



## Primary Care Nursing Contributions to Chronic Disease Follow-Up and Continuity of Care

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## **Abstract:**

Primary care nursing plays a pivotal role in managing chronic diseases by providing continuous support and follow-up care to patients. Nurses in primary care settings are often the first point of contact for individuals with chronic conditions, allowing them to develop strong, trusting relationships with patients. This rapport enables nurses to effectively educate patients about their conditions, medication adherence, and lifestyle modifications necessary for disease management. They also conduct regular assessments to monitor disease progression, identify complications early, and coordinate care with other healthcare professionals, ensuring that patients receive comprehensive treatment tailored to their needs. Through consistent communication and follow-up, primary care nurses enhance patient engagement and empower individuals to take an active role in managing their health. Furthermore, the contributions of primary care nursing extend beyond individual patient interactions. By implementing evidence-based practices and standardizing care protocols, nurses contribute to system-wide improvements in chronic disease management. They often participate in interdisciplinary care teams that focus on holistic approaches, addressing not just the physical aspects of disease, but also the emotional and social determinants of health. In addition, primary care nurses play a critical role in the transition of care, particularly when patients move between different healthcare settings, such as hospitals to home care. Their involvement ensures that care continuity is maintained, reducing the risk of readmissions and enhancing overall patient outcomes. Through these efforts, primary care nursing is integral to fostering a healthcare environment that supports long-term health and well-being for patients with chronic diseases.

## **1. Introduction**

The 21st century is witnessing a profound epidemiological transition, characterized by a dominant and escalating burden of chronic, non-communicable diseases (NCDs). Conditions such as diabetes mellitus, hypertension, cardiovascular diseases, chronic obstructive pulmonary disease (COPD), and asthma have shifted from being causes of premature mortality to becoming lifelong companions for millions worldwide [1]. This shift presents one of the most significant challenges to contemporary healthcare systems, which have traditionally been architected around an acute, episodic, and curative model of care. Chronic diseases, by their very nature, demand a fundamentally different paradigm—one that is longitudinal, proactive, patient-centered, and continuous [2]. The management of these conditions is not a single event but a complex, ongoing process that spans years or decades, requiring consistent monitoring, lifestyle adaptation, medication management, and psychosocial support.

Within this evolving landscape, the role of primary care has been unequivocally recognized as the cornerstone of effective and efficient health systems, particularly for chronic disease management [3]. And at the very heart of effective primary care lies the specialized practice of the primary care nurse. Primary care nursing represents a dynamic and expansive field, where registered nurses operate as essential, autonomous, and collaborative practitioners within a

multidisciplinary team. Their contributions extend far beyond task-oriented functions; they are pivotal in bridging the gap between clinical guidelines and patient-lived reality, between the healthcare system and the community, and between one clinical encounter and the next [4]. This essay will provide a comprehensive exploration of the multifaceted and indispensable contributions of primary care nurses to the follow-up and continuity of care for patients with chronic diseases. It will dissect their roles in assessment, care coordination, education, self-management support, and the navigation of complex care systems, while also examining the challenges they face and the innovative models that amplify their impact. Ultimately, it will argue that optimizing and expanding the scope of primary care nursing is not merely beneficial but essential for achieving the triple aim of improving population health, enhancing the patient experience of care, and reducing per capita costs in the era of chronic illness.

## **2. The Evolving Role of the Primary Care Nurse in Chronic Disease Management**

The primary care nurse's role in chronic disease management has evolved from a supportive position to one of central leadership and clinical responsibility. This evolution is driven by the complex needs of the chronically ill population, which cannot be met through physician-led care alone. The primary care nurse functions as a linchpin, ensuring that care is not fragmented but is instead a cohesive, continuous process. Their

practice is underpinned by a holistic philosophy that considers the biological, psychological, and social dimensions of illness [5]. This holistic view is critical because chronic diseases permeate every aspect of a person's life; managing diabetes, for instance, involves not just insulin regulation but also dietary habits, emotional well-being, financial constraints, and family dynamics.

Fundamentally, the primary care nurse establishes a therapeutic relationship built on trust, empathy, and continuity. Unlike specialists who may see a patient only during exacerbations, the primary care nurse often has a long-term relationship with the patient and their family, situated within the context of their community [6]. This longitudinal relationship is the bedrock upon which effective follow-up and continuity are built. It allows the nurse to understand the patient's unique narrative, their personal goals, their fears, and their social determinants of health. This deep contextual knowledge enables care that is truly personalized and responsive. The nurse's role is also inherently proactive. Instead of waiting for complications to arise, they engage in systematic follow-up, risk stratification, and preventive interventions, aiming to maintain stability and prevent hospital admissions—a concept known as anticipatory care [7]. This shift from reactive to proactive care is a hallmark of effective chronic disease management and is a domain where nursing excels.

### 3. Comprehensive Assessment and Risk Stratification: The Foundation of Personalized Follow-Up

The initiation and ongoing refinement of a chronic disease management plan rely on a comprehensive and nuanced assessment, an area where primary care nurses demonstrate exceptional skill. This assessment goes far beyond measuring vital signs. It involves a meticulous and holistic evaluation that forms the diagnostic foundation for personalized follow-up strategies [8]. Nurses conduct in-depth health histories, including the trajectory of the chronic condition, previous treatments and responses, and the presence of comorbidities. They perform physical assessments relevant to the specific disease, such as foot examinations for diabetic patients, lung auscultation for those with COPD, or cardiovascular assessments for hypertensive patients.

A critical component of nursing assessment is the evaluation of the patient's functional status, quality of life, and psychosocial well-being. Nurses employ validated tools to assess for depression, anxiety, health literacy, social support networks, and financial barriers to care—all factors that

significantly influence disease outcomes but are often overlooked in purely biomedical consultations [9]. For example, a nurse might identify that a patient's poorly controlled hypertension is linked to undiagnosed depression or an inability to afford medication. Furthermore, primary care nurses are instrumental in risk stratification. They collect and synthesize data from various sources—clinical measurements, lab results, patient-reported outcomes, and social information—to categorize patients based on their risk of complications or hospitalization [10]. A patient with diabetes who has newly developed microalbuminuria and lives alone would be stratified as higher risk, triggering more intensive and frequent follow-up protocols. This systematic, data-driven approach ensures that limited healthcare resources are directed to those who need them most, making follow-up care both efficient and effective. The nurse's ongoing assessments during follow-up visits are not merely repetitive; they are dynamic, capturing subtle changes in the patient's condition or circumstances that may necessitate a timely adjustment in the care plan.

### 4. Care Coordination and Continuity: Navigating the Healthcare Maze

Perhaps one of the most vital and complex contributions of the primary care nurse is their role as a care coordinator and navigator. The journey of a patient with multiple chronic conditions often involves interactions with a bewildering array of healthcare providers: cardiologists, endocrinologists, pharmacists, physiotherapists, dietitians, social workers, and more. This fragmentation is a major threat to continuity of care, leading to medication errors, duplicated tests, contradictory advice, and ultimately, patient distress and poor outcomes [11]. The primary care nurse acts as the central hub, the consistent point of contact who ensures that all these moving parts work in synchrony for the benefit of the patient.

Care coordination involves a sophisticated set of activities. It includes facilitating referrals to specialists and ensuring that referral letters contain comprehensive information and clear questions. It involves tracking the outcomes of those referrals and integrating the specialist's recommendations back into the primary care plan [12]. Nurses meticulously manage medication reconciliation, especially during care transitions such as hospital discharge, to prevent harmful discrepancies. They serve as the communication bridge, translating complex medical jargon between different providers and, most importantly, between the providers and the patient. This role is encapsulated

in the concept of "continuity of care," which encompasses three key dimensions: informational continuity (the seamless flow of information), relational continuity (the ongoing therapeutic relationship with a practitioner), and management continuity (a consistent and coherent approach to care management over time) [13]. The primary care nurse is uniquely positioned to foster all three. They maintain detailed records that ensure informational continuity. Their longitudinal relationship provides relational continuity, offering the patient a familiar and trusted advocate. And they oversee the implementation and adaptation of the care plan, ensuring management continuity. By doing so, they transform a potentially chaotic healthcare experience into a coherent, patient-centered journey.

### **5. Patient Education, Empowerment, and Self-Management Support**

Effective chronic disease management is impossible without the active, informed participation of the patient. The biomedical model, where the provider dictates treatment and the patient passively complies, is woefully inadequate for conditions that require daily decision-making about diet, activity, medication, and symptom monitoring. Here, the primary care nurse transitions from a caregiver to a coach, educator, and facilitator of empowerment [14]. Patient education is not a one-time event of handing out pamphlets; it is an iterative, tailored, and collaborative process central to nursing follow-up.

Nurses assess the patient's health literacy, learning preferences, and readiness to change. They then design educational interventions that are practical and relevant to the patient's life. This might involve teaching a patient with heart failure how to monitor daily weights and recognize signs of fluid overload, instructing a person with asthma on proper inhaler technique, or working with a diabetic patient to understand carbohydrate counting [15]. The ultimate goal of this education is to foster self-management—the ability of the individual, in conjunction with their family and community, to manage the symptoms, treatment, physical and psychosocial consequences, and lifestyle changes inherent in living with a chronic condition [16]. Primary care nurses are experts in providing self-management support (SMS). This involves collaborative goal-setting, where the nurse and patient work together to identify small, achievable, and meaningful goals, such as walking for 15 minutes a day or checking blood glucose before breakfast. The nurse then supports problem-solving, helping the patient anticipate and overcome barriers

to these goals. They also teach self-monitoring skills and action planning, empowering the patient to know when to take independent action and when to seek help [17]. This empowerment paradigm shifts responsibility appropriately, builds patient confidence, and leads to better clinical outcomes and greater patient satisfaction. The nurse's follow-up visits become opportunities to review these goals, celebrate successes, troubleshoot setbacks, and advance the self-management journey, making the patient a true partner in their own care.

### **6. Monitoring, Follow-Up Protocols, and Early Intervention**

Structured and systematic follow-up is the engine that drives chronic disease management forward, preventing decline and avoiding crises. Primary care nurses are the primary conductors of this process, often operating within nurse-led clinics or structured follow-up protocols. These protocols, based on clinical practice guidelines, provide a framework for the timing, frequency, and content of follow-up visits for specific conditions [18]. For instance, a nurse-led diabetes clinic may have protocols for quarterly HbA1c checks, annual foot and retinal screening, and regular blood pressure and lipid monitoring.

During these scheduled follow-ups, nurses perform critical monitoring functions. They track key clinical indicators—blood pressure trends, glycemic control, lipid profiles, respiratory function—and interpret these data in the context of the patient's overall situation [19]. They conduct thorough medication reviews, assessing adherence, exploring side effects, and evaluating effectiveness. They screen for the development of complications, such as checking for peripheral neuropathy in diabetic patients or for signs of heart failure in hypertensive patients. This vigilant monitoring enables early intervention, which is the key to mitigating the progression of chronic disease. If a nurse notices a gradual rise in a patient's blood pressure or a subtle increase in their shortness of breath, they can adjust medications (within their scope of practice and protocol), intensify education, or initiate a prompt referral before the problem escalates into an emergency department visit or hospitalization [20]. This proactive surveillance is a powerful tool for preserving health and containing costs. Furthermore, nurses utilize technology to enhance monitoring, such as teaching patients to use home blood pressure monitors or digital glucose meters, with some systems allowing for remote transmission of data (telemonitoring), enabling even closer follow-up between face-to-face visits [21].

## **7. Addressing Psychosocial Dimensions and Providing Holistic Support**

Chronic illness is never just a physical experience; it carries a profound psychological and social burden. The diagnosis of a lifelong condition can trigger grief, fear, anxiety, and depression. The demands of daily management can lead to "diabetes burnout" or "treatment fatigue." Socially, chronic disease can strain relationships, limit employment opportunities, and lead to financial hardship due to medical costs [22]. A purely medical approach that ignores these dimensions is destined to fail. Primary care nurses, with their holistic training, are exceptionally skilled at recognizing and addressing the psychosocial aspects of chronic disease.

Integral to their follow-up is the assessment of mental and emotional well-being. Nurses screen for symptoms of depression and anxiety, which are significantly more prevalent in chronically ill populations and are major barriers to effective self-care [23]. They provide essential emotional support, employing active listening, counseling techniques, and therapeutic communication to help patients process their feelings and develop coping strategies. They also address the practical social determinants of health. A nurse might connect a patient struggling with food insecurity to local nutritional support programs, help another navigate disability benefits, or arrange transportation for a frail elderly patient to attend appointments [24]. Furthermore, they involve and support family caregivers, who are often integral to the patient's management plan but who may themselves experience significant strain. By providing respite information, education, and emotional support to caregivers, nurses strengthen the entire support system around the patient [25]. This holistic, person-centered approach ensures that care plans are not only clinically sound but also realistic and sustainable within the patient's unique life context, thereby dramatically improving adherence and long-term outcomes.

## **8. Interprofessional Collaboration: The Nurse as a Key Team Player**

No single healthcare professional can possess all the expertise required to manage the multifaceted needs of a patient with complex chronic conditions. Therefore, effective care is inherently interprofessional. The primary care nurse does not work in isolation but as a pivotal member of a collaborative team that may include general practitioners/family physicians, specialists, pharmacists, social workers, dietitians, and physical therapists [26]. The nurse's role within this team is

both distinct and integrative. They bring a unique nursing perspective focused on holistic assessment, patient education, daily functioning, and continuity. Effective collaboration begins with clear, respectful communication and a shared understanding of roles and responsibilities. The primary care nurse often acts as the "air traffic controller" for the patient's care, ensuring all team members are informed and aligned. They participate in case conferences, either in person or virtually, to discuss complex patients and develop unified care plans [27]. A key collaborative relationship is with the prescribing physician. Nurses practicing at an advanced level, such as Nurse Practitioners, may have independent prescribing authority for chronic disease medications. In other models, nurses work under protocols or in close consultation with physicians, making recommendations for medication titration based on their detailed follow-up assessments [28]. Collaboration with pharmacists is crucial for medication safety and adherence reviews. With dietitians, nurses reinforce nutritional advice. With social workers, they address complex psychosocial barriers. This team-based approach, with the nurse as a central coordinator, leverages the collective expertise of all disciplines, leading to more comprehensive, efficient, and higher-quality care. It prevents the patient from receiving conflicting advice and ensures that every team member is working towards common, patient-agreed goals.

## **9. Innovative Models of Nurse-Led Care and the Use of Technology**

To meet the growing demand for chronic disease follow-up, healthcare systems are innovating and expanding the roles of primary care nurses through new models of care and the integration of technology. Nurse-led clinics are a prominent and evidence-based innovation. These are structured services, often for specific conditions like diabetes, hypertension, or anticoagulation, where nurses take primary responsibility for patient assessment, education, monitoring, and treatment adjustment according to established protocols [29]. Research consistently shows that nurse-led clinics achieve outcomes that are equivalent or superior to physician-led care in terms of clinical indicators, patient satisfaction, and cost-effectiveness, particularly for chronic disease management [30]. Another transformative model is the Chronic Care Model (CCM), which provides a blueprint for improving chronic illness care. A core element of the CCM is the "productive interactions" between a prepared, proactive practice team and an informed, activated patient. The primary care nurse is fundamental to implementing this model,

embodying the prepared, proactive clinician who supports patient activation [31]. Technology is a powerful enabler of these new models. Telehealth and telemonitoring allow nurses to conduct virtual follow-up visits, review transmitted patient data (like blood glucose or blood pressure logs), and provide coaching remotely, greatly improving access for patients in rural areas or with mobility issues [32]. Electronic health records (EHRs) enhance informational continuity by providing nurses with a complete patient history. Clinical decision support systems within EHRs can prompt nurses during follow-up visits for required screenings or guideline-based interventions [33]. Mobile health applications can be used by nurses as tools to engage patients, send medication reminders, and deliver tailored educational content. These innovations extend the reach, efficiency, and impact of the primary care nurse, allowing them to manage larger patient panels effectively while maintaining high-quality, personalized follow-up.

## 10. Challenges and Barriers to Optimal Nursing Contribution

Despite their proven value, primary care nurses face significant systemic and professional barriers that can limit their full contribution to chronic disease follow-up and continuity. A pervasive challenge is role ambiguity and underutilization. In some healthcare settings, traditional hierarchies and rigid professional boundaries persist, preventing nurses from practicing to the full extent of their education, training, and competence [34]. They may be relegated to administrative tasks rather than practicing their clinical, educational, and coordinative skills.

Workload pressures and staffing shortages in primary care are acute and widespread. High patient-to-nurse ratios can make it impossible to provide the in-depth, time-consuming follow-up that chronic disease management requires. Nurses may lack sufficient time for patient education, comprehensive assessment, and care coordination activities [35]. Furthermore, there is often a lack of adequate funding and reimbursement models specifically for nursing services. Many healthcare systems still operate on fee-for-service models that reimburse procedures and physician visits but do not adequately compensate for the cognitive, educational, and coordinative work that is the hallmark of nursing follow-up care [36]. This creates a financial disincentive for practices to fully deploy their nursing staff in this capacity. There can also be variations in educational preparation and a need for ongoing professional development in the latest chronic disease management guidelines and

technologies to ensure all nurses are equipped for this advanced role [37]. Addressing these barriers is critical to unleashing the full potential of the primary care nursing workforce.

## 11. The Future of Primary Care Nursing in Chronic Disease Management

Looking ahead, the importance of primary care nursing in chronic disease management is poised to grow exponentially. The global prevalence of NCDs continues to rise with aging populations and changing lifestyles, placing unsustainable pressure on traditional models of care [38]. The future will demand a greater reliance on team-based, community-oriented, and prevention-focused care—all domains where nursing excels. The evolution of advanced practice nursing roles, such as the Family Nurse Practitioner (FNP) or the Clinical Nurse Specialist (CNS) in primary care, will be pivotal. These highly educated nurses can provide a broader scope of care, including diagnosis, prescribing, and managing complex cases independently or in partnership with physicians, thereby increasing access and capacity [39].

Future success will also depend on stronger integration of primary care nursing with public health and community resources. Nurses will increasingly work "upstream," not only managing established disease but also leading community-based screening and prevention programs to reduce the incidence of chronic conditions [40]. Policy and health system reform must follow, creating supportive environments through alternative payment models (e.g., capitation, bundled payments for chronic care) that reward value, outcomes, and continuity rather than volume of services. Investing in nursing education, defining clear advanced practice roles, and ensuring supportive practice environments will be essential strategic investments [41]. As healthcare systems worldwide strive for sustainability and better population health outcomes, the primary care nurse will undoubtedly be recognized not as a supplemental player, but as an essential leader in the redesign of chronic disease care for the 21st century.

## 12. Conclusion

In conclusion, the contribution of primary care nursing to the follow-up and continuity of care for chronic diseases is profound, multidimensional, and indispensable. Through comprehensive assessment and risk stratification, they lay the groundwork for personalized care. As expert care coordinators and navigators, they combat fragmentation and ensure

seamless continuity across time and settings. Their commitment to patient education, empowerment, and self-management support transforms patients from passive recipients into active partners in their health journey. Through vigilant monitoring and structured follow-up, they enable early intervention to prevent complications. Their holistic approach addresses the crucial psychosocial dimensions of chronic illness, and their role as collaborative team players optimizes the use of interprofessional expertise. Despite facing challenges related to role definition, workload, and funding, innovative models and technologies are expanding their reach and impact. As the global burden of chronic disease continues to mount, the strategic expansion and optimization of the primary care nursing role is not just a logical step but an imperative one. By fully leveraging their unique skills in longitudinal relationship-building, patient-centered communication, and systems coordination, primary care nurses are central to achieving a healthcare system that is capable of providing compassionate, effective, and continuous care to millions living with chronic disease, ultimately leading to healthier individuals, more satisfied patients, and more sustainable health systems.

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#### References

1. Warmelink JC, Wieggers TA, de Cock TP, Klomp T, Hutton EK. Collaboration of midwives in primary care midwifery practices with other maternity care providers. *Midwifery*. 2017;55:45–52. doi: 10.1016/j.midw.2017.08.010.
2. Jones CD, Vu MB, O'Donnell CM, Anderson ME, Patel S, Wald HL, Coleman EA, DeWalt DA. A Failure to Communicate: A Qualitative Exploration of Care Coordination Between Hospitalists and Primary Care Providers Around Patient Hospitalizations. *J Gen Intern Med*. 2015;30(4):417–424. doi: 10.1007/s11606-014-3056-x.
3. Barimani M, Vikström A. Successful early postpartum support linked to management, informational, and relational continuity. *Midwifery*. 2015;31(8):811–817. doi: 10.1016/j.midw.2015.04.009.
4. Bronfenbrenner U. The ecology of human development. Experiments by nature and design. In: Cambridge, Massachusetts: Harvard University Press. 1979.
5. Almeida PF, Santos AM. Primary Health Care: care coordinator in regionalized networks? *Rev Saude Publica*. 2016;50:80. doi: 10.1590/s1518-8787.2016050006602.
6. Abimbola S, Ogunsina K, Charles-Okoli AN, Negin J, Martiniuk AL, Jan S. Information, regulation and coordination: realist analysis of the efforts of community health committees to limit informal health care providers in Nigeria. *Health Econ Rev*. 2016;6(1):51. doi: 10.1186/s13561-016-0131-5.
7. Schultz EM, Pineda N, Lonhart J, Davies SM, McDonald KM. A systematic review of the care coordination measurement landscape. *BMC Health Serv Res*. 2013;13(1):119. doi: 10.1186/1472-6963-13-119.
8. Uijen AA, Schers HJ, Schellevis FG, van den Bosch WJHM. How unique is continuity of care? A review of continuity and related concepts. *Fam Pract*. 2012;29(3):264–271. doi: 10.1093/fampra/cmr104.
9. Samuelson M, Tedeschi P, Aarendonk D, de la Cuesta C, Groenewegen P. Improving interprofessional collaboration in primary care: position paper of the European Forum for Primary Care. *Qual Prim Care*. 2012;20(4):303–312.
10. Henize AW, Beck AF, Klein MD, Adams M, Kahn RS. A road map to address the social determinants of health through community collaboration. *Pediatrics*. 2015;136(4):e993–e1001. doi: 10.1542/peds.2015-0549.
11. Dey RM, De Vries MJW, Bosnic-Anticevich S. Collaboration in chronic care: Unpacking the relationship of pharmacists and general medical practitioners in primary care. *Int J Pharm Pract*. 2011;19(1):21–29. doi: 10.1111/j.2042-7174.2010.00070.x.
12. da Silva RM, Sobrinho RA, Neves ET, Toso BR, Viera CS. Challenges in the coordination of children's healthcare. *Cien Saude Colet*. 2015;20(4):1217–1224. doi: 10.1590/1413-81232015204.00742014.
13. Wagner EH, Sandhu N, Coleman K, Phillips KE, Sugarman JR. Improving care coordination in primary care. *Med Care*. 2014;52(11 Suppl 4):S33–38. doi: 10.1097/MLR.000000000000197.

14. Valaitis R, Meagher-Stewart D, Martin-Misener R, Wong ST, MacDonald M, O'Mara L, The Strengthening Primary Health Care through Primary C. Public Health Collaboration T Organizational factors influencing successful primary care and public health collaboration. *BMC Health Serv Res.* 2018;18(1):420. doi: 10.1186/s12913-018-3194-7.
15. Hämel K, Vössing C. The collaboration of general practitioners and nurses in primary care: a comparative analysis of concepts and practices in Slovenia and Spain. *Prim Health Care Res Dev.* 2017;18(5):492–506. doi: 10.1017/S1463423617000354.
16. D'haenens F, Van Rompaey B, Swinnen E, Dilles T, Beeckman K. The effects of continuity of care on the health of mother and child in the postnatal period: a systematic review. *Eur J Public Health.* 2020;30(4):749–760. doi: 10.1093/eurpub/ckz082.
17. Pham MT, Rajić A, Greig JD, Sargeant JM, Papadopoulos A, McEwen SA. A scoping review of scoping reviews: advancing the approach and enhancing the consistency. *Res Synth Methods.* 2014;5(4):371–385. doi: 10.1002/jrsm.1123.
18. Prokop J. Care coordination strategies in reforming health care: a concept analysis. In: *Nursing forum*: 2016. Michigan: Wiley Online Library; 2016. p. 268–274.
19. Lemetti T, Stolt M, Rickard N, Suhonen R. Collaboration between hospital and primary care nurses: a literature review. *Int Nurs Rev.* 2015;62(2):248–266. doi: 10.1111/inr.12147.
20. Bahr SJ, Weiss ME. Clarifying model for continuity of care: A concept analysis. *Int J Nurs Pract.* 2019;25(2):e12704. doi: 10.1111/ijn.12704.
21. Cohen DJ, Balasuhramanian BA, Isaacson NF, Clark EC, Etz RS, Crabtree BF. Coordination of health behavior counseling in primary care. *Ann Fam Med.* 2011;9:406–415. doi: 10.1370/afm.1245.
22. Javanparast S, Baum F, Freeman T, Ziersch A, Henderson J, Mackean T. Collaborative population health planning between Australian primary health care organisations and local government: lost opportunity. *Aust N Z J Public Health.* 2019;43(1):68–74. doi: 10.1111/1753-6405.12834.
23. Doessing A, Burau V. Care Coordination of Multimorbidity: A Scoping Study. *Journal of Comorbidity.* 2015;5(1):15–28. doi: 10.15256/joc.2015.5.39.
24. Gyllstrom E, Gearin K, Nease D, Jr, Bekemeier B, Pratt R. Measuring Local Public Health and Primary Care Collaboration: A Practice-Based Research Approach. *J Public Health Manag Pract.* 2019;25(4):382–389. doi: 10.1097/PHH.0000000000000809.
25. Briggs J. Systematic Review Resource Package. The Joanna Briggs Institute Method for Systematic Review Research Quick Reference Guide Version. 2015. p. 4.
26. Valentijn PP, Schepman SM, Opheij W, Bruijnzeels MA. Understanding integrated care: a comprehensive conceptual framework based on the integrative functions of primary care. *Int J Integr Care.* 2013;13:e010. doi: 10.5334/ijic.886.
27. Pawson R, Greenhalgh T, Harvey G, Walshe K. Realist review—a new method of systematic review designed for complex policy interventions. *J Health Serv Res Policy.* 2005;10(1\_suppl):21–34. doi: 10.1258/1355819054308530.
28. World Health Organization . Continuity and coordination of care: a practice brief to support implementation of the WHO Framework on integrated people-centred health services. Geneva: WHO; 2018.
29. Starfield B. Is patient-centered care the same as person-focused care? *Perm J.* 2011;15(2):63–69. doi: 10.7812/TPP/10-148.
30. Hustoft M, Biringer E, Gjesdal S, Moen VP, Aßmus J, Hetlevik Ø. The effect of team collaboration and continuity of care on health and disability among rehabilitation patients: a longitudinal survey-based study from western Norway. *Qual Life Res.* 2019;28(10):2773–2785. doi: 10.1007/s11136-019-02216-7.
31. McGowan J, Straus S, Moher D, Langlois EV, O'Brien KK, Horsley T, Aldcroft A, Zarin W, Garitty CM, Hempel S. Reporting scoping reviews—PRISMA ScR extension. *J Clin Epidemiol.* 2020;123:177–179. doi: 10.1016/j.jclinepi.2020.03.016.
32. van Dongen JJ, Lenzen SA, van Bokhoven MA, Daniëls R, van der Weijden T, Beurskens A. Interprofessional collaboration regarding patients' care plans in primary care: a focus group study into influential factors. *BMC Fam Pract.* 2016;17(1):10. doi: 10.1186/s12875-016-0456-5.
33. Andrews MM, Storm DS, Burr CK, Aaron E, Hoyt MJ, Statton A, Weber S. Perinatal HIV service coordination: Closing gaps in the HIV care continuum for pregnant women and eliminating perinatal HIV transmission in the United States. *Public Health Rep.* 2018;133(5):532–542. doi: 10.1177/0033354918789912.
34. Matthys E, Remmen R, Van Bogaert P. An overview of systematic reviews on the collaboration between physicians and nurses and the impact on patient outcomes: what can we learn in primary care? *BMC Fam Pract.* 2017;18(1):110. doi: 10.1186/s12875-017-0698-x.
35. Wang X, Birch S, Zhu W, Ma H, Embrett M, Meng Q. Coordination of care in the Chinese health care systems: a gap analysis of service delivery from a provider perspective. *BMC Health Serv Res.* 2016;16(1):571. doi: 10.1186/s12913-016-1813-8.
36. Blumenthal KJ, Chien AT, Singer SJ. Relationship among team dynamics, care coordination and perception of safety culture in primary care. *Fam Pract.* 2018;35(6):718–723. doi: 10.1093/fampra/cmy029.
37. Veillard J, Cowling K, Bitton A, Ratcliffe H, Kimball M, Barkley S, Mercereau L, Wong E, Taylor C, Hirschhorn LR, et al. Better Measurement for Performance Improvement in Low- and Middle-Income Countries: The Primary Health Care Performance Initiative (PHCPI)

Experience of Conceptual Framework Development and Indicator Selection. *Milbank Q.* 2017;95(4):836–883. doi: 10.1111/1468-0009.12301.

38. Braun V, Clarke V. Using thematic analysis in psychology. *Qual Res Psychol.* 2006;3(2):77–101. doi: 10.1191/1478088706qp063oa.
39. Peterson K, Anderson J, Bourne D, Charns MP, Gorin SS, Hynes DM, McDonald KM, Singer SJ, Yano EM. Health Care Coordination Theoretical Frameworks: a Systematic Scoping Review to Increase Their Understanding and Use in Practice. *J Gen Intern Med.* 2019;34(1):90–98. doi: 10.1007/s11606-019-04966-z.
40. Heaton J, Corden A, Parker G. ‘Continuity of care’: a critical interpretive synthesis of how the concept was elaborated by a national research programme. *Int J Integr Care.* 2012;12:e12. doi: 10.5334/ijic.794.
41. Clarke R, Bharmal N, Di Capua P, Tseng CH, Mangione CM, Mittman B, Skootsky SA. Innovative approach to patient-centered care coordination in primary care practices. *Am J Manag Care.* 2015;21(9):623–630.