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Identification of the factors affecting the referral system of veterans' health services: A scoping review

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Abstract:

Referral in the health system is a systematic process for the optimal allocation of resources and improves the access of people in need of treatment services. Considering the vulnerability of the veterans and more medical needs in this group, this study aims to identify the components that affect veterans' health services referral system. MEDLINE, Scopus, Web of Science, and ProQuest databases, the international military studies website, and key journals in the field of veterans' health services were searched with related keywords including "veteran," "referral system," and "health services" for the period from January 2000 to July 2022. Studies were screened and selected in accordance with the phases of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) flow diagram 2020. Data extraction was done by two researchers independently and a thematic content analysis method was used to analyze the findings. Among 40,608 studies searched electronically and 16 studies searched manually, 19 studies that met the inclusion criteria were selected. The research method applied here is a combination of quantitative, qualitative, and mixed methods. The most important findings were extracted from the included studies and analyzed in three general categories: components related to the patient, service provider, and the structural-operational mechanisms of the referral system. The effective performance of the referral system for providing health services to veterans is influenced by the factors affecting components related to the patient, the service provider, and the structural-operational mechanisms of the referral system. Evaluating and improving each of these factors improve the performance of the referral system and provision of health services to veterans.

Keywords:

Referral, veteran, veterans' health

Introduction

Based on the complexity of the services provided, the national health system is usually organized into three levels of healthcare services, and in some countries, around four levels of care.^[1] The referral is a process in which the healthcare service provider temporarily or permanently transfers the responsibility of providing service or care to a more specialized level.^[2] A referral system connects all levels of the health system, supports health centers, and

helps people get the most accessible and quality care possible. In the referral system, hospital facilities are used optimally and cost-effectively, and patients who need specialized services more can access them on time.^[3,4]

Veterans include groups with disabilities and prisoners of war who suffered from health disorders due to serving in wars as well as military forces. Compared to the general population, these people are more prone to chronic diseases and severe mental disorders.^[5,6] These health effects

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often increase as veterans get older, and are greater in veterans who have experienced heavy combat or imprisonment.^[7] Considering the number of veterans in countries with veteran populations, this group is considered an important subgroup for public health interventions.^[8] The United States, with a population of about 16 million veterans in 50 states,^[9] has the largest number of centers providing health services to veterans. Research has shown that despite the federal government's efforts to expand access to healthcare and treatment for veterans, the treatment used by this group is less than what they need, and veterans have poorer health than civilians.^[5,8]

Despite the diversity of healthcare services systems for veterans in different countries, if the specialized care system of this group cannot provide the services they need, they should be referred to the civilian healthcare system to receive specialized services.^[10,11]

Until 2019, in the USA, the referral of veterans to receive healthcare services was managed by the TRICARE network, and currently, the referral of veterans to non-VA treatment centers is done by the Veterans Affairs (VA) Community Care Network.^[12,13] The Veterans Health Administration (VHA) is an integrated healthcare system for veterans that serves as a vehicle for communicating primary care requests to specialist consultations and specialist recommendations to primary care.^[14,15] When the VA fails to provide the required care, the veteran is referred to a non-VA service provider by a system called community care. By managing veterans' referrals, community care enables veterans to continue receiving services and benefiting from healthcare facilities.^[13,16]

Due to facilitating the process of patient referrals among healthcare providers, the referral system is considered an important component of quality clinical care.^[3] Facilitation of the system operation and improvement of veterans' access to essential services as an expected outcome requires the identification of effective components in the veterans' referral system. The results of the researcher's preliminary studies on the term "veterans' health service referral system" showed that in studies on the provision of health services to veterans, various components of the country's health system and the process of veterans' referral have been examined. However, until the beginning of this study, a coherent and comprehensive investigation has not been conducted on the identification of effective components in the veterans' health service referral system. Therefore, to understand the nature and structure of the effective health service referral system for veterans, this scoping review study was designed and conducted to identify the effective components of the health service referral system for veterans.

Materials and Method

Definition of a veteran healthcare referral system

As there is no well-established definition of the veterans' health services referral system, this study defined veterans' health services referral system as systematic processes for screening, diagnosis, purposeful evaluation, and if more specialized services are needed, transfer of veterans to higher levels of services in the healthcare system.^[17]

Information source and literature search

Here, MEDLINE (via PubMed), Scopus, Web of Sciences, and ProQuest databases were electronically searched as information sources. Other sources of information, including Google Scholar and ScienceOpen, as well as the website of the international conference on war studies, militarism and military, and the key journals Plos One and Journal of General Internal Medicine, which had the most publications in the considered study area, were manually searched for the period from January 1, 2000 to July 1, 2022. Furthermore, to study the instructions and documents related to the veterans' health services referral system, the official websites of the military health system (health.mil) and defense health agency (www.va.gov) were manually searched with relevant keywords. In Table 1, a sample search syntax in the PubMed database is presented. Veteran, "referral system," and "health service" are three search components of the study.

Inclusion criteria

As the present study aimed to identify the components and factors affecting the veterans' health services referral system, it covered all quantitative, qualitative, or mixed methods studies done on the referral of veteran patients to receive health services (including referral system, referral process, referral challenges, and...). As the researchers focused on health services for veterans here, works that only studied the referral system for

Table 1: Finalized search term in the PubMed database to identifying primary studies on veterans' health services referral system

PubMed Search Syntax

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((Veterans [tiab]) OR ("Veterans affairs") OR ("Veterans' health system" [tiab]) OR ("veterans health care" [tiab]) OR (veterans[tiab] AND "health care system" [tiab]) OR (veterans[tiab] AND "health care" [tiab]) OR (Veteran[tiab]) OR ("retrieved soldier") OR (Vet) OR ("veterans' health" [tiab]) OR (Health AND veterans[tiab])) AND (("referral system" [tiab]) OR (Referral[tiab]) OR (Referrals[tiab]) OR ("Referral center") OR ("Referral centers") OR ("national referral system" [tiab])) AND (("health service" [tiab]) OR ("Health Service" [tiab] AND Veterans[tiab]) OR ("Health Services" [tiab] AND Veterans[tiab]) OR ("Veterans Health Service" [tiab]) OR (Health) OR ("health care" [tiab]) OR ("primary health care") OR ("secondary health care")) AND (("2000/01/01"[Date - Publication] : "3000"[Date - Publication]))
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providing health services to spouses, children, and families of veterans were excluded. Furthermore, among the studies on providing health services to veterans and their families simultaneously, if a study met other inclusion criteria, only the challenges related to the veterans receiving health services were extracted.

In the selection of studies, no restrictions have been applied on the health services needed by veterans, and health is considered in its general sense as physical health, mental health, and rehabilitation of veterans, and only the referral-basedness of the service is a necessary factor for the selection of studies. Therefore, according to the definition chosen for the veterans' health services referral system, self-referral-related studies were excluded from the retrieved studies in the search phase.

To avoid language bias, no language restrictions were applied in the search of studies, and to avoid publication bias in the retrieved studies, a variety of databases and search engines were used as research sources.

Screening and selection process

The studies retrieved via the database search, taking into account the numbers 12 to 15 resulting from the calculation of the relevant articles (NNR),^[18] were entered into EndNote X9 Clarivate™, and after removing the duplicates with the Digital Object Identification capability of the EndNote software, and manual removal by checking similar studies, screening of studies was done by the main researcher through checking the title and abstract of the studies.

Then, in the stage of selecting the full text of the studies entered from the screening stage, two reviewers independently reviewed and selected the included studies according to the inclusion and exclusion criteria. The cases of disagreement between two reviewers were resolved through discussion with the research team and the final studies were selected.

Data items and data abstraction process

In the data extraction phase, two reviewers independently extracted the information related to the characteristics of the study and the answers to the research questions from the full text of the entered studies based on a predetermined form. Uncertainties were resolved in a group discussion. Table 2 is the information related to the characteristics of the studies that were extracted in this stage.

The study protocol registration DOI is <https://doi.org/10.17605/OSF.IO/PC6M9>.

Synthesis

Since in reviewing the studies, we sought to identify the effective components and factors, the extracted data

were qualitative. Therefore, the collected qualitative data were analyzed by the thematic content analysis method. In this way, first, the extracted data were coded according to the research question. In the next step, the codes were categorized based on similarity, and finally, the generated categories were organized into appropriate classes.

Result

Literature search

In the search phase, 40,608 studies were retrieved from a total of four databases. After removing duplicates, 3001 studies were screened based on their title and abstract. Among the 99 studies included in the selection stage, the full text of 98 studies was retrieved.

Moreover, the full text of 16 studies was retrieved from the manual search of other gray literature sources. After reviewing the full texts based on the inclusion criteria, 19 studies were eligible to enter the research. The search process until the selection of studies is reported in the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) flow diagram [Figure 1].

Literature characteristics and assessment

Most of the included studies were conducted in the United States, and only one study was done in Australia and one study in England. In 12 studies, the research population was veterans, and in 7 studies, service providers to veterans were the population of research that was related to the provision of referral system services for veterans. The methodology of the studies included in this study was a combination of quantitative (8 studies), qualitative (5 studies), mixed (5 studies), and lesson-learned methods. Table 2 contains the specifications of the included studies and their most important findings.

Data synthesis finding

Components affecting the veterans' health services referral system which were found based on the analysis of data extracted from the studies included in this research were classified into three categories including components related to veteran patients (referral acceptance, patient access to referral services, patient's medical condition), components related to the service provider (referral coordinators, provider response, provider knowledge, and participation in the referral system), and components related to the structural and operational mechanisms of referral system (providing adequate resources, referral services availability, providing safe care, effective communication and interaction, support network, defined structure for referral system) [Table 3].

Table 2: Included study characteristics in the review of factors affecting the referral system of veterans' health services

Author(s), Year of publication, Study location	Study Populations (Care Recipient Group)	Aim of Study	Methodology	Outcome measures	Important Results	Conclusion and study suggestion
Sellinger, et al., 2022, New England, USA. ^[19]	Veterans	Feasibility test and acceptability of treatment intervention and referral program in veterans' pain management	Pilot study, Qualitative and Quantitative	Increased awareness of pain and treatment options to offer veterans	Counselors for pain care	The screening, brief intervention, and referral to treatment for pain management intervention are feasible and acceptable among the pilot study of New England veterans
Haber, et al. 2022, New York. ^[20]	Veteran staff member	Determination of the effective approach for smoking cessation treatment referrals at the primary care level	Clinical trial	Testing an opt-out system to increase smoking cessation treatment in veterans at the primary care level	Counseling Patient referral acceptance to treatment	The protocol suggests a system for treatment of tobacco cessation for veterans in VA primary care
Bird 2022, USA. ^[21]	Veteran affair provider	Provision of better, less expensive healthcare and improvement of health outcomes for veterans	Grounded theory	Outcomes related to the treatment of veterans; including improvement of the patient's health, functional status, and quality of life	- Coordination of VA providers with non-VA providers - Timeline to visit non-VA provider through a referral system	The study recommends patient education on the use of telehealth messaging, renewed referrals by the same provider, and reduce patients' wait time by reviewing the referral timelines process.
Sanders, 2021, USA. ^[21]	Veteran affair provider	How can primary care providers help veterans communicate to receive services	Lesson learned	Facilitation of the provision of medical and psychiatric services to veterans	- Military screening - Risk level of the disease - possibility of recurrence - access restrictions	The study suggests primary healthcare provider to prepared themselves for providing veterans' health services and identify possible resources in their community to service provision of this population
Buie 2021, USA ^[22]	Veterans with spinal cord injury disabilities	Improvement of the care provided to veterans with spinal cord injury disabilities	Qualitative method, content analysis	Identification of barriers and facilitators that highlight opportunities to improve the provision of care for veterans with spinal cord injury.	- Provider's knowledge of how to refer - Role of VHA liaisons or counselors in referrals - Partnerships between VHA, private sector hospitals, and community organizations - Veterans' awareness of SCI/D spinal cord injury disability services - Lack of access to referral services	The study recommends providers' awareness about the referral systems for care coordination; the availability of skilled facilities including skilled nursing facilities provides care promotion to veterans with spinal cord injuries.
Hodgkin, et al. 2020, USA ^[23]	Patient of Veterans Health Administration	Follow-up of patients after the positive screening to measure the response rate to referral recommendations The proportion of patients who accepted the doctor's advice and were referred for follow-up treatment.	Cross-sectional	Proportion of positively screened patients who were referred for follow-up treatment.	Referral acceptance	The study recommends health system support in reporting clinician action to referrals, and patient's acceptance of treatment initiation for follow-up positive screening

Contd...

Table 2: Contd...

Author(s), Year of publication, Study location	Study Populations (Care Recipient Group)	Aim of Study	Methodology	Outcome measures	Important Results	Conclusion and study suggestion
Gutt, et al. 2020, USA ^[24]	Physicians who make referrals for palliative RT at their respective VHA centers	Evaluation of referral patterns for radiotherapy in the Veterans Health Administration (VHA)	Electronic survey	Improvement of the timeliness of radiotherapy treatment for those who refer to centers without radiotherapy equipment.	<ul style="list-style-type: none"> Patient's ability to travel Delay in receiving advice Access to an oncologist Concern about the number of treatments they should receive 	The study highlights the importance of the availability of on-site specialties services for timely consultation and treatment for veterans who need palliative radiation therapy
Winchester, et al. 2019, USA ^[25]	Veteran	E-consultation study on reducing outpatient waiting time in referral management of Veterans Health Administration (VHA)	Prospective multiphase cohort study	Performance of more electronic consultations and reduction of patients' waiting time	<ul style="list-style-type: none"> Active referral management Use of electronic consultation 	The study recommends electronic consultation to reduce patients waiting time
Nevedal, et al. 2019, USA ^[26]	VA primary care providers	Understanding the experiences of veterans' primary care providers in referring patients to specialists	Qualitative method	Focus on improving coordination of care between VA and community-based specialized service providers for veterans during their referral and treatment follow-up process	<ul style="list-style-type: none"> Communication between the VA primary care providers and the private sector providers VA primary care providers face challenges in tracking referrals to community specialists and in coordinating care 	The study suggests the information of choice referral program to solve the challenges of tracking veterans' affairs referrals
Sullivan, et al. 2018, USA ^[27]	Key informants	Examination of the challenges affecting the implementation of the veterans' health management program	Qualitative method	Challenges related to human resources, infrastructure, resource allocation and geography, referrals and marketing, leadership support, team processes, and dynamics	<ul style="list-style-type: none"> Case finding Creation of consulting services Creation of an electronic medical record to remind and track referrals Facilitation of the referral process 	The study recommends effective communication among organizational processes during the program, providing infrastructures and programs based on organization priorities to improve implementation
Possemato, et al., 2018, USA ^[28]	Veteran	A description of how reforms can be implemented to improve interactions at the patient level and the primary care system for better patient health outcomes	Mixed method	Follow-up of referrals in the referral system	<ul style="list-style-type: none"> Support system to track referrals Management of telephone referrals and follow-up of patients to receive treatment 	The study suggests providers train with local adaptation education and evidence-based treatments to promote referrals and also highlights the role of peer support speculates to care management
Zuchowski, et al. 2015, USA ^[14]	VHA primary care providers	Challenges associated with referral and perceived by primary care providers to veterans	Mix methods, online cross-sectional survey & semi-structured interviews	Ease of communication reported by veterans' primary care providers and recurring themes in participants' descriptions of initial referral communication to specialized services.	<ul style="list-style-type: none"> Difficulty in communication for fixing appointments within a specific time frame and frequent rejection of referral requests due to rigid information requirements 	The study suggests effective communication between primary care and specialists in veterans affairs to improve healthcare provided for veterans and highlights the electronic records as a communication tool in the referral system

Contd...

6 **Table 2: Contd...**

Author(s), Year of publication, Study location	Study Populations (Care Recipient Group)	Aim of Study	Methodology	Outcome measures	Important Results	Conclusion and study suggestion
Allen, et al. 2012, Australia ^[28]	Veteran	Evaluation of mental health screening and clinical referral pathways in war veterans	Mixed method	An evaluated clinical pathway for the screening of mental health problems of veterans and appropriate referral if necessary	Communication between nurses and general practitioners was ineffective in mental health screening Clients' and Carers' Responses GPs response Nurses responses	The study recommends a structured clinical pathway to evaluate veterans' mental healthcare needs for improved nursing care
Hysong, et al. 2011, USA ^[30]	Primary Care Providers & subspecialties	A study of barriers, facilitators, and suggestions for improving communication and coordination of EHR-based referrals in an integrated healthcare system	Qualitative study	Identification of barriers, facilitators, and suggestions for improving the referral process based on the experience of research participants	- Coordination and interactive communication between primary care provider (PCP), specialist, and patient - Lack of an institutional referral policy, - Lack of standardization in specific referral procedures - Ambiguity in roles and responsibilities, - Insufficient resources to comply with and effectively respond to referral requests	The study suggests clarification of primary care providers' and specialists' roles in the referral system and determining standard referral process across specialists and recommends adequate facilities for successfully transferring patients and follow-up.
Claiborne, et al. 2010, USA ^[31]	Veteran	Study of practice patterns, screening guidelines, and referrals for evaluation and treatment	Mixed method	- Rate of VA primary care recipients screened with the AUDIT-C (Alcohol Use Disorders Identification Test). - Rate of referral of patients who screen positive for further evaluation for alcohol use disorders - Attitudes of PCP staff regarding response to patients with alcohol use disorders - Barriers and incentives to using VA guidelines for screening and referral for assessment and treatment of alcohol use disorders	- Importance of the patterns of communication between primary and specialty care - Electronic consults - tracking system	The study suggests identifying communication patterns between primary care and specialist care and the existence of electronic patient for complete screening and effective referral
Hynes, et al. 2007, USA ^[15]	Veteran	A study of veterans' access to medical care in two models of care, Medicare and Veterans Affairs (VA) services.	Retrospective, cross-sectional	Comparison of the benefits of Medicare and VA services for outpatients and inpatients in the veteran population	How to finance treatment costs	The study suggests veterans' affairs and Medicare programs simultaneously to improve healthcare access for veterans

Contd...

Table 2: Contd...

Author(s), Year of publication, Study location	Study Population (Care Recipient Group)	Aim of Study	Methodology	Outcome measures	Important Results	Conclusion and study suggestion
Sales, et al., 2005, USA. ^[32]	Patients with acute coronary syndrome admitted to primary VHA (veteran health administration) hospitals	Studying the relationship between the degree of clinical integration of cardiovascular services and the transfer rate of patients with acute coronary syndrome (ACS) from primary hospitals to specialized hospitals inside and outside the Veterans Health Administration (VHA) system.	Prospective cohort	Simple structural components of care, such as a referral coordinator in a primary or tertiary care hospital, can influence the key process of care above and beyond patient characteristics.	referral coordinators; Because they facilitate referral, transfer, and sometimes counseling for patients with various types of diseases or health problems.	The study suggests locating referral coordinators in veterans' health administration hospitals to improve ACS patients' transfer to tertiary health services
Lee, et al., 2005, United Kingdom. ^[33]	Veterans	Examination of the clinical results of veterans in the referral system after one year	Cross-sectional survey	- Obtain better outcomes from referring veterans with chronic PTSD to service providers familiar with military culture and the effects of conflict - Dealing with veterans' potential psychiatric problems by medical professionals familiar with military environment can improve outcomes.	Follow-up of referred patients	The study suggests a timely diagnosis of post-traumatic stress disorder for successful treatment and general practitioners' knowledge of military culture also understanding veterans' potential problems can improve treatment process
Kanter, et al. 2003, U.S. ^[34]	Veteran	Comparison of three screening strategies in terms of patient flow, coverage, and patient characteristics with the usual care referral system	Randomized trial	Coverage of care in screening strategies	The best aid for referral and increased effective coverage is patient self-report	The study highlights the role of patients' self-report surveys in-clinic in the efficiency of referral services coverage

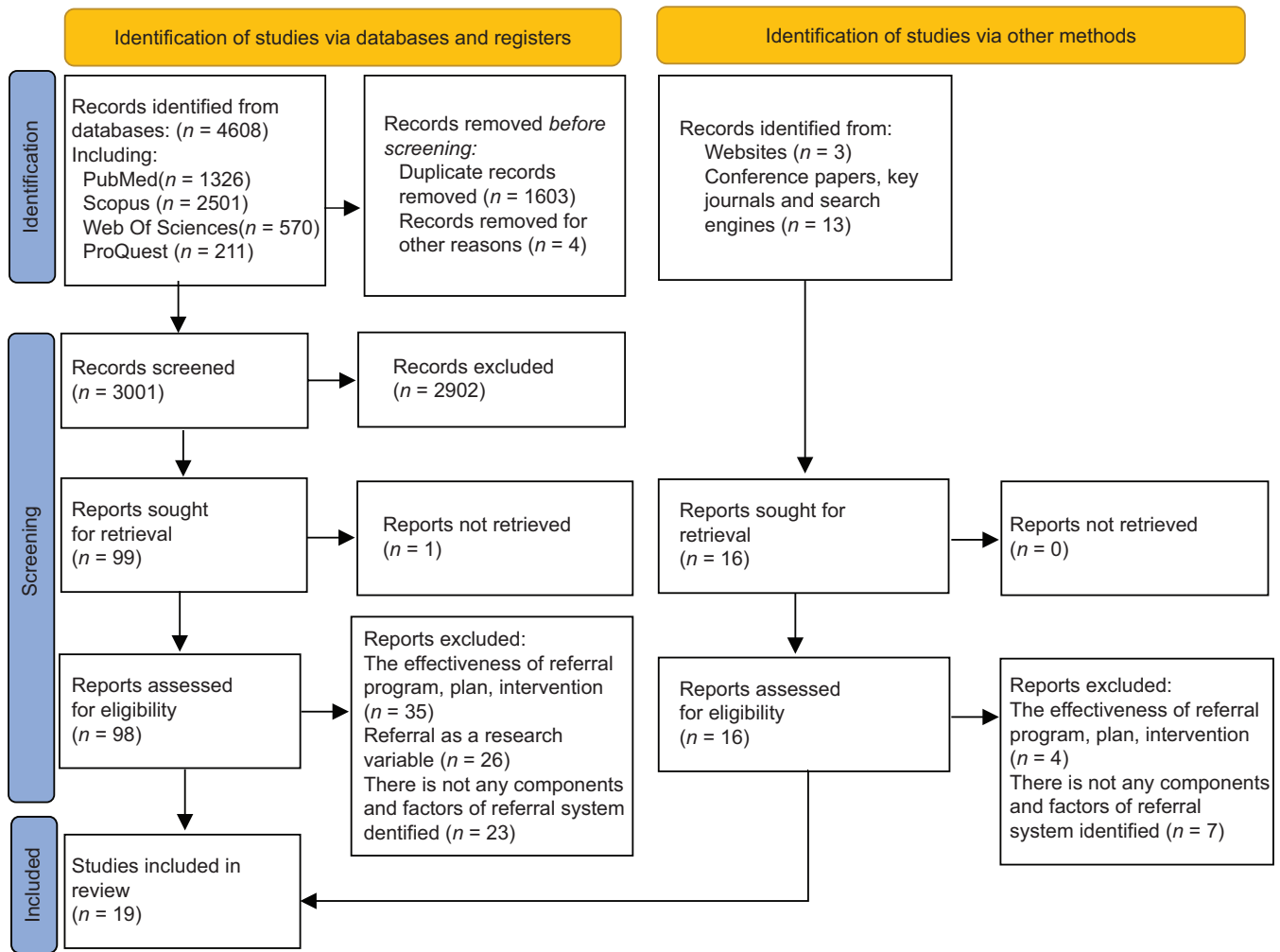


Figure 1: The steps of searching until the selection of included studies in the PRISMA flow diagram 2020

Patient (veteran) components

Referral acceptance

In this study, the veteran's acceptance of the referral was identified as one of the effective components in providing referral health services.^[20,23] Based on the literature, factors such as the veteran's feeling of necessity to pursue treatment, confidence in the referral system, preference to use the referred services, and concern about the number of treatment sessions, affect the veteran's willingness to follow the referral system.^[20,21,24]

Patients' (veteran) access to services

A veteran's access to referral services allows the use of referred health services. In the included studies, the veteran's distance to specialized services, the accessibility of in-person services for veterans who live far from city centers and in rural areas, the ability to travel based on the physical conditions, the availability of transportation services, and financial considerations have all been taken into account in veteran's access to services.^[12,21,22,28]

Patients' (veteran) medical condition

In using referral services, the patient's medical condition is important so in patients with a high risk of disease or the possibility of disease recurrence, the waiting time to follow the referral process to receive services is one of the most important challenges.^[12,21,24] Depending on the medical condition of the veteran, the type of service needed is different.^[22] For example, veterans with disabilities and chronic diseases require many sessions of rehabilitation services.

Service provider components

In the current study, the service provider refers to general practitioners, specialists, consultants, nursing staff, and health and treatment staff in health services centers.

Referral coordinators

In the process of operationalizing the referral system, the role of referral coordinators is emphasized in in-person and electronic referrals. Numerous studies on referral and follow-up of veterans' treatment highlighted the role of online and telephone counselors

Table 3: Analysis of the findings of the studies included in the review of the effective components in the veterans' health services referral system

Category	Subcategory	Examples of important factors
Patient (veteran) components	Referral acceptance	Veteran's preference to use services Confidence in the referral system
	Patients' access to services	No access to in-person services Far distance of veteran's residence and special health services
	Patients' (veteran) medical condition	Patients' risk level Possibility of disease recurrence
Provider components	Referral coordinators	A significant role of consultancy (e-consultants, telephone-based consultants, etc.) Treatment encouragement roll
	Health providers' response	Difficulty in scheduling specialized services Request rejection due to strict information requirements
	Providers' knowledge and participation in the referral system	Service provider's knowledge and perception of veterans' medical problems Cooperation with veteran affair health services
Structural-Operational mechanisms	Providing resources	Health services financing Human resources supply
	Referral service availability	Adequacy of physical medical resources Being close to the recipient (veterans)
	Providing safe care	Timely diagnosis Tracking referred patients
	Communication and effective interaction	Determination of communication between primary healthcare and specialized level of healthcare Determination of communication protocols
	Support network for referrals	Veterans' support system Referrals' following system
	Defined structure for referral system	Development of standard procedures for referrals Determination of referral mechanisms

for screening, diagnosing, and informing veterans who did not have the opportunity to access medical centers in person.^[14,19,20,22,25,28] Similarly, in the in-person visits to health centers, nursing staff and health liaisons, as coordinators of the referral system in health centers, play a role in the effective performance of the referral system.^[22,27,32]

Service providers' response

The provider's response to referrals is one of the important components of providing referral services. Rejection of referral requests, delay in appointment, difficulty in getting an appointment from specialists, and limitation of providing specialized services are among the factors that determine the importance of the role of the provider's response in the performance of the referral system.^[12,14,28] Although in many studies, having an electronic file and registered disease records have been proposed as a solution to the information needs of the referral system for providing services, the information requirements are still one of the effective components in the referral system and a challenge for the service providers.^[14,27,30]

Providers' knowledge and participation in the referral system

The service provider's knowledge and awareness of the operation of the referral system and service provision in

this system are effective in the amount of participation and service provision by the provider.^[22] Furthermore, the perception of the patient's condition and awareness of the health problems of veterans and the health risks that threaten the military forces compared to civilians are effective components in providing services to this group of patients in the referral system.^[33]

One of the challenges identified in the non-participation of providers in the referral system is the ambiguity in their roles and responsibilities in the referral system.^[22,30] Therefore, participation in providing services to referred military veterans and patients, outside of the community referral system, requires determining the roles and responsibilities of the service provider towards this group.

Structural-operational mechanisms

Providing resources

Providing sufficient resources for referral is an important structural component in the operationalization of the health service referral system. Supply of human resources at the primary care level for screening, disease diagnosis, and counseling for referral to the specialized level, as well as a sufficient number of health and treatment centers, hospitals and specialized clinics, and treatment facilities involved in providing health

services to veterans, are among the referral system's operational components.^[28,27,30,32] In some studies, the financing of referral services is one of the obstacles to receiving services for referred patients. Therefore, the certainty of providing financial resources for referral can be an incentive for the service provider and a factor in facilitating veterans' access to health services.^[15,21]

Referral services availability

The analysis of the findings about the mechanisms that facilitate veterans' access to referral services showed that in addition to the adequacy of resources and the proximity of referral services to veterans, the readiness of the treatment system to provide services is an important factor in minimizing the patient's waiting time to receive the service and the effective performance of the referral system.^[12,14,21,22]

Providing safe care

Another effective component in the veterans' health service referral system is providing safe care.^[26] Timely diagnosis is an important factor in expediting referral for treatment and providing safe care. In military health systems, military screening is a factor that facilitates timely diagnosis.^[19,21,27-29,34] Therefore, in the community of veterans and soldiers who have completed their service, the routine screening system is an effective component in the operationalization of the veterans' referral system.^[21,34]

Communication and effective interaction

To perform effectively, the referral system requires communication and mutual interaction between referral levels. In most of the studies included here, defined communication and effective interaction between primary and specialized care levels have been reported as necessary in the operation of the health service referral system.^[14,27,30,31] In the referral system of veterans' health services, it should be determined how the veteran service level is related to the community healthcare service and the national health service system when the facilities of the veterans and military care system cannot meet the veteran's needs.^[12,26] Therefore, based on the findings of this research, the determination of communication protocols to define the communication of veterans' referral process at the referral levels of the national health system is an effective component in veterans' referral to receive health services.

Support network for referrals

In the presented definition, the referral system is a systemic process, and in the included studies, the support system for the referral system is considered an important factor in the effective and continuous performance of the referral system.^[19] Supporting resources, creating a support network for veterans, and tracking and

following up on the referrals were identified as effective factors in the support system for veterans' health services referral system.^[18,19,22,27,30,31,33]

Defined structure for referral system

Based on the findings of this research, the operational mechanisms of the health service referral system are implemented in the context of the structure defined for the veteran health service referral system. This structure includes the definition of standard procedures for the referral of veterans and the determination of referral clinical guidelines.^[14,21,30] The defined structure for the referral of veterans resolves the ambiguities of the service provider regarding the referred cases, and in cases of disagreement on the patient referral and the uncertainty of the doctors about the initial levels of referral, the defined clinical guidelines provide evidence-based decisions.^[29]

Conceptual model of data synthesis

Based on the analysis of the findings of the included studies, a conceptual model [Figure 2] is presented. In this model, the three main components of the patient, the service provider, and the structural-operational mechanisms of the referral system constitute the main components of the referral system. The factors identified in each component, if gathered together and move harmoniously, will be the effective performance force of that component and will ultimately help the effective performance of the referral system. Malfunctions or inefficiency of any of these components will ultimately affect the performance of the referral system.

In this model, the component of operational-structural mechanisms is described as a central component that affects the performance of the two components of the patient and the service provider and establishes the relationship between the two components.

Discussion

Patient (veteran) components

Acceptance is a fundamental principle in the success of health service systems. The study on the model of patient acceptance to receive the services of the health referral system in Indonesia showed that in the personal dimension, the individual beliefs of the service recipient regarding the newness of his disease, the prevalence of the disease, trust in treatment, the benefits of starting treatment, and the barriers to accessing the referred services affect the individual's willingness to follow the referral system in the health center.^[35-37] In the study of patient management between primary care and specialized care, the patient's acceptance facilitates the referral process.^[38] Many people's lack of awareness of the need for diagnosis and follow-up treatment

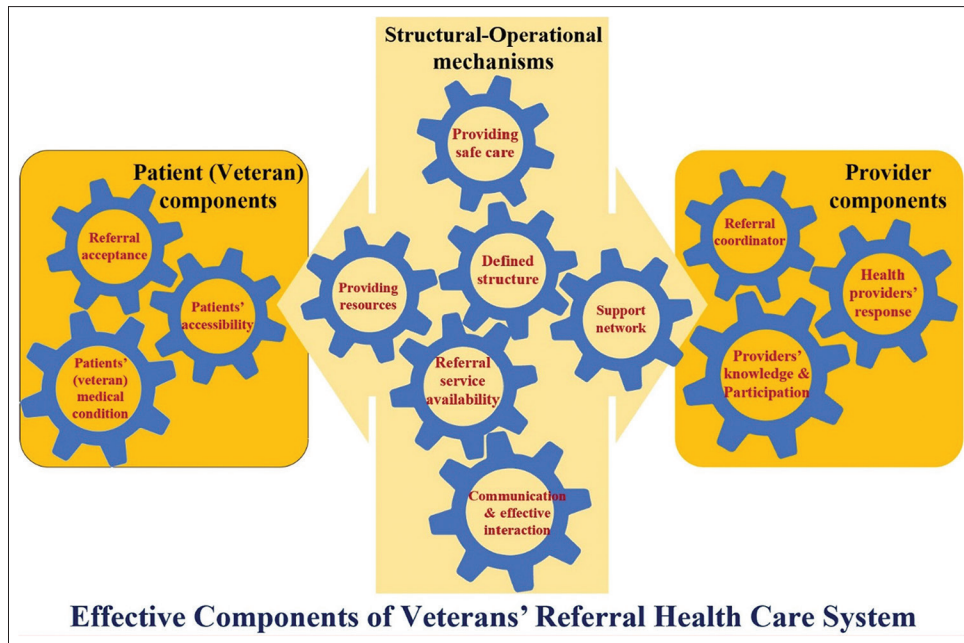


Figure 2: Conceptual model extracted from the analysis of the findings of a review study of the components affecting the referral system of veterans' health services referral system

and limited access to specialists or the impossibility of receiving admission and appointments from specialists lead to the patient's preference not to visit health centers and adhere to the advice of consultants to follow the process of complementary treatment through the referral system.^[37,38]

Provider components

The first step in the set of referral measures is counseling, the role of which in patient referral has been investigated in several studies. From their point of view, the consultant's examinations and communication of information to the referring physician is an important step in the successful implementation of the referral system.^[39-41] In Nigeria, the inefficiency of the referral link between the primary, secondary, and specialized care levels has often led to unnecessary referrals to specialists, creating challenges in accessing specialized services and the inefficiency of the referral system in providing healthcare.^[42] In a study on the efficient framework for improving the communication of primary and specialized care levels, the referral liaison was proposed.^[43] Counseling programs in health centers also facilitate the acceptance of health referral services by informing the patient and encouraging him to pursue treatment.^[44]

The evaluation of the service provider's knowledge and attitude towards the referral system and its relationship with the improvement of referral performance have been investigated in many studies.^[45-47] The results of a study that was conducted in four health centers in

north-central Nigeria regarding the knowledge, attitude, and perception of health workers about the referral system showed that the implementation of healthcare policies regarding referral and the optimal performance of the referral system has a significant relationship with the level of knowledge and awareness of the referral system.^[48]

Access to the patient's information and medical records was identified as one of the important information requirements for providing quality advice and effective response to the referral service provider. The importance of information requirements is such that the lack of effective information communication between primary care providers and specialists in Kenya's health service referral system was identified as one of the biggest problems in the referral process.^[1] The electronic file and electronic record keeping for the patient make it easy for the service provider to access the information and provide the possibility of online consultation for the referral system.^[31]

Structural-Operational mechanisms

Among the structural-operational components identified in this review study, the provision of resources simultaneously with the accessibility of the resources has been reported to be effective in the operationalization of the veterans' health services referral system. In developing countries, appropriate provision and allocation of health system resources to the health and treatment levels of society have been controversial issues in health system planning.^[49,50] In most healthcare

centers, the referral system encounters challenges like infrastructure, the number of health and treatment personnel, health information systems, and financial resources.^[51] For example, the provision of health, medical, and human resources, especially in remote and rural areas in developing countries, has always been limited so in some developing countries, less than 50% of the employees needed to serve the rural population are available.^[1]

Based on the present study, the provision of resources for the referral system without timely access to resources will not be effective in the operationalization of referrals to provide efficient services. Given the specific problems of the veterans' group (disability, susceptibility to mental illnesses and chronic diseases, etc.), access to the resources allocated to the referral system was identified as an important challenge. In several studies, the examination of the adherence of chronic patients to referrals shows that the limitation of access to treatment resources and the financial limitations of the service recipient, and the long time spent to get an appointment with a specialist are obstacles to follow-up care referrals.^[52-54] The findings of these studies suggest that successful referral of care requires overcoming these barriers.

Accessibility of referral care has various dimensions, for example, the patient must be able to refer to the referred center in terms of distance, receive treatment and care, cover the cost of healthcare and treatment, and easily commute to the treatment center.^[55] The findings of the studies included in this research focused on the dimensions of availability, accessibility, affordability, acceptability, and adaptability in the effective functioning of the health service referral system for veterans. Here, the researcher describes the accessibility in all aspects of the challenge related to the patient component and identifies availability as the challenge of providing and allocating referral resources, which is related to the structural component.

The analysis of the findings of this study made it possible to provide safe care for veterans in the framework of the active referral system. The referral system, especially in cancers and chronic diseases, provides safe care through specialized clinical workflow and coordination of the service delivery system.^[56] Screening, timely diagnosing, and guiding the patient on the path to treatment are the most important steps in the referral process to provide safe care.

The relationship between the care levels of the referral system should be defined in such a way that the referral facilities and personnel are ready to serve the patients and the provision of referral services can be implemented quickly and without the need for a long administrative

process.^[38,44] The study of a web-based referral system in Kenya showed that communication among referral levels led to the improvement of the referral process and reduced waiting time for receiving services.^[1,57] Furthermore, the communication established for referral levels and the interaction of primary care providers with specialists facilitates effective information transfer among referral levels and the provision of safe care through decision-making based on patient information.^[1]

Referral guidelines clarify and document various aspects of the referral process.^[58] Based on the findings of the present study, it is necessary to develop protocols and guidelines for patients who are eligible to be referred to the national health service system from the military health service system. By following the instructions, cases of disagreement (including the time of referral, the conditions under which the patient should be referred to a specialist, diagnostic tests before referral, etc.) or the application of personal tastes in the implementation of the referral process are minimized.^[59,60]

The study of effective referral systems shows that they all had similar performance in using clear and agreed referral guidelines, structured referral patterns, electronic patient records in the referral process, and screening and tracking referrals.^[61] A referral tracking system is an important feature of a successful referral system. In this system, important information such as the patient's medical information, scheduled appointments with specialists, performed diagnostic services, etc., is sent to the referring unit to be informed of the clinical care, treatment course, and services provided to the patient.^[62] This capability is the missing link in the referral systems of Iran.^[61] In the current study, the findings of the included studies found the referral follow-up system to be effective in the veteran's willingness to follow up treatment.

In this review study, web-based referral systems and telehealth services including consultation, referral, and telephone follow-up to support the referral system were identified as the factors affecting veterans' health services. This subject was evaluated in the Regula Mais Brasil project; the application of the telehealth strategy in supporting the referral of primary care to specialized care level. This strategy is effective in referral management and adherence to treatment for patients who have limited physical access to specialized care.^[63]

Limitations

The design and implementation stages of this review study are set in the form of a protocol based on the guidelines provided in the scoping review articles,^[64-67] but due to the limitations of the Prospero registration system in not publishing the protocols of the scoping

review and systematic literature review studies, the protocol was not registered.

Conclusion

As a result of this review, three components of the patient, the service provider, and the structural-operational mechanisms of the referral system were identified to affect the provision of health services to veterans. The findings extracted from the included studies have described the constituent factors of each component that the efficiency of each factor will affect the performance of the referral system. To achieve providing effective and timely healthcare services for veterans during referrals, this study suggests considering three components and their constituent factors to make decisions, plans, and healthcare actions. Based on the results of this study, the effectiveness of the veterans' referral process is influenced by the motivation and behavior of the patient, the provider's support of the referrer level and service delivery, and structural and operational factors such as providing resources, ease of access to services, and communication defined in the referral procedures.

Studying and evaluating each of the factors identified in this study can be effective in planning and improving the performance of the referral system to improve the process of serving veterans.

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Conflicts of interest

There are no conflicts of interest.

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