

Exploring Human Resource Management Explanations for Teamwork Characteristics: A Mixed Methods Cross-sectional Study in Rehabilitation Services

David Joseph Pereira

School of Health Sciences, Health Campus, Universiti Sains Malaysia, 16150 Kubang Kerian, Kelantan, Malaysia

ABSTRACT

Human Resource Management (HRM) in healthcare supports doctors, nurses and allied health professionals collectively delivering patient care. HRM could therefore influence interprofessional teamwork characteristics. This study explored service level HRM explanations for teamwork characteristics. A mixed methods cross-sectional approach was adopted, purposively recruiting 155 healthcare professionals from seven public rehabilitation services in Sydney, Australia. A survey administered to participants assessed teamwork characteristics of efficiency and relationships at the respective rehabilitation services. Interviews and focus groups examined HRM strategies in recruitment and evaluation, work systems support, professional development and staff well-being. Lower efficiency in teamwork ($m = 3.58$, $p = 0.003$) was found to happen in a service setting with inefficient recruitment and poor compliance in conducting evaluations. Lower team efficiency ($m = 3.79$, $p = 0.04$) and poorer relationships ($m = 3.61$, $p = 0.003$) among team members was found in a setting with ineffective recruitment. Conversely, higher team efficiency ($m = 4.25$, $p = 0.004$) and better relationships ($m = 4.48$, $p = 0.000$) among members was found in a service with efficient recruitment and division of the teamwork system into smaller interprofessional groupings. Teamwork characteristics findings did not have any professional development explanations at the participating services. No difference in teamwork characteristics was found in a service where staff well-being was affected by poor leadership or in another service having adequate staffing. Building upon this study's findings, HRM's potential to influence teamwork could be leveraged by ensuring recruitment and evaluation processes complement service requirements; structuring work systems support for conducive clinician interactions; recognizing good teamwork; providing development across professional boundaries; and addressing staff well-being issues so as to positively influence interprofessional care.

Keywords: Health services research, Mixed methods research, Interprofessional teamwork

1 INTRODUCTION

Clinical teams are a diverse composition of medical, nursing and allied health professionals [1]. Interprofessional team members collaborate across their different disciplines to provide safe and quality care [2]. Managerial efforts and policy are touted as having the ability to influence and shape interprofessional teams for desired outcomes in healthcare organizations [3]. It is posited that team care can be supported through effective Human Resource Management (HRM) policies and practices [4]. This potential in facilitating interprofessional healthcare teams may stem from HRM's broad scope and role in managing clinicians to promote continuity of care [5]. Hence, examining interprofessional teamwork in relation to service level HRM policies and procedures may contribute towards tailoring effective work systems and enabling the achievement of desired outcomes [6].

The general scope of HRM in attracting, monitoring, developing and retaining staff has overlap with supporting interprofessional teamwork among healthcare professionals [7]. The ability to work constructively in a team is considered an important criterion in the selection and appointment of healthcare personnel [8]. Besides

effectively recruiting team players, the continuity of team care may depend upon recruitment efficiency [9]. Adequate staffing levels have been associated with better teamwork and the provision of quality care [10]. Staff evaluation plays an important role in reviewing performance, promoting career development and ascertaining the need for corrective measures to overcome difficulty [11]. Appraisals of healthcare staff often indicate problems with communication, teamwork and leadership, requiring improvement in the specific areas [12]. Elements of HRM such as supervisor support, performance-based incentives and flexible work have shown connections with high job satisfaction and quality of care [13].

Given the scope of HRM overlapping with the promotion and sustainability of interprofessional teamwork [3], there is a need to further explore HRM for insights into teamwork characteristics at the service level. In the rehabilitation patient care specialty, which is synonymous with interprofessional teamwork, Human Resource (HR) strategies have been found to influence the quality of work life, incentives, and professional development of clinical staff [14]. In rehabilitation services, HRM and interprofessional teamwork are both integral for effective high-quality care [15]. This study aimed to identify HRM explanations for teamwork characteristics in rehabilitation services.

2 METHODOLOGY

A parallel mixed methods cross-sectional study was conducted in metropolitan Sydney, Australia. The parallel mixed methods study design commonly used in healthcare

Article Information

Received: 10 September 2025

Accepted for publication: 2 November 2025

Published: 30 November 2025

*Corresponding author e-mail:

dpereira@usm.my

research [16, 17] was appropriate in line with the quantitative assessment of teamwork characteristics and qualitative inquiry of HRM by service. The mixed methods study design subscribes to the paradigm of pragmatism allowing for flexibility in the pairing of related quantitative and qualitative data [18]. Pragmatism blends elements from positivist and interpretivist paradigms, hence not constrained by limitations of quantitative and qualitative methodologies [19]. The combined quantitative and qualitative data enabled assessed teamwork characteristics to be explained by HRM insights. Approval for the study was granted by a New South Wales (NSW) Human Research Ethics Committee (Ethics No HE09/339).

2.1 Sampling of Participants

A total of 155 healthcare professionals from seven public hospital rehabilitation services participated in this study. A purposive instead of random sampling approach was taken as survey participants needed to be available for interview or focus groups sessions. The use of a non-random sample and self-reported data from participants are acknowledged as study limitations. The purposively recruited sample of 155 participants exceeded sample size calculation figure of 146 based on 90% confidence level, five percent margin of error and population size of 310. Sample size calculation was done using online resource Calculator.net. Participants from the seven rehabilitation services comprised medical, nursing and allied health professionals. Inclusion criteria for participants were to have been employed for at least 6 months at the respective participating rehabilitation services and have not tendered resignation to quit employment. Administrative, clerical non-clinical staff without patient care roles were excluded from participation. Among the seven rehabilitation services examined, six provided general rehabilitation, while one focused specifically on stroke rehabilitation.

2.2 Assessment of Teamwork

For this study, teamwork refers to the dynamic process of members sharing common treatment goals and exercising collective effort in assessing, planning or evaluating patient care [20, 21]. The assessment of teamwork was through a 15-minute survey questionnaire administered to rehabilitation services healthcare professionals during onsite sessions. The survey collected data on demographics (gender, age, profession and country of professional training) and teamwork characteristics of efficiency and relationships among members. Indexes developed by Thylefors, Persson, & Hellström (2005) were applied to measure efficiency and relationships among members [22]. Efficiency was assessed based on six items evaluating collective goal achievement, index having a Cronbach alpha value of 0.89. The assessment of relationships among members used 15 questions pertaining to social and task-oriented interactions, index having a Cronbach alpha value of 0.93. Questions for the adopted indexes utilized five-point Likert scale response options. The values from the responses were summed and

divided by the number of questions, yielding a score between one and five with a higher score indicating better efficiency or better relationships among members.

2.3 Inquiry of HRM Policy and Practice

Clinicians who participated in the survey were subsequently recruited for interviews and focus groups [23] to collect information on HRM policy and practice. Seven interviews and 24 focus groups were conducted. Participant numbers during focus groups ranged between two and 16. The 30 to 60-minute interview and focus group sessions were digitally recorded and transcribed. Interview and focus group questions were developed based on the Human Resource Development and Management (HRDM) category from the Malcolm Baldrige National Quality Award and explored priority managerial areas [24]. The questions addressed four key aspects of HRM policy and practice: recruitment and evaluation; work systems support; professional development; and staff well-being. Recruitment and evaluation focused on the hiring and appraisal of clinicians. The work systems support related to individual and teamwork requirements, and the provision of rewards and recognition for staff. Professional development focused on education and training opportunities for individuals. Staff well-being focused on organizational or service aspects, and managerial efforts contributing towards staff satisfaction.

2.4 Data Analysis

Survey data were analysed using Statistical Package for Social Sciences software (SPSS, version 18). Characteristics of participating teams were compared using Mann Whitney test with a 0.05 significance level [25]. Thematic content analysis procedures collated data from the interviews and focus group [26]. Datasets from the respective rehabilitation services were triangulated after quantitative and qualitative data had been analyzed separately [27]. The combination of findings contributed towards assessed teamwork characteristics being matched with HRM insights at the service level.

2.5 Study Limitations

The mixed methods cross-sectional nature of this study using a purposive sample are acknowledged as methodological limitations. The use of mixed methods quantitative and qualitative data prevents statistical testing of association between focus areas of HRM and team characteristics. Purposive sampling utilized affects generalizability of study findings. Nevertheless, findings from mixed methods research with quantitative data being complemented with qualitative data are transferable to similar service settings [28]. This study provides a foundation for future research testing association between study variables and potential longitudinal studies assessing the influence of HRM policy and practice on team characteristics.

Table 1: Team size and corresponding participation percentages, by service

All services n (%)		Rehabilitation services n (%)						
		General						Stroke
		Service A	Service B	Service C	Service D	Service E	Service F	Service G
Team size*	310	37	59	27	68	36	37	46
Participants#	155	22	31	16	34	17	16	19
(Participation Percentages)	(50%)	(59%)	(53%)	(59%)	(50%)	(47%)	(43%)	(41%)

*Team size as determined from administrative records, #Percentages represent participation rates relative to team size

Table 2: Mean scores and statistical significance for efficiency and relationships among members, by service

Rehabilitation service		General						Stroke
		Service A	Service B	Service C	Service D	Service E	Service F	Service G
Efficiency results (perceived efficiency index)	Mean	3.58	4.08	3.79	4.25	4.11	4.22	4.07
	(SD)	(0.61)	(0.48)	(0.46)	(0.38)	(0.50)	(0.49)	(0.49)
	P value	0.003	0.60	0.04	0.004	0.16	0.75	0.67
Relationships among members results (team climate index)	Mean	4.08	4.11	3.61	4.48	4.37	4.44	4.22
	(SD)	(0.66)	(0.62)	(0.80)	(0.42)	(0.41)	(0.57)	(0.45)
	P value	0.770	0.060	0.003	<0.001*	0.997	0.070	0.150

SD: Standard deviation

*p<0.05 significant using Mann Whitney Test

3 FINDINGS

Study findings cover quantitative team characteristics results from administration of survey questionnaire, qualitative HRM policy and practice feedback from focus group sessions and the combined matching of quantitative and qualitative data.

3.1 Teamwork Characteristics

The seven participating services had team sizes comprising 27 - 68 staff (Table 1). Study participants per service ranged between 16 - 34 (41% - 59%), and the overall sample comprised 16% medical, 43% nursing and 41% allied health professionals, providing adequate representation for assessing interprofessional teamwork. No statistically significant differences were found for the demographic variables of gender, age, profession and country of initial training across the seven services.

Satisfactory levels of teamwork were reported by all services. Teamwork characteristics of efficiency and relationships among members received mean scores above 3.5 across the seven teams (Table 2). Services A, C and D were significantly different from others on the efficiency index; the first two had lower efficiency scores while results from Service D were higher. For relationships among members, Services C (lower) and D (higher) were significantly different compared with the other services.

3.2 HRM Policy and Practice

For the HRM policy and practice areas, there were: commonalities identified across services; and differentiating aspects found at five services, namely Services A, C, D, E and F. Table 3 presents a summary of common and differentiating HRM policy and practice findings.

Clinicians across services observed that recruitment and evaluation was conducted within their professional unit rather than by the rehabilitation service. While coordinated under the rehabilitation service, clinicians were hired and appraised by their professional leaders. Participants explained the issue as follows:

“With the physio (physiotherapy) team, it was the physio manager that interviewed for those positions. It is the same for OTs (occupational therapists), the OT manager advertised.” (Service C, focus group)

“From a resident perspective, we get performance evaluation done by our consultant but often in conjunction with our registrar.” (Service G, focus group)

Participants reported recruitment completed by professional peers was the most appropriate way to assess

Table 3: Summary of common and differentiating HRM policy and practice findings from the respective services

HRM area	Common findings	Differentiating findings
Recruitment and evaluation	Recruitment and evaluation of clinicians under professional discipline group.	Service A - Inefficiency in filling vacancies adversely impacts on service delivery. - Poor managerial conformance in conducting staff appraisals. Service C - Overemphasis on interviews makes the recruitment process ineffective. Service D - Efficient filling of staff vacancies.
Work systems	- Clinician duties require both individual and team efforts. - Clinicians are not adequately rewarded and recognized by their organizations.	Service D Smaller sub teams within service facilitate teamwork.
Professional development	- Education and training of clinicians are conducted within professional discipline group. - Opportunities for development depend on workload and staffing levels.	Consistent across services
Staff well-being	- Working with colleagues and learning opportunities are positives aspects contributing towards clinician satisfaction. - With the exception of Service F, understaffing is a major negative aspect affecting clinicians.	Service E - Poor service leadership is a cause of dissatisfaction. Service F - Well-staffed service with a reasonable workload is a source of satisfaction.

that candidates held their particular skills and knowledge for their role. Staff from Services A and C brought up shortcomings in the recruitment process. They indicated that inefficient and ineffective recruitment could have negative consequences on teamwork and patient care. At Service A, recruitment was inefficient and adversely impacted on service delivery:

“Large delays occur and long periods of staff vacancies which then means that overburdens and overloads the rest of the team and it means that the rehabilitation service has a reduced ability to service the population.” (Service A, interview)

Inefficiencies in Service A extended to a lack of conformance by managers in conducting evaluations and assessing staff performance. This response from a clinician at Service A highlights the lack of managerial compliance with staff evaluation policy:

“Never have it. I think I’ve had it once in 22 years. I’m serious, put my name to it. I know of people that have been here for years and have had no evaluation of their

performance. A policy exists but managers conforming to the policy is poor.” (Service A, interview)

Responses from Service C suggested that the recruitment process does not always result in the appropriately skilled or experienced person filling the job. This shortcoming was due to interviews having a dominant impact on the recruitment process:

“There’s too much weight given to the questions. A person who performs well in questioning will usually get the job irrespective of if they have good clinical background or not.” (Service C, focus group)

As success in interviews was perceived to have more weight over clinical or team competence in the recruitment process, some existing staff members may not be a good fit for the provision of interprofessional care. In contrast with HR grievances from Services A and C, recruitment at Service D was reported to be efficient in filling vacancies. Recruitment efficiency at Service D had been consistent over a period of time:

“It has been quite good in the last few years in that it hasn’t been too much of drama. If someone resigns, trying to get someone to fill that position, that happens quite quickly.” (Service D, focus group)

Staff across services saw that clinical work involved both individual activities as well as team based interprofessional communication and collaboration. These responses exemplify this dual responsibility:

“You practice as an individual. You are bringing your individual skills but you are working as a team. There’s a lot of collaboration, there’s a lot of discussion both formally and informally.” (Service B, focus group)

“We all work individually but because we’re obviously working different parts of a person’s care, we have to work closely as a team as well.” (Service F, focus group)

Achieving the right balance between individual and team practices was held to be an ongoing challenge and requirement for safe and quality care. Staff from Service D reported distinct interprofessional groupings within the rehabilitation service work system. This ‘teams within a team’ service structure contrasted with the single interprofessional team organization of the other services. The groupings at Service D, with core memberships being relatively permanent, enabled close working relationships and inclusive decision making within the service. According to staff in Service D, for instance:

“Trusting what is brought to case conference for example. I can trust A (occupational therapist) has seen that person in the shower and her report is accurate and the same with you N (physiotherapist), I’ve seen you at the bedside and I’ve seen relatives giving to you and I’ve seen you talking to relatives and D (nurse specialist) talking to nurses and things getting carried out.” (Service D, focus group)

“I (OT) don’t think I ever do anything without telling H (social worker) or N (physiotherapist), K (rehabilitation physician), or D (nurse specialist) about it. So a lot of it comes back to the team.” (Service D, focus group)

Participants across all services highlighted the lack of formal organizational reward and recognition. They perceived there was insufficient managerial attention and rewards for clinicians providing exemplary care:

“There is nothing to reward clinicians from the organization, not that we know of.” (Service F, focus group)

“It’s very poor. I don’t think there’s enough recognition. We need to look at recognizing people, the staff members more often.” (Service G, focus group)

In essence, the rehabilitation work system was regarded to be functioning positively at the interprofessional

team level. However, at the same time, the system was perceived to be less effective with limited acknowledgment or rewards from higher levels of the organization’s management.

Across services, education and training activities were undertaken largely within the medical, nursing or allied health professions:

“Registrars have a monthly training session, nursing staff have regular in-service programs and allied health staff have at least once a week educational meetings.” (Service E, interview)

Development initiatives depended on workload or staffing levels. There were circumstances where clinicians have to forgo professional development due to workload obligations or inadequate staffing:

“I think the issue when we do attend those development things, it is the cover because our patient loads suffer.” (Service B, focus group)

“Lot of problems last year because of staffing. So development things got cancelled.” (Service C, focus group)

Working with colleagues and taking learning opportunities are positives for staff across services. These comments suggest that clinicians value their collegial working environments and are motivated by this:

“General positive for me is that I really enjoy working within the rehabilitation team. The people are friendly and supportive.” (Service A, interview)

“It is really a lovely place to work in that you get all of that experience and all of that skills.” (Service G, focus group)

Poor rehabilitation department leadership was expressed as a negative to staff well-being at Service E. Clinicians at this service expressed a lack of direction from their leader who was perceived to be overly influenced by hospital management:

“I think we need better leadership, like directing where to go. Like not letting you there floating not knowing where to go. We struggle to get good direction. I think that the rehab leadership is heavily swayed by whatever the hospital’s direction is. Like if there is a huge push from one end, it comes in and it affects that leadership significantly. And other times, we’d be working quite nicely and then again the push will come through.” (Service E, focus group)

Across services understaffing was the major negative factor affecting staff well-being, with the exception of Service F. Understaffing results in heavy workloads and

reduced capacity and motivation for quality patient care. The issue was explained in this way:

“Staffing, a lack of staff. Especially OT (occupational therapist) and physio at the moment, we are really stretched, case load, so it is really full on. Makes it hard to stay motivated sometimes.” (Service B, focus group)

“You don’t always have time because sometimes if you are short staffed and settling five patients, might end up having ten patients. And then that doesn’t give much time to actually spend with patients and identify any critical areas that you should be having a look at.” (Service G, focus group)

Service F was found to be comparatively well staffed. Staff well-being and attitudes towards their organization was positively affected by adequate staffing:

“For me it is a reasonable workload. We are fairly well staffed. It is quite fair to work here.” (Service F, focus group)

Overall, staff well-being was influenced on the positive side by the opportunity to work with interprofessional colleagues and negatively by poor leadership and understaffing.

3.3 Teamwork Characteristics and HRM Policy and Practice

Poorer levels of efficiency in teamwork at Service A happened in a setting with poor efficiency in recruitment to fill vacancies and little or no attention to staff evaluations. Lower efficiency in teamwork and poorer relationships among members at Service C were linked to perceptions of ineffective recruitment with an overemphasis on interviews for the selection of clinicians. Good efficiency and positive relationships among members at Service D was related to efficient recruitment in filling vacancies, and the presence of distinct smaller interprofessional groupings within the service work system. Teamwork was not found to be adversely affected when facing poor leadership at Service E. Service F findings did not demonstrate better teamwork results despite having a well-staffed team. Given the lack of variation in teamwork and HRM results at Services B and G, no teamwork and HRM linkages were identified.

4 DISCUSSION

Building upon earlier research suggesting links between clinician teamwork and HRM [8], this study extends knowledge by deepening understanding of teamwork’s possible links with HRM policy and practice. Across varying services, team efficiency and relationships among members could be connected with HRM functions such as staff recruitment and evaluation, and work systems support.

In this study, poor teamwork and service inefficiency happened in a service setting facing inefficient recruitment practices and poor compliance with staff evaluation requirements. Most rehabilitation services in this

study faced understaffing and heavy workloads. Inefficient recruitment practices will compound the heavy service loads experienced by clinicians and reduce the efficacy of team care [10]. Non-compliance with staff evaluation policy can impair teamwork if individual performance shortcomings are not identified, addressed and remedied [11]. Poor teamwork happening under ineffective recruitment highlights the importance of attracting and selecting clinicians who are able to work collaboratively across professional boundaries [8]. Manager-clinician consultation in selecting new staff and greater involvement from current team members in recruitment could be solutions to effectively identify candidates for interprofessional settings.

Efficient recruitment and distinct smaller interprofessional groupings within the work system were linked with better team efficiency and good relationships among members. This finding affirms the importance of adequate staffing [10] and draws attention to the value of providing a service structure favourable for interprofessional teamwork [6]. Efficient recruitment can contribute to maintenance of staffing levels thus reducing work pressures and promoting service efficiency. It was highlighted in this study that the capacity to engage in development opportunities was dependent on staffing levels. Ensuring a level of consistency in staffing levels is therefore a precursor to facilitating interprofessional team-based development within a service [12]. Well led smaller interprofessional groupings within a service’s overall work system can promote close working relationships and inclusive decision making among clinicians. Dividing a service into smaller groupings with decentralized leadership may be an approach capable of improving engagement for teamwork and clinician management simultaneously [13]. Using smaller more intimate clinician groupings for the delivery of team-based care could be more conducive for identifying, supporting and rewarding interprofessional cooperation.

Shortcomings in leadership have been reported to negatively affect staff well-being [15] but poor leadership was not connected with poorer interprofessional teamwork in this study. Cooperative and supportive relationships among clinicians within a rehabilitation team could have a mitigating influence on dissatisfaction arising from poor service leadership. The finding of no significantly better teamwork being found at a well-staffed service shows that focusing solely on a specific HRM area may be insufficient in ensuring the quality of team care [14]. Overall, interprofessional teamwork is valued at the clinical level but there is room for improvement in tailoring HRM strategies to efficiently and effectively support interprofessional teams.

5 CONCLUSION

The findings point towards several HRM strategies to facilitate teamwork and support clinicians within interprofessional services. These strategies include ensuring the efficiency and effectiveness of recruitment and evaluation processes; the structuring of work systems to facilitate working relationships among clinicians; tangible recognition of good teamwork; promoting interprofessional

team-based staff development to complement discipline specific training; and addressing leadership and staffing issues affecting staff well-being.

ACKNOWLEDGEMENT

This study was part of a PhD candidature funded by Universiti Sains Malaysia's academic staff training scheme.

CONFLICT OF INTEREST

The author declare that there is no conflict of interest regarding the publication of this paper.

REFERENCES

- [1]. Sanford N, Lavelle M, Markiewicz O, Reedy G, Rafferty DAM, Darzi LA, et al. Decoding healthcare teamwork: a typology of hospital teams. *Journal of Interprofessional Care*. 2024;38(4):602-11. doi:10.1080/13561820.2024.2343835
- [2]. Din BRU, Anjum F, Malik A. Cross-disciplinary collaboration in healthcare: Enhancing outcomes through team-based care. *Multidisciplinary Journal of Healthcare (MJH)*. 2024;1(1):11-9. [cited 2025 September 10]. Available from <https://www.researchcorridor.org/index.php/mjh/article/view/43>
- [3]. Zhang Q, Gong H, Gittell JH. Managing interprofessional teamwork: strategic relational human resource management and the power of relational coordination. *Research Handbook on Contemporary Human Resource Management for Health Care*. 2024:273-88. doi:10.4337/9781802205718.00027
- [4]. Salehi R, Masoudi-Asl I, Gorji HA, Gharaee H. Gap analysis of strategies for promoting interprofessional teams in healthcare units. *Journal of Health Organization and Management*. 2024;38(6):857-87. doi: 10.1108/JHOM-02-2024-0070
- [5]. Hatwar A, Afroz A, Shahu S, Nair N. Managing human resource in healthcare: Challenges and solutions. *Medical Journal of Dr DY Patil Vidyapeeth*. 2025;18(3):384-92. doi:10.4103/mjdrdypu.mjdrdypu_745_24
- [6]. Tataw DB, Stokes EW. Leadership in interProfessional healthcare practice (IPHP): Readiness, roles, and competencies for healthcare managers and human resource professionals. *Journal of Interprofessional Education & Practice*. 2023;32:100635. doi:10.1016/j.xjep.2023.100635
- [7]. Zhu Z, Zheng W, Tang N, Zhong W. Review of manpower management in healthcare system: strategies, challenges, and innovations. *Journal of Multidisciplinary Healthcare*. 2024:5341-51. doi:10.2147/JMDH.S497932
- [8]. Zhao Y, Quadros W, Nagraj S, Wong G, English M, Leckcivilize A. Factors influencing the development, recruitment, integration, retention and career development of advanced practice providers in hospital health care teams: a scoping review. *BMC medicine*. 2024;22(1):286. doi:10.1186/s12916-024-03509-6
- [9]. Nkgapele SM, Thusi X. The recruitment and retention of critical healthcare professionals: focus at Polokwane Provincial Hospital. *Journal of Management & Business Studies*. 2025;7(1):1-19. doi:10.63922/ajmesc.v4i04.1030
- [10]. Alanazi FK, Molloy L, Lapkin S, Sim J. Inpatient mortality and safety culture: The critical role of nurses and nurse staffing. *Journal of Nursing Management*. 2025;2025(1):1101404. doi:10.1155/jonm/1101404
- [11]. Pomaranik W, Kludacz-Alessandri M. Talent management practices and other factors affecting employee performance in the public healthcare sector in Poland: an empirical study using structural equation modelling. *BMC Health Services Research*. 2024;24(1):1667. doi:10.1186/s12913-024-12169-4
- [12]. Zajac S, Woods A, Tannenbaum S, Salas E, Holladay CL. Overcoming challenges to teamwork in healthcare: a team effectiveness framework and evidence-based guidance. *Frontiers in Communication*. doi:10.3389/fcomm.2021.606445
- [13]. Abidin Z, Mahmood A, Akhlaque R, Baig SA. Identification of HRM practices to Improve work engagement of medical staff of Government hospitals. *Journal of Excellence in Management Sciences*. 2024;3(3):108-40. doi:10.69565/jems.v3i3.335
- [14]. Tran D, Hall LM, Davis A, Landry MD, Burnett D, Berg K, et al. Identification of recruitment and retention strategies for rehabilitation professionals in Ontario, Canada: Results from expert panels. *BMC Health Services Research*. 2008;8(1):249. doi: 10.1186/1472-6963-8-249
- [15]. Mak S, Thomas A, Razack S, Root K, Hunt M. Unraveling attrition and retention: A qualitative study with rehabilitation professionals. *Work*. 2024;79(2):841-55. doi:10.3233/WOR-230531
- [16]. Babaie M, Nourian M, Atashzadeh-Shoorideh F, Manoochehri H, Nasiri M. An exploration of patient safety culture in NICUs: A convergent parallel mixed-method study. *BMC Health Services Research*. 2024;24(1):1348. doi:10.1186/s12913-024-11644-2

- [17]. O'Connell M, Barry J, Hartigan I, Cornally N, Saab MM. The impact of electronic and self-rostering systems on healthcare organisations and healthcare workers: A mixed-method systematic review. *Journal of clinical nursing*. 2024;33(7):2374-87. doi:10.1111/jocn.17114
- [18]. Syed M, Westberg DW. Mixed-methods research in psychology: Rationales and research designs. *Advances in Methods and Practices in Psychological Science*. 2025;8(2). doi:10.1177/25152459251343919
- [19]. Mulatu AB, Negash WA. Review of pragmatism paradigm in research and its limitation in mixed, qualitative and quantitative research approach. *Innovations*. 2024;601-13. [cited 2025 September 10]. Available from https://www.researchgate.net/profile/Ashenafi-Mulatu/publication/378183869_Review_of_Pragmatism_Paradigm_in_Research_and_Its_Limitation_in_Mixed_Qualitative_and_Quantitative_Research_Approach/links/65cc98b71e1ec12eff9b5eda/Review-of-Pragmatism-Paradigm-in-Research-and-Its-Limitation-in-Mixed-Qualitative-and-Quantitative-Research-Approach.pdf
- [20]. Shaker MS, Oppenheimer J, Verdi M, Anagnostou A, Abrams EM, Blatman KH, et al. Teamwork in clinical medicine. *The Journal of Allergy and Clinical Immunology: In Practice*. 2024;12(12):3261-8. doi:10.1016/j.jaip.2024.09.030
- [21]. Viljoen A, Leech R, Slater P, Heyns T. Defining person-centred teamwork: A concept analysis. *Trends in Nursing*. 2024; 4 (1). doi:10.14804/4-1-73
- [22]. Thylefors I, Persson O, Hellström D. Team types, perceived efficiency and team climate in Swedish cross-professional teamwork. *Journal of interprofessional care*. 2005;19(2):102-14. doi:10.1080/13561820400024159
- [23]. Derriennic J, Barais M, Le Goff D, Fernandez G, Le Borne F, Le Reste J-Y. Patient, carer and healthcare professional experiences of complex care quality in multidisciplinary primary healthcare centres: qualitative study with face-to-face, in-depth interviews and focus groups in five French multidisciplinary primary healthcare centres. *BMJ Open*. 2021;11(12):e050165. doi:10.1136/bmjopen-2021-050165
- [24]. Lapoint PA. Malcolm Baldrige National Quality Award winners: A quantitative analysis between strategic planning and human resource variables. *Quality Management Journal*. 2022;29(4):289-98. doi:10.1080/10686967.2022.2112929
- [25]. Chicco D, Sichenze A, Jurman G. A simple guide to the use of Student's t-test, Mann-Whitney U test, Chi-squared test, and Kruskal-Wallis test in biostatistics. *BioData Mining*. 2025;18(1):56. doi:10.1186/s13040-025-00465-6
- [26]. Bucyibaruta JB, Peu D, Bamford L, van der Wath A. Closing the gaps in defining and conceptualising acceptability of healthcare: a qualitative thematic content analysis. *African Health Sciences*. 2022;22(3):703-9. doi:10.4314/ahs.v22i3.75
- [27]. de Haan M, van Eijk-Hustings Y, Vrijhoef HJ. Using mixed methods in health services research: A review of the literature and case study. *Journal of health services research & policy*. 2021;26(2):141-7. doi:10.1177/135581962095522
- [28]. Guével M-R, Absil G. Using mixed methods to evaluate complex interventions: From research questions to knowledge transferability. *Global Handbook of Health Promotion Research, Vol 3: Doing Health Promotion Research*: Springer; 2023. p. 201-13. doi:10.1007/978-3-031-20401-2_17