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REVIEW

Patient referral in primary health care: A scoping review of Malaysian publications

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Abstract

Introduction: An effective referral system is essential for optimising resource use and improving patient outcomes. In Malaysia, local referral publications have not been comprehensively reviewed. This scoping review maps the current Malaysian literature on the referral process between primary and secondary/tertiary care.

Methods: We searched bibliographic databases using terms related to patient referral, primary health care and Malaysia. Additional sources included guidelines, conference abstracts and reference lists of included articles. All Malaysian publications that discussed referral rates, criteria, processes, barriers or referral-related interventions were eligible.

Results: Ninety-two publications were included: 68 were reviews or guidelines, and 24 were original research articles. Most guidelines had specific sections on referral criteria but lacked referencing of local research to support their recommendations. Most original research (n=19) examined referral from primary care perspectives, while only five focused on secondary/tertiary care perspectives. The reported referral rates ranged from 1.76% in public clinics to 1.8%–2.4% in private general practice. The key themes identified included appropriateness of referral, reasons for referral, barriers to referral and interventions to improve referral quality. The evidence gaps included limited real-world evaluation of referral pathways and lack of private-sector studies, indicating insufficient Malaysian data to develop national guidelines regarding patient referral.

Conclusion: Malaysian evidence on patient referral remains limited but highlights important issues including appropriateness, communication gaps and systemic barriers. Strengthening primary–secondary care linkages, adopting electronic referral systems and evaluating specific referral interventions are potential strategies to optimise resource allocation and support the development of standardised referral guidelines.

Introduction

Primary care services are pivotal as the main entry point into the national health care system and play a crucial role in meeting the growing health care demands of the population. There are four main features of primary care services: first-contact access, long-term person-focused care, comprehensive care and coordinated care.[1] While most health problems can be managed entirely within primary care, certain clinical conditions may require specialist referral; when this happens, primary care physicians retain the important task of coordinated care and, if the acute problem that prompted the referral has been stabilised or mostly resolved, may receive patients from specialists for continuing care. Referrals are generally made for severe or life-threatening conditions, complex diagnostic dilemmas or procedures available only in secondary or tertiary care settings.[2]

A literature review identified key challenges affecting referral systems in low- and middle-income countries, including human resource and financial constraints, patient noncompliance and communication issues between different sectors of the health system.[3] Primary care services are often viewed by specialists in the public health system to have an important gatekeeping role,

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that is, by controlling access to specialist services. Indeed, such gatekeeping function can result in lower utilisation of health services and lower health care expenditures.[4] However, under-referral or delayed referral may reduce patient satisfaction and lead to adverse health consequences. It is therefore important to develop an efficient referral system to coordinate different levels of care. Despite its importance, to date, there has been no comprehensive review of publications on patient referral from Malaysia. Such information is essential to identify information gaps and existing challenges and guide future interventions to improve patient referral and its effectiveness.

Methods

Protocol and registration

The protocol of this scoping review was registered in the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY).[5]

Information sources

We searched bibliographic databases (PubMed and Scopus) and conducted internet searches using Google Scholar and Google Chrome.

Search strategy

We used a combination of the following search terms: 'patient referral', 'referral process', 'referral system', 'referral and consultation' (MESH term), 'gatekeeping' (MESH term) and 'Malaysia'. The search string used for PubMed was ('patient referral' OR 'referral process' OR 'referral system' OR 'referral and consultation' OR 'gatekeeping') AND 'Malaysia'. We searched Google Scholar for potentially eligible studies written in Malay using the Malay word '*rujukan*' (which means 'referral' in English). All searches were initially conducted on 12 October 2025 and repeated on 9 January 2026.

We also conducted three additional searches for relevant publications using Google Scholar and Google Chrome: (1) We examined guidelines published (from 2014 to 2025) by the Malaysian Ministry of Health and other organisations and identified any mention of the indications and recommendations for patient referral. If multiple versions of guidelines were available, only the latest versions were included. (2) We searched for local primary care conference abstracts published from 2014 to 2025. (3) We performed backward citation tracking of included publications for relevant Malaysian studies on patient referral.

All publications from inception of the databases to 31 December 2025 were retrieved.

Eligibility criteria and selection of evidence sources

The following articles were considered eligible:

- Any publications with significant mention of patient referral (e.g. documentation of referral rate, criteria for referral, perceived barriers to referral and impact of interventions).
- Any type of original peer-reviewed journal article or secondary publications, such as a guideline or review with specific mention of patient referral.
- Publications focused on Malaysia.
- Publications focused on patient referral and primary health care.

This scoping review included different study designs, including retrospective cohort studies, cross-sectional studies, mixed-method studies, qualitative studies, reviews, guidelines and conference abstracts. All publication types were included without language restriction.

Data charting process

Citations were processed using EndNote 2025 (Philadelphia, PA: Clarivate Analytics; 2025). The full text of eligible studies was retrieved. Relevant data from included studies were extracted by a pair of investigators.

Data items

We identified the type of publication (original research or secondary publication), study design (qualitative vs quantitative research) and referral perspective (primary care: publications focused on referrals from primary care to secondary/tertiary care; secondary/tertiary care: publications

focused on primary care referrals from secondary/tertiary care). Referral rates and key findings were extracted from included studies.

Data synthesis

Critical appraisal of included studies was not conducted. We identified specific numerical summaries (e.g. counts of study types and referral rates) and performed qualitative content analysis to identify themes, patterns and gaps in the literature on the referral process. This scoping review was prepared following the PRISMA-SCR guideline.[6]

Results

Characteristics of the included studies/publications

After screening, a total of 92 studies/publications met the inclusion criteria (**Figure 1**), including 68 secondary publications and 24 original research articles. Of the secondary publications, 65 were guidelines (62 from the Ministry of Health and three from other organisations). Among the 65 guidelines, 55 (85%) mentioned specific referral criteria from primary care to secondary or tertiary care centres. These guidelines covered most common problems, as well as less common but serious health issues in primary health care. The secondary publications primarily offered recommendations based on expert opinions or the international literature. A complete list of the secondary publications is given in Supplementary Appendix 1. Some examples of the included secondary publications are listed in **Table 1**.

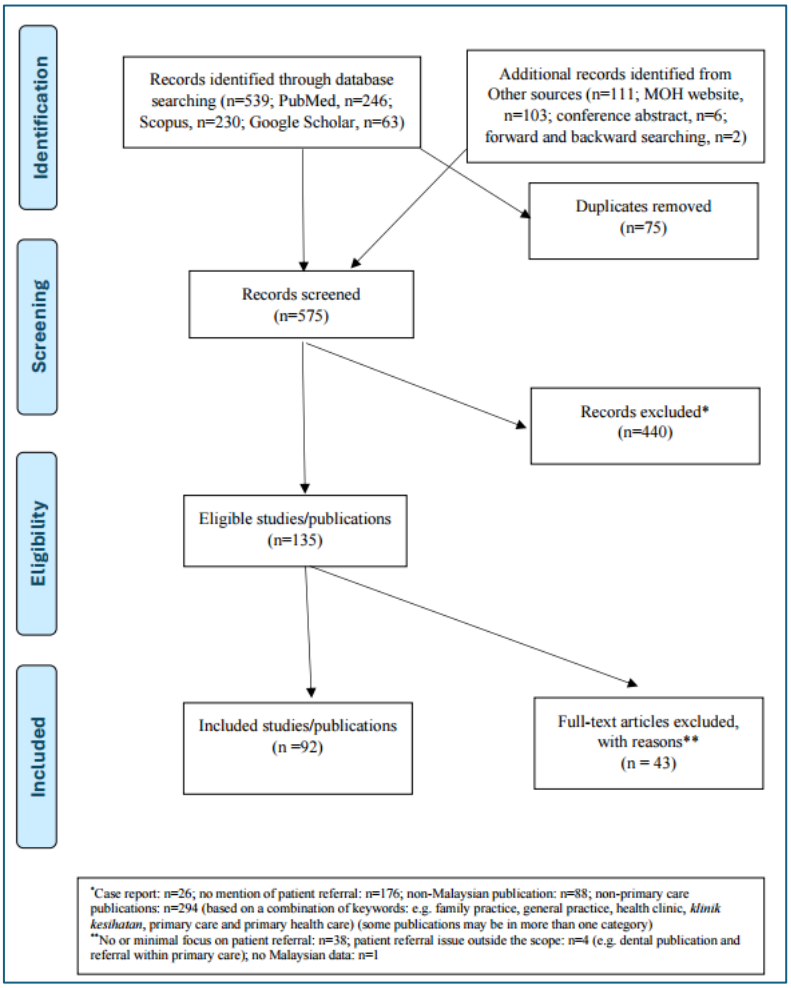


Figure 1. PRISMA flow diagram

Table 1. Examples of the included secondary publications on referral

Publication	Publication title	Publication type	Aim and key finding
Awin, 2001[7]	A Review of Primary Health Care in Malaysia	Review	This report was written by the Director of the Family Health Development Division (Ministry of Health, Malaysia) for the World Health Organization Western Pacific Region. It highlights the continuing efforts by the Ministry of Health to improve vertical integration of primary health care with secondary care, including family medicine specialists strengthening the referral system. The author viewed primary health care as an effective gatekeeper in the health system, not just to contain cost but to provide the most appropriate care. Appropriate referral to medical wards in the hospital was identified as a suitable quality assurance indicator in Malaysian primary health care.
Family Medicine Specialist Association, 2014[8]	Primary Care Referral Guidelines	Guideline	This book was published by the Family Medicine Specialist Association of Malaysia. It provides primary care physicians with evidence-based recommendations concerning patient referral. It covers good referral practices for 54 clinical problems or diseases with extensive references.
Jaafar et al., 2013[9]	Malaysia Health System Review	Review	People can choose their private doctor and specialist without needing a referral, with waiting times much shorter in the private than in the public system. Primary care only partially fulfils a gatekeeper function since people can bypass a referral from a public or private general practitioner, and for a small additional fee, they can go directly to specialists and hospitals. Since primary health care providers use agreed referral guidelines to specialists and hospitals, they have a limited gatekeeper role.
MOH, 2009[10]	Garispanduan rujukan dan perpindahan pesakit di antara hospital-hospital Kementerian Kesihatan [Guideline on referral and transfer of patients between hospitals in Ministry of Health]	Guideline	The circular by the Director-General of Health set out the policy for referral from primary care to higher level of care (including referral back for continuing care) as well as transfer of patients between institutions. Secondary/tertiary centres that receive referrals must develop and communicate the referral criteria to their relevant referring institutions to ensure appropriate referrals (e.g. following the recommendations of relevant CPGs). Timely and optimal communication between parties of the referral process is mandatory.
MOH, 2022[11]	Perinatal Care Manual	Guideline	This book provides a comprehensive guide for health care providers caring for mothers and their newborns, covering the pre-pregnancy, antenatal, intrapartum and postpartum periods. Referral is mentioned in 90 instances in this document (e.g. referral criteria and writing of referral letter).
Muhammad Ismail, 2019[12]	Paediatric Protocols For Malaysian Hospitals	Guideline	The book contains recommendations for the diagnosis and management of childhood problems aimed at health care practitioners working in Malaysian hospitals. Although most of the 113 chapters cover mostly hospital paediatric problems, referral is mentioned in 35 instances, which may offer useful suggestions for primary care doctors.

Table 1. Continued

Publication	Publication title	Publication type	Aim and key finding
Malaysian Society of Ophthalmology, 2018[13]	Ophthalmology Referral Guide for GPs	Guideline	This book was published by the Malaysian Society of Ophthalmology. It provides a brief guide to primary care physicians regarding patient referral of eye conditions. It covers only four eye problems (acute visual loss, acute red eye, diabetic retinopathy and glaucoma) with a few references.
Lau et al., 2021[14]	Algorithm for the referral of patients with inflammatory back pain from primary care in Malaysia	Consensus	This consensus was developed by seven senior rheumatologists with input from primary care physicians. It aims to facilitate early identification and referral of patients with IBP to rheumatologists based on the IBP 3R algorithm consisting of (1) recognise, (2) review and (3) refer.
OGPSU, 2024[15]	Handbook of Obstetrics Guideline	Guideline	This handbook has a specific chapter covering referrals from health clinics and non-specialist hospitals (e.g. indications for referral to antenatal specialist clinic, combined [obstetric-medical] clinic, early pregnancy assessment unit, prenatal screening/diagnosis, mid-trimester screening/anomaly scan, interhospital multidisciplinary referral, in-utero transfer and obstetric retrieval team).

IBP: inflammatory back pain; MOH: Ministry of Health; OGPSU: Obstetrical & Gynaecological and Paediatric Services Unit

Among the original research articles (n=24), three were qualitative studies, while the remaining were quantitative studies. The quantitative studies were mostly cross-sectional or retrospective studies. Eight of the original publications were conference abstracts. Only four studies were conducted (partly or wholly) in private practice in Malaysia (**Table 2**).

Table 2. Original research studies focusing on the primary care perspective of the referral process*.

Publication	Publication title	Study participant and setting	Study design	Key finding
Abdullah, 2014	Barriers to ophthalmic screening for diabetic patients in general practice: a Malaysian perspective	11 general practitioners	Qualitative research	Various factors at different levels influenced general practitioners' effort in screening diabetic retinopathy, including inefficient referral process.
Abdullah, 2015	Cardiovascular disease risk factors assessment and glycemic control among type-2 diabetes mellitus patients: a comparative study between primary care and diabetic specialist clinic in Kuantan, Pahang	434 adult patients with T2DM from health clinics and hospital diabetes clinics	Cross-sectional study	Primary care patients with diabetes had lower dietitian (47% vs 61%) and ophthalmologist referral rates (61% vs 81%) than hospital patients with diabetes. Both groups had relatively low smoking cessation clinic referral rates (3.3% vs 7.8%).
Abdullah, 2020	Exploring communication processes in referral pathways for chronic disease management: Malaysian public primary health care experiences	97 primary care doctors in health clinics with EnPHC	Qualitative research	Doctors in clinics implementing the EnPHC initiative (a complex intervention package to improve non-communicable disease management) suggested improved communication between primary care and hospital via (1) structured information relay, (2) no-show appointment tracking and (3) inter-facility networking.

Table 2. Continued

Publication	Publication title	Study participant and setting	Study design	Key finding
Ambigapathy, 2024	Referral patterns and outcomes of children who failed Modified Checklist for Autism in Toddlers screening during routine health screening at maternal and child health clinics in the northeast district of Penang: a retrospective cohort study	82 children with failed M-CHAT screening from 12 maternal and child health clinics	Retrospective cohort study	Most children who failed their M-CHAT screening received a specialist referral for the assessment of autism spectrum disorder. However, one-third of them did not follow through with their referrals (30.5%), and some defaulted after their first visit (3.7%).
Ang, 2014	Factors influencing the role of primary care providers as gatekeepers in the Malaysian public health care system	1380 referrals from 28 health clinics	Cross-sectional study	The appropriateness of referrals was judged by a panel of three senior family medicine specialists. The average referral rate was 1.76% (slightly lower in clinics with resident family medicine specialists than in those without resident family medicine specialists but not statistically significant). The majority of referrals were considered appropriate (96.1%).
Ang, 2023	CKD-CHECK toolkit to improve doctors' practice in managing chronic kidney disease rapid progressors: a pilot study in primary care setting	60 patients with CKD seen by 25 medical officers in a primary care clinic	Retrospective cohort study	This study evaluated the CKD-CHECK toolkit (which can generate the eGFR trend using a line graph) and found that it can improve the referral of rapid CKD progressors to nephrologists.
Balachandran, 2011	Exploring the knowledge of nasopharyngeal carcinoma among medical doctors at primary health care level in Perak state, Malaysia	154 primary care doctors	Cross-sectional study	Approximately 54.1% of doctors would delay referral for nasopharyngeal carcinoma symptoms by 1 month or more. Only 34% would refer within 2 weeks.
Chew, 2012	A one-month review of the types of medical emergencies and their treatment outcomes at two urban public health clinics	125 medical emergencies from two health clinics	Cross-sectional study	Medical emergency was uncommon in health clinics; only 0.56% of all consultations and 40.3% of emergencies were referred to the hospital.
Chew, 2015	A nationwide postal survey on the perception of Malaysian public health care providers on family medicine specialists' (PERMFAMS) clinical performance, professional attitudes and research visibility	765 health personnel from health clinics, health offices and hospitals in Malaysia (47% were medical staff)	Cross-sectional study	About 20% of respondents perceived family medicine specialists as making inappropriate referral to hospitals, insufficient pre-referral preparation and inappropriate referral letters.
Jaafar, 2020	Perceptions of family physicians about fall risk screening, fall risk assessment, and referral practices for fall prevention in Malaysia	112 family physicians	Cross-sectional study	Most family physicians would prefer to assess older adults with fall risks instead of referring to specialists such as geriatricians. The accessibility of local fall services appears limited.
Lee, 2009	Prostatitis-like symptoms: diagnosis and management in a Malaysian primary care population	279 private practitioners	Cross-sectional study	Approximately 65% of private practitioners treated prostatitis symptoms themselves, while 35% referred them for therapy immediately.

Table 2. Continued

Publication	Publication title	Study participant and setting	Study design	Key finding
Lim, 2021	Comparison between primary care service delivery in Malaysia and other participating countries of the QUALICOPC project: a cross-sectional study	460 primary care doctors (222 from public clinics and 239 from private clinics)	Cross-sectional study	Primary care service delivery was assessed in three high-income countries (England, the Netherlands and Spain) and four upper middle-income countries (Malaysia, North Macedonia, Romania and Türkiye). Among the upper middle-income countries, Malaysia scored the best in comprehensiveness and coordination (including seeking advice from specialists or referral). Malaysia also had the highest score in the use of referral letters.
Low, 2021	Process evaluation of enhancing primary health care for non-communicable disease management in Malaysia: uncovering the fidelity & feasibility elements	20 health clinics participating in an EnPHC intervention	Mixed-method study	The communication between clinics and hospitals on referral management had been established in all clinics. However, fidelity assessment was unsuccessfully conducted on the communication process, as the guideline has no specific criteria to be communicated in the referral as standards to be met.
Low, 2025	Clinical outcomes of the pilot project Nephrology Liaison Clinic in a primary care clinic: a retrospective observational study	73 patients with CKD stage 3 or worse from one health clinic	Retrospective cohort study	Shared care between family medicine specialists and visiting nephrologists within the health clinic was provided. After 1 year, 61.6% remained under primary care, while 38.4% required tertiary care referral.
Nur Aishah, 2021	The accuracy of detecting diabetic retinopathy using panoptic ophthalmoscope by primary care doctors at Klinik Kesihatan Sendayan, Negeri Sembilan	66 patients with T2DM from one health clinic	Cross-sectional study	Primary care doctors assessed diabetic retinopathy using panoptic ophthalmoscopy, while ophthalmologists assessed fundus photographs. The sensitivity and specificity of diabetic retinopathy detection using panoptic ophthalmoscopy were 10.3% and 86.5%, respectively. The sensitivity and specificity for sight-threatening abnormality were 35.3% and 89.8%, respectively. Lower referral to ophthalmologists may occur due to the low sensitivity of panoptic ophthalmoscopy.
Nur Najlaa, 2024	Improving referral time of children less than 5 years old with undernutrition in Sentul Health Clinic	55 child health records from one health clinic	Retrospective study	In this medical audit with intervention, the number of immediate referrals improved from 16.7% to 41.9%. Due to the large number of referrals and staff shortage, nutritionist appointment was delayed (average appointment: 6 months).
Tan, 2021	Perceived barrier towards hepatitis C management among primary care doctors in Sabah	224 primary care doctors from health clinics	Cross-sectional study	Poor referral system was quoted as a barrier to hepatitis C management by 41.5% of primary care doctors.

Table 2. Continued				
Publication	**Publication title**	**Study participant and setting**	**Study design**	**Key finding**
Teng, 2003	Morbidity and process of care in urban Malaysian general practice: the impact of payment system	3481 encounters from 115 private general practice clinics	Cross-sectional study	The referral rate was 2.4 per 100 encounters.
Zakaria, 2012	Referral rate and pattern among private general practitioners in Klang, Malaysia	35 private general practice clinics	Cross-sectional study	The referral rate was 1.8%. The majority of referrals were directed to either government hospitals (56%) or private hospitals (34%).

*Supplementary Appendix 2 contains citation information on the original research studies. EnPHC: Enhanced Primary Healthcare, M-CHAT: Modified Checklist for Autism in Toddlers.

The original research studies were categorised into two groups: (1) primary care perspective: publications focusing on referrals from primary care to secondary/tertiary care (n=19, Table 2) and (2) secondary/tertiary care perspective: publications examining primary care referrals from the secondary/tertiary care perspective (n=5, **Table 3**).

Table 3. Original research studies focusing on the secondary/tertiary care perspective of the referral process*.

Publication	Publication title	Study participant and setting	Study design	Key finding
Chin, 2025	Surgical care at primary health: enhancing surgical service delivery at primary health care from general surgeons' perspectives	13 general surgeons from Sabah	Qualitative research	All respondents expressed the need for streamlining referral pathways according to the urgency while ensuring that cases with alarming symptoms are prioritised.
Hussin, 2018	Feasibility, safety and clinical efficiency of optometric service pathways at primary and tertiary care level in Ampang, Malaysia: a pilot study	43 eye referrals; health clinic and hospital eye clinic	Cross-sectional study	High level of agreement between optometrist and ophthalmologist evaluations (concordance for ocular diagnosis: 87%, agreement for referral urgency: kappa=0.85)
Mohammad Faiz, 2022	Prevalence of inappropriate referrals from government health clinics in Melaka to emergency department Hospital Melaka	165 primary care referrals; a hospital emergency department	Cross-sectional study	Approximately 21.6% (35/165) of referrals were found to be inappropriate.
Ng, 2023	Referral behaviour of primary care doctors to rheumatology clinic in Malaysia	927 rheumatological referrals; two hospital rheumatology clinics	Retrospective study	Approximately 22.9% (212/927) were misdiagnoses. The most common misdiagnosis was nodal osteoarthritis, and non-rheumatological conditions were noted in 43 referrals.
Sazwan, 2015	A study on time from referral to transportation of patient from district hospital and health clinic to emergency & trauma department, Hospital Sultan Haji Ahmad Shah	260 referrals from district hospitals and health clinics to Hospital Sultan Haji Ahmad Shah in Temerloh, Pahang	Cross-sectional study	Out of 260 referrals to Hospital Sultan Haji Ahmad Shah, 180 were from 14 KKs. A total of 37 (90.3%) of 41 patients who were triaged as red left the hospital or health clinic within an hour after referral.

*Supplementary Appendix 2 contains citation information on the original research studies.

Referral rates

Referral rates were reported in three studies. Ang et al.[16] found a referral rate of 1.76% in health clinics, while Teng et al.[17] and Zakaria and Ng[18] documented slightly higher rates in private general practice settings: 2.4% and 1.8%, respectively.

Reasons for and appropriateness of referral

We noted eight publications examining the reasons for and appropriateness of referral. Ang et al.[16] identified two major drivers for referral: (1) illness-related factors such as severity, complexity, diagnostic uncertainty or patient and family preferences and (2) system-related factors such as limited access to investigations or specialised treatments in primary care. A panel of senior family medicine specialists judged 96.1% of referrals in their study to be appropriate.[16] However, a survey of public health physicians and specialists showed that 20% of family medicine specialists had made inappropriate referrals.[19] Zakaria and Ng[18] reported that emergency medicine, orthopaedics and obstetrics/gynaecology were the most frequently referred departments, with dengue, fractures, gastrointestinal infections and appendicitis being the common conditions involved. Chew et al.[20] similarly found that although emergencies were relatively uncommon in primary care, two-fifths of these cases still required referral.

Specialists' perspectives were examined in the qualitative study by Chin et al.,[21] where Sabah-based general surgeons emphasised the importance of streamlining referral pathways according to urgency. However, issues with referral quality persisted. For example, Mohammad Faiz et al.[22] reported that about one-fifth of emergency referrals from primary care were inappropriate. Ng[23] identified a misdiagnosis rate of more than 20% among rheumatology referrals.

Barriers to referral

In this review, we found six publications that explored barriers to referral that may lead to potential delay or 'under'-referral. Abdullah et al.[24] found that primary care patients with diabetes were referred less often to dietitians and ophthalmologists than hospital-based patients, with both groups showing substantially low referral rates to smoking cessation clinics. Inefficient referral processes were cited as a potential contributor to low diabetic retinopathy referrals. Tan et al.[25] highlighted poor referral system as a barrier to hepatitis C management among primary care doctors in Sabah. Jaafar et al.[26] observed that family physicians seldom referred older adults with fall risks to geriatricians, likely due to poor access to local fall services. In addition, Nur Najlaa et al.[27] showed that while early detection by primary care teams improved referral rates for under-five undernutrition, delays in nutritionist appointments remained a potential barrier.

Interventions to improve referral processes

Four studies explored interventions to improve referral processes using observational designs. Ang et al.[28] piloted the CKD-CHECK toolkit, which enabled better identification and earlier referral of rapidly progressing chronic kidney disease. Low et al.[29] reported the result of the project Nephrology Liaison Clinic, a shared care initiative between family medicine specialists and visiting nephrologists within health clinics and found that at least three-fifths of patients with CKD stage 3 and above can continue to be managed in primary care after 1 year. Ambigapathy et al.[30] demonstrated that Modified Checklist for Autism in Toddlers screening facilitated timely referral of children with suspected autism, although up to a third of parents still defaulted follow-up.

Discussion

Notwithstanding the large number of publications included in this scoping review (N=92), the number of original research with significant mention of the referral process was small (n=24), and only nine of them were primarily focused on this issue (i.e. their article titles contained the term 'referral' or 'gatekeeper'). The original articles were written mostly from primary care perspectives within the public health care system, using both qualitative and quantitative study designs, and documented referral rates, barriers and evaluations of some interventions.

The frequency of referral from primary care appeared to be small (around 2%), with slight preponderance in the private sector. While the differing referral rates by setting may be due to various reasons, including case mix, payment systems or patient expectations, these differences warrant further research. Despite the low referral rates, these numbers may be perceived by receiving

secondary and tertiary centres to be too large due to the concentration of referrals from multiple public and private primary care clinics they serve. An effective referral system is critical in ensuring timely care, improving patient outcomes and maintaining continuity across different levels of health care. As shown in the included studies, referral decisions are often influenced by the nature and severity of the illness as well as the availability of resources at primary care facilities. However, the quality and appropriateness of referrals remain variable, and achieving universal agreement among health care providers continues to be a challenge.[31]

A significant finding from this review was the limited amount of local research focusing primarily on the referral process. This assertion can also be supported by the lack of referencing of Malaysian studies in Malaysian CPGs as well as several local referral guidelines (**Table 1**). Hence, more studies exploring determinants, interventions and outcomes of referrals would be valuable in developing specific referral guidelines. Future research should ideally map the full referral pathway, from the initial consultation to post-referral follow-up and audit, to better understand the problem. Factors such as geographical access, financial constraints, distance to hospitals and departmental capacity should also be examined, with comparisons across regions to better tailor guidelines to local needs. We found only four publications examining some aspects of patient referral in the private primary care setting; this points to a potential area for further research, in view of the likely difference in patient expectations and health service constraints existing in private versus public health systems.

Identifying the barriers contributing to delayed or suboptimal referrals is crucial.[32] Some key issues highlighted include lack of early detection, inefficient referral pathways and gaps in provider knowledge. Other potential challenges include high volumes of self-referrals (especially in private health systems), delays in completing referral processes and inadequate health information systems to capture referral data, all of which undermine the efficiency of referral systems.

Differences in perspectives between primary and secondary care providers regarding referral appropriateness should also be explored. Understanding how primary care physicians' knowledge, competencies and confidence influence referral patterns can provide guidance for improving training and resource allocation.[33,34] More studies should also focus on the competency of other health care practitioners (e.g. optometrists) to ensure that the expansion of services in primary care does not compromise patient safety.

Currently, the use of electronic health records in public primary health care remains inconsistent,[35] with little or no connectivity to secondary/tertiary health systems. Creating a comprehensive and continually updated registry of patient referrals can provide a great resource for detailed exploration of the above-mentioned challenges and for the evaluation of future interventions to improve the referral process. In addition, the potential role of e-referral (including responses from specialists) is worth exploring.[36]

Notably, specific interventions aiming to improve the referral process for chronic kidney disease have been explored in Malaysian public primary care clinics.[28,29] More interventional studies are needed to evaluate major reasons for referrals, as informed by objective data derived from primary care (e.g. via a patient referral registry). As shown by a systematic review of the international literature, multicomponent interventions may be needed, including educational programmes for primary care physicians as well as process and system changes.[33,37]

This scoping review has several limitations. Our search relied primarily on publicly available online information, so it may have missed potentially relevant grey literature. Furthermore, due to the paucity of local referral research, we included some conference abstracts where methodological details and study findings were only briefly presented.

Conclusion

The present scoping review systematically identified and summarised the available publications pertaining to patient referral in Malaysia. Despite the limited number of studies, the existing evidence on referral appropriateness, barriers and proposed interventions highlights the pressing need to strengthen the national referral system.

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None. Artificial intelligence tool was not used in the preparation of this review.

Author contributions
Protocol preparation: CLT, WCC and II; literature search and management: CLT and WCC; statistical analysis: CLT and WCC; manuscript preparation: CLT, WCC and II.

Conflicts of interest
None.

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None.

How does this paper make a difference in general practice?

- This scoping review maps the current Malaysian literature on the referral process between primary and secondary/tertiary care.
- A comprehensive literature search identified 92 publications (68 were reviews or guidelines, and 24 were original research articles).
- Most guidelines had specific sections on referral criteria but lacked supporting local references.
- Most original research examined referral from the primary care perspectives with reported referral rates ranged from 1.76% in public clinics to 1.8%–2.4% in private general practice.
- Malaysian evidence on patient referral remains limited but highlights important issues including appropriateness, communication gaps and systemic barriers.

Supplementary Appendix 1. List of the secondary publications reviewed.
Supplementary Appendix 2. List of the original publications reviewed.

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Appendix 1: List of secondary publications

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