jokes) during regular consultations. In this study, the main reasons for clinical physicians' dissatisfaction with consulting physicians included "lack of communication and collaboration" and "time management issues." Based on these findings, clinical physicians have certain deficiencies in communication skills, and humanities courses on communication skills training should be added to medical continuing education, including content such as effective communication skills, listening skills, and non-verbal communication. Through such training, clinical physicians can demonstrate higher humanistic qualities in communication with patients, colleagues, and other healthcare team members. Additionally, medical administration departments should be encouraged to conduct diverse communication skills training courses for clinical physicians and organize clinical skills competitions and debate contests, which not only help improve physicians' clinical skills but also enhance their communication skills and teamwork capabilities in practical settings [9]. Regarding time management issues, medical administration departments should first provide training on consultation processes and standards for clinical physicians, including consultation application, preparation, process, and documentation. Second, medical administrators should continuously improve and optimize consultation processes to reduce unnecessary steps and time waste [10]. Meanwhile, establishing a consultation efficiency evaluation mechanism to monitor and evaluate the consultation process in real-time can facilitate timely identification of problems and implementation of corresponding improvement measures.

3.3 Strictly Manage Consultant Physician Qualifications to Ensure Consultation Quality Consultation system regulations stipulate that invited consultation personnel must hold attending physician or higher titles to qualify for participation. However, this survey revealed that some hospitals have residents participating in regular consultations and even emergency consultations, reflecting insufficient attending physician reserves in some hospitals requiring residents to undertake consultation work. Due to limited experience of lower-title physicians, consultation results sometimes fail to meet the requirements and needs of inviting departments and do not achieve consultation effectiveness, leading to decreased consultation quality. This necessitates that clinical departments specifically implement qualification management for invited consulting physicians: emergency consultations should be undertaken by chief residents, and regular consultations by senior attending physicians or above. When clinical physicians encounter difficulties during consultation, they should promptly request senior physicians to provide on-site guidance to ensure consultation quality.

3.4 Introduce Artificial Intelligence to Strengthen Management and Ensure Consultation Timeliness Consultation quality is an important indicator for quantifying hospital medical quality levels, and consultation timeliness is a core indicator of medical quality control [11-12]. Previous studies have shown that patients requiring $ 2*inter department al consultations in emergency departments often have hospital stays exceeding 4 hours* [16.4 $ h) vs 0.6% (<4 h)], suggesting that more required consultation departments and incomplete timely consultations prolong patient hospital stays [13]. In this survey, only 75.00% of the 216 clinical physicians believed regular consultations could be completed within 24 hours, with a 25.00% overtime rate, indicating that some physicians did not complete consultations in a timely manner. The reasons may include insufficient consulting physicians with heavy workloads leaving inadequate time for consultation participation, or some consulting physicians lacking strong work responsibility, failing to arrive promptly or delaying other departments' consultations for various reasons. In response, medical administration departments should promptly introduce artificial intelligence management under the background of AI to strengthen quality control before, during, and after consultations. Before consultation, using AI reminder functions and referencing critical value management methods, reminder mechanisms should be established. For example, for consultation requests not responded to within a certain time (such as 6 hours), relevant physicians could be reminded via text message (WeChat or DingTalk); if not processed within 24 hours, the information would be automatically sent to the invited department director; if exceeding 48 hours, the information would be directly sent to medical administration departments to ensure consulting physicians complete consultations on time. During consultation, when consulting physicians confirm arrival at the requesting department, the AI system would verify whether their qualifications meet requirements. Simultaneously, consultation requesters must provide feedback to the system on consulting physicians' performance, including whether they examined patients and wrote consultation records. After consultation, the system would again verify consulting physicians' qualifications and require submission of consultation satisfaction and quality monitoring data. Additionally, consulting physicians could use the AI system to feedback issues such as insufficient mastery of consultation indications by requesting departments to medical administration departments. Based on feedback, medical administration departments would conduct effective supervision of consultations and incorporate them into a scoring mechanism with corresponding reward and penalty measures. By establishing this two-way feedback mechanism, scientific supervision and evaluation of consultation processes can be conducted, effectively strengthening interdepartmental cooperation and interactive communication, thereby improving consultation quality [14]. Medical administration department managers are also encouraged to proactively go to clinical frontlines, participating in daily clinical activities such as morning handovers, night rounds, and irregular supervision, to directly understand clinical departments' feedback on consultation work. Regular distribution of interdepartmental consultation feedback

forms to evaluate consultation quality and public criticism of departments and individuals with untimely or poor-quality consultations can ensure the timeliness and effectiveness of consultation work [15-16].

3.5 Optimize Consultation Processes to Improve Consultation Efficiency According to this survey, the majority (75.00%, 162/216) of clinical physicians expected hospitals to optimize consultation processes. Currently, the regular consultation process in major hospitals involves clinical physicians initiating applications through the "Consultation Application" module in the HaiTai system, with invited department physicians logging into the consultation system irregularly to understand consultation requests and then arranging personnel to conduct consultations [17]. Several problems exist in this process, such as requesting physicians providing insufficiently detailed patient condition descriptions in application reasons, incomplete auxiliary examinations, perfunctory completion of medical documents, and failure by attending physicians to report patient conditions to consulting physicians during consultations, all of which affect consulting physicians' efficiency. Therefore, as initiators of consultation work, physicians should strictly master consultation indications, summarize and analyze currently urgent problems, propose clear consultation needs, and issue consultation application forms after approval by medical team leaders or chief residents [18]. After consulting physicians arrive at inviting departments, attending physicians or chief residents should introduce patient conditions and provide medical records to assist consultation work. Additionally, medical administration departments should strengthen management of consultation process implementation, establish a consultation adverse event reporting system, and treat issues such as insufficient mastery of consultation indications and untimely consultations as medical adverse events. Relevant departments can report consultation-related adverse events through the system, and medical administration departments will conduct investigations and verifications followed by interviews with relevant departments and physicians [19-20]. If untimely consultations occur, medical administration departments should notify department directors to arrange qualified physicians to complete consultations within specified time limits.

Conclusion

This study summarized and analyzed the current status of interdepartmental consultation in general hospitals and clinical physicians' perspectives and evaluations. Although this study was conducted based on an online questionnaire survey with certain sample size limitations, 检索 of CNKI, Wanfang Data Knowledge Service Platform, and PubMed databases found no similar published literature. Moreover, this study' s questionnaire applied strict exclusion criteria to screen data, ultimately including 216 cases for statistical analysis. Therefore, the data from this study have certain representativeness and can help clinical physicians understand the current status and characteristics of interdepartmental consultation, providing references for optimizing clinical consultation work.

Additionally, due to limitations, this study conducted preliminary analysis of consultation frequency by department for inpatients under clinical physicians' care but did not further analyze specific disease composition of interdepartmental consultations. Future research could expand sample size and conduct systematic analysis of disease composition in interdepartmental consultations, which is expected to yield more clinically valuable conclusions and provide more precise references for optimizing consultation processes and improving diagnostic and treatment efficiency.

Author Contributions: SUN Junsheng was responsible for questionnaire design, study design, data organization, statistical analysis, and manuscript writing and revision. YUAN Fuzhen was responsible for data organization, statistical analysis, and manuscript writing. LIU Ying and ZHANG Eryao were responsible for questionnaire design and guidance. REN Jingjing was responsible for questionnaire design, study design, research guidance, manuscript revision, and overall responsibility for the article.

Conflict of Interest: The authors declare no conflict of interest.

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(Received: February 20, 2024; Revised: September 4, 2024)
(Editor: WANG Shiyue)