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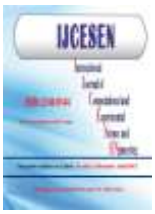

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Research Article

Prevention and Control of Communicable Diseases in Primary Health Care Clinics: Roles of Physicians, Nurses, and Public Health Professionals

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Abstract:

The prevention and control of communicable diseases in primary health care clinics are integral roles that encompass the collaborative efforts of physicians, nurses, and public health professionals. Physicians play a crucial role in diagnosing and treating infections while also educating patients about symptoms, treatment options, and the importance of vaccinations. Their clinical expertise enables timely interventions, which are essential for reducing disease transmission within the community. Nurses complement this by providing essential preventive care, such as administering vaccines, implementing infection control protocols, and conducting health education sessions. Their hands-on approach ensures that patients understand the importance of hygiene practices and the early signs of communicable diseases, fostering proactive engagement in personal health management. Public health professionals serve as the backbone to the systematic approach in managing communicable diseases at the community level. They gather and analyze data on disease outbreaks, enabling clinics to respond effectively and implement targeted interventions. Additionally, they organize community outreach programs and partnerships with other organizations to promote health literacy and access to vaccinations. Collaboration among physicians, nurses, and public health experts is essential for developing comprehensive strategies that address the social determinants of health, ensuring that preventive measures are equitable and culturally sensitive. Together, these professionals create a multifaceted response to communicable diseases, safeguarding the health not only of individual patients but entire communities.

1. Introduction

The persistent and evolving threat of communicable diseases remains a paramount challenge to global health security, economic stability, and social well-being in the 21st century. Despite remarkable medical advancements, infectious diseases continue to account for a significant burden of morbidity and mortality worldwide, with their impact disproportionately affecting vulnerable and resource-limited populations [1]. This landscape is characterized by a dual challenge: combating enduring "unfinished agenda" diseases such as tuberculosis, malaria, and HIV/AIDS, while simultaneously confronting the unpredictable emergence and re-emergence of novel pathogens, as starkly demonstrated by the SARS-CoV-2 pandemic [2]. These dynamics underscore that infectious diseases are not merely biological phenomena but are deeply intertwined with social inequalities, environmental changes, and global interconnectivity, thereby demanding a response system that is not only robust and agile but also universally accessible and rooted in equity [3].

At the epicenter of this perpetual battle lies the Primary Health Care (PHC) clinic. Reconceptualized by the World Health Organization (WHO) as the cornerstone for achieving universal health coverage and the Sustainable Development Goals, PHC represents far more than a first point of clinical contact [4]. It is the foundational tier of any resilient health system, where the essential principles of equity, community participation, intersectoral collaboration, and the appropriate use of technology are operationalized into daily practice. The 1978 Alma-Ata Declaration and its 2018 Astana successor firmly established PHC as the most inclusive, effective, and efficient approach to enhancing physical and mental health, with its comprehensiveness being pivotal for addressing the full spectrum of health needs, including disease prevention [5].

Consequently, the prevention and control of communicable diseases within the PHC setting transcend simple medical interventions or episodic treatment. They constitute a complex, integrated strategy—a continuous cycle encompassing proactive surveillance, systematic health promotion, early detection through screening and astute diagnosis, prompt initiation of evidence-based treatment, and sustained community engagement [6]. This multifaceted mission, by its very nature, cannot be the sole responsibility of a single profession. Its successful execution hinges irrevocably on the synergistic collaboration of a dedicated primary care team. Within this ecosystem, physicians, nurses, and public health professionals each contribute unique and indispensable expertise, forming a triad of competencies that, when effectively harmonized, creates a defense network far stronger than the sum of its parts.

2. Communicable Disease Control in PHC

Primary Health Care, as delineated in the landmark Alma-Ata Declaration and reaffirmed in the Astana Declaration, is characterized by its commitment to addressing the broader determinants of health and providing comprehensive, person-centered care [2]. In the domain of communicable diseases, this

philosophy translates into a dual approach: managing individual cases to reduce morbidity and mortality, and implementing population-level interventions to interrupt disease transmission. The operational framework for this work is built upon several key pillars. First is the implementation of standard and transmission-based precautions, which are fundamental protocols for infection prevention and control (IPC) within the clinic environment to protect both patients and healthcare workers [3]. Second is the establishment of robust surveillance systems, often integrated within national frameworks, that enable the early detection of notifiable diseases, identification of outbreaks, and monitoring of epidemiological trends [4]. This surveillance function is a critical intelligence-gathering mechanism that originates from astute clinical observation at the PHC level. Third is the strategic deployment of immunization services, one of the most cost-effective public health interventions, which PHC clinics are uniquely positioned to deliver directly to communities [5]. Fourth is the provision of accessible diagnosis and evidence-based treatment, ensuring that care is both timely and effective, which is crucial for patient outcomes and for preventing further spread, as seen in programs for tuberculosis directly observed therapy (DOT) [6]. Finally, health education and community mobilization form the bedrock of sustainable prevention, empowering individuals and communities to adopt protective behaviors and participate in disease control efforts [7]. This multifaceted framework provides the scaffold upon which physicians, nurses, and public health professionals perform their specific roles.

3. The Role of the Physician:

Within the PHC clinic, the physician serves as the central clinical authority, bearing ultimate responsibility for patient diagnosis, treatment, and the overall clinical management of communicable diseases. This role begins with the critical task of clinical suspicion and accurate diagnosis. Through comprehensive history-taking, thorough physical examination, and the judicious use of diagnostic tests—from rapid malaria tests to sputum microscopy for TB—the physician identifies the causative agent and assesses the severity of illness [8]. This diagnostic acuity is the essential first step in initiating appropriate therapy and triggering necessary public health actions, such as reporting a notifiable disease. Following diagnosis, the physician's role shifts to therapeutic manager. This involves prescribing precise antimicrobial or antiviral regimens, managing complications, and providing follow-up care to ensure treatment completion and cure. In the context of antimicrobial resistance (AMR), a growing global crisis, the physician's adherence to stewardship principles—prescribing the right drug, at the right dose, for the right duration—is a vital component of communicable disease control [9]. Beyond direct patient care, the physician functions as a clinical leader and educator within the PHC team. They mentor and supervise nurses and other clinical staff, ensuring adherence to clinical guidelines and IPC protocols. Furthermore, they engage in patient education during consultations, explaining the nature of the illness, the importance of treatment adherence, and necessary prevention measures for the patient and their household [10]. The physician also plays a key liaison role, facilitating referrals to higher levels of care when needed and communicating with public health authorities to coordinate the response for complex cases or suspected outbreaks.

4. The Role of the Nurse:

The nursing professional in a PHC clinic operates at the very heart of patient interaction and continuity of care, embodying roles that are simultaneously clinical, educational, and relational. Nurses are often the first and most frequent point of contact for patients, performing initial assessments, triage, and vital sign monitoring, which can provide early indicators of infectious processes [11]. They are responsible for the safe administration of treatments, including vaccinations, injectable therapies, and directly observed treatment for diseases like TB, ensuring that clinical plans are executed correctly and completely [12]. Their role in infection prevention and control is hands-on and continuous; nurses meticulously implement standard precautions, ensure proper sterilization of equipment, manage clinical waste, and monitor the clinic environment for biosafety, thereby serving as frontline guardians against healthcare-associated infections [13]. Perhaps one of their most impactful functions is that of health educator and counselor. Nurses spend significant time with patients and families, providing clear, understandable explanations about disease transmission, symptom management, medication schedules, and home-based infection control measures such as isolation and hygiene practices [14]. This educational role extends to leading group sessions on topics like HIV prevention, maternal and child health regarding immunizations, and sanitation. Crucially, the nurse often acts as a vital bridge between the clinic and the community. Through home visits, community outreach, and trust-building relationships, nurses can identify vulnerable

individuals, trace contacts, promote health-seeking behaviors, and gather contextual information about community perceptions and barriers to care, intelligence that is invaluable for effective public health action [15].

5. The Role of the Public Health Professional:

While physicians and nurses focus on individuals and families presenting at the clinic, the public health professional—who may be embedded within or closely linked to the PHC system—brings a population-level perspective essential for controlling disease transmission at its source. Their work is analytical, strategic, and coordinative. A core function is epidemiological surveillance. Public health professionals design, manage, and analyze data from surveillance systems, interpreting reports from PHC clinics to detect outbreaks, monitor disease trends, and evaluate the impact of interventions [16]. When an unusual cluster of cases is reported by a clinic physician or nurse, it is the public health professional who leads the formal outbreak investigation, conducting case-control studies, identifying the source, and recommending targeted control measures [17]. Furthermore, they are instrumental in planning and evaluating immunization campaigns, conducting coverage surveys, and addressing vaccine hesitancy through community-based strategies [18]. Their role extends to health policy and planning at the local level, adapting national guidelines on communicable disease control to the specific context of the clinic's catchment area. This includes organizing resource allocation, training for clinic staff on new protocols, and developing community-wide health promotion campaigns [19]. Public health professionals also foster intersectoral collaboration, engaging with sectors such as water and sanitation (WASH), education, and local government to address the underlying environmental and social determinants of disease, recognizing that a cholera outbreak, for instance, requires not just oral rehydration therapy but also clean water provision [20]. They thus act as the essential link that transforms individual clinical data into actionable public health intelligence and coordinated multi-sectoral response.

6. Integrated Strategies for Disease Prevention and Control

The true power of the PHC approach is realized not through the isolated actions of each professional group, but through their deliberate and seamless collaboration. Several key strategies exemplify this synergistic integration. First is the implementation of syndromic surveillance and integrated disease surveillance and response (IDSR). In this system, nurses and physicians at the clinic level report cases based on syndromes (e.g., fever and rash, acute watery diarrhea) according to standardized protocols. Public health professionals then collate and analyze this data in real-time, enabling rapid detection of and response to epidemics [21]. Second is the integration of services, such as offering HIV testing and counseling alongside TB screening, or providing immunizations during routine maternal and child health visits. This requires nurses to screen and educate, physicians to diagnose and treat, and public health staff to monitor coverage and outcomes, all working from a unified care plan [22]. Contact tracing and management for diseases like TB, measles, or COVID-19 is another area demanding tight collaboration. The physician identifies the index case and initiates the process, the nurse or a dedicated community health worker often conducts the home visits to identify contacts, and the public health professional oversees the overall process, ensures data quality, and mobilizes resources for screening and prophylactic treatment of contacts [23]. Finally, community-oriented primary care (COPC) models formalize this synergy. In COPC, the PHC team, including public health professionals, collaboratively defines a community, diagnoses its health problems (including communicable disease burdens), implements interventions, and evaluates their impact, thereby blurring the lines between clinical care and public health practice for greater effectiveness [24].

7. Operational Frameworks and Guidelines:

The work of PHC teams in communicable disease control is guided and standardized by a hierarchy of international and national frameworks. The World Health Organization provides overarching strategic direction through initiatives like the End TB Strategy, the Global Technical Strategy for Malaria, and the Expanded Programme on Immunization (EPI) [25]. Crucially, the International Health Regulations (IHR 2005) mandate that countries develop core surveillance and response capacities, much of which is built at the primary care level for early detection and reporting of public health events of international concern [26]. At the operational level, WHO and CDC develop evidence-based guidelines on infection prevention and control, antimicrobial stewardship, and the clinical management of specific diseases, which national ministries of health then adapt into national protocols [27]. These protocols are the daily reference tools for physicians and nurses, dictating

diagnostic algorithms, first-line treatment regimens, and reporting procedures. Public health professionals play a key role in disseminating these protocols, training clinic staff on their use, and monitoring adherence. Furthermore, frameworks like the One Health approach, which recognizes the interconnection between human, animal, and environmental health, are increasingly relevant for zoonotic diseases and require PHC teams to collaborate with veterinary and environmental services, a coordination often led by public health experts [28]. These frameworks provide the essential common language and scientific basis for the team's work.

8. Challenges and Barriers at the Primary Care Level

Despite their critical role, PHC clinics face significant systemic and operational challenges that impede optimal communicable disease control. Resource constraints are pervasive, including shortages of essential medicines, diagnostics, personal protective equipment (PPE), and even basic infrastructure like reliable water and electricity, which undermines both clinical care and IPC efforts [29]. Human resource shortages and high workloads lead to burnout, reduced time per patient, and potential lapses in surveillance reporting or follow-up care [30]. Fragmented health information systems, often reliant on paper-based reporting, cause delays in data transmission to public health authorities, hindering timely analysis and response [31]. At the community level, cultural beliefs, stigma associated with diseases like HIV/AIDS or leprosy, and low health literacy can create barriers to care-seeking, treatment adherence, and acceptance of preventive measures like vaccination, challenging the health education efforts of nurses and physicians [32]. Additionally, the rise of antimicrobial resistance, fueled in part by inappropriate prescribing and over-the-counter antibiotic access, threatens to undermine the therapeutic arsenal available to PHC physicians, making common infections harder and more expensive to treat [33]. Navigating these challenges requires not only increased investment but also innovative, team-based solutions that leverage the unique skills of each professional group.

9. Strengthening the PHC Frontline:

To overcome these barriers and fortify the PHC response to communicable diseases, a multi-pronged strategy focused on enhancing interdisciplinary collaboration is necessary. First, investment in interdisciplinary education and team training is crucial. Pre-service and in-service training should include joint simulations, case studies, and workshops where physicians, nurses, and public health students and professionals learn together, fostering mutual understanding and respect for each other's roles from the outset [34]. Second, health systems must be strengthened with reliable supply chains for medicines and diagnostics, and sustainable financing models to attract and retain skilled staff in primary care settings [35]. Third, the digital transformation of PHC through integrated electronic health records (EHRs) and mobile health (mHealth) tools can revolutionize workflow. An EHR accessible to all team members ensures continuity of care, while mHealth applications can empower nurses for better data reporting, support physicians with clinical decision aids, and enable public health professionals to monitor data dashboards in real-time [36]. Fourth, formalizing and funding community health worker (CHW) programs, supervised by PHC nurses and linked to public health initiatives, can dramatically extend the reach of the clinic, improving case finding, contact tracing, and health promotion in remote or underserved areas [37]. Finally, fostering a culture of continuous quality improvement (CQI) within the clinic, where the team collectively reviews data on immunization coverage, treatment completion rates, or IPC compliance to identify and solve problems, embeds collaboration into the daily routine and drives sustainable improvements in service delivery [38].

10. Effective Team-Based Approaches

Concrete examples highlight the effectiveness of the collaborative model. The global effort to eradicate polio demonstrates the synergy between roles: public health professionals plan national immunization days (NIDs), physicians and nurses administer the vaccine at fixed posts and monitor for adverse events, and vast networks of community volunteers and health workers, supervised by PHC teams, conduct house-to-house vaccination to achieve last-mile coverage [39]. Similarly, the directly observed treatment, short-course (DOTS) strategy for tuberculosis control relies on physicians for diagnosis and initial prescription, nurses or trained community observers for daily treatment supervision and support, and public health managers for ensuring drug supply, monitoring cohort outcomes, and conducting contact investigations [40]. The response to the COVID-19 pandemic further underscored this interdependence. PHC physicians managed mild and moderate cases, nurses conducted mass

vaccination campaigns and patient education, and public health professionals led testing, contact tracing initiatives, and community-level risk communication, all while constantly sharing information and adapting to evolving guidelines [41]. These cases demonstrate that no single profession can achieve large-scale disease control; success is inherently multidisciplinary.

11. Conclusion:

The prevention and control of communicable diseases in the 21st century is a complex endeavor that defies simplistic, siloed solutions. Primary Health Care clinics, as the most accessible and trusted nodes of the health system, are indispensable in this fight. Within these clinics, physicians, nurses, and public health professionals are not interchangeable entities but specialized agents with complementary skills. The physician provides diagnostic precision and therapeutic authority. The nurse offers continuous, holistic care and serves as a critical link to the patient's world. The public health professional supplies the population-wide vision and strategic coordination necessary to transform individual clinical actions into community-wide disease containment. Their roles are distinct threads that, when woven together through intentional collaboration, shared frameworks, and a commitment to team-based care, create a resilient fabric capable of protecting population health. Strengthening this integrated frontline through targeted investments in workforce training, digital tools, and supportive systems is not merely an operational improvement; it is a fundamental requirement for achieving global health security, health equity, and sustainable development. The enduring battle against communicable diseases will be won not in isolated hospital wards or distant laboratories alone, but in the integrated, community-anchored efforts of the primary health care team.

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References

[1] Valaitis RK, et al. Strengthening primary health care through primary care and public health collaboration: the influence of intrapersonal and interpersonal factors. Prim Health Care Res Dev. 2018b;19(4):378–91.

[2] McVicar KL, et al. Primary Care and Public Health Collaboration Reports: A Qualitative Review of Integration Aims, Participants, and Success Determinants. Popul Health Manag. 2019;22(5):422–32.

[3] Gilmore AB, et al. Defining and conceptualising the commercial determinants of health. Lancet. 2023;401(10383):1194–1213.

[4] Feifer C, et al. Different paths to high-quality care: three archetypes of top-performing practice sites. Ann Fam Med. 2007;5(3):233–41.

[5] Pinto AD, Bloch G. Framework for building primary care capacity to address the social determinants of health. Can Fam Physician. 2017;63:476–82.

[6] Levesque J-F, et al. The Interaction of Public Health and Primary Care: Functional Roles and Organizational Models that Bridge Individual and Population Perspectives. Public Health Rev. 2013;35(1):14.

[7] PAHO. Strategy for Building Resilient Health Systems and Post-COVID-19 Pandemic Recovery to Sustain and Protect Public Health Gains. Washington, DC: Pan American Health Organization; 2022. Licence CC BY-NC-SA 3.0 IGO.

[8] Jakab Z. Public health, primary care and the "cluster" model. Eur J Public Health. 2013;23(4):528.

[9] Johansen AS, Vracko P, West R. The evolution of community-based primary health care, Slovenia. Bull World Health Organ. 2020;98(5):353–9.

[10] Shaw EK, et al. The role of the champion in primary care change efforts: from the State Networks of Colorado Ambulatory Practices and Partners (SNOCAP). J Am Board Fam Med. 2012;25(5):676–85.

[11] Kempe A, et al. Effectiveness of primary care–public health collaborations in the delivery of influenza vaccine: a cluster-randomized pragmatic trial. Prev Med. 2014;69:110–16.

[12] Pinto RM, et al. Primary care and public health services integration in Brazil's unified health system. Am J Public Health. 2012;102(11).

[13] Kinder K, et al. Integrating primary care and public health to enhance response to a pandemic. Prim Health Care Res Dev. 2021;22:e27.

[14] B-Lajoie M-R, Chartier L. Wanted: better public health training for family physicians. Can Fam Physician. 2016;62(6):471–3.
[15] Bhuyan SS, et al. Integration of public health and primary care: a systematic review of the current literature in primary care physician mediated childhood obesity interventions. Obes Res Clin Pract. 2015;9(6):539–52.
[16] de Fátima dos Santos A, et al. Contribution of community health workers to primary health care performance in Brazil. Rev Saude Publica. 2020;54:1–10.
[17] Calman N, et al. Strengthening public health and primary care collaboration through electronic health records. Am J Public Health. 2012;102(11).
[18] Harris M. Integrating primary care and public health: learning from the Brazilian way. Lond J Prim Care (Abingdon). 2012;4(2):126–32.
[19] Queenan JA, Birtwhistle R, Drummond N. Supporting primary care public health functions. Can Fam Physician. 2016;62(7).
[20] Blanck HM, Collins JL. The childhood obesity research demonstration project: Linking public health initiatives and primary care interventions community-wide to prevent and reduce childhood obesity. Child Obes. 2015;11(1):1–3.
[21] Van Avendonk MJP, et al. Primary care and public health a natural alliance? The introduction of the guidelines for obesity and undernutrition of the Dutch College of General Practitioners. Fam Pract. 2012;29(1):i31–5.
[22] Cash-Gibson L, et al. Health Inequalities in the Time of COVID-19: The Globally Reinforcing Need to Strengthen Health Inequalities Research Capacities. Int J Health Serv. 2021;51(3):300–4.
[23] IANPHI. IANPHI and WHO Partner to Strengthen Public Health Functions and Health Emergency Preparedness. International Association of National Public Health Institutes. 2022.
[24] Rowan M, Hogg W, Huston P. Integrating Public Health and Primary Care. Healthc Policy. 2007;3(1).
[25] Jakab M, et al., editors. Health systems respond to noncommunicable diseases: time for ambition. Copenhagen: WHO Regional Office for Europe; 2018.
[26] Nutting PA, et al. Effect of facilitation on practice outcomes in the National Demonstration Project model of the patient-centered medical home. Ann Fam Med. 2010;8(1):S33–44.
[27] Berenguera A, et al. Beyond the consultation room: Proposals to approach health promotion in primary care according to health-care users, key community informants and primary care centre workers. Health Expect. 2017;20(5):896–910.
[28] Blomstedt Y, et al. Impact of a combined community and primary care prevention strategy on all-cause and cardiovascular mortality: a cohort analysis based on 1 million person-years of follow-up in Västerbotten County, Sweden, during 1990–2006. BMJ Open. 2015;5(12).
[29] Wadge H, et al. Brazil's Family Health Strategy: Using community health workers to provide primary care. Commonwealth Fund. 2016;40(December):1–15.
[30] Katafuchi R, et al. The effect of the Kasuya CKD network on prevention of the progression of chronic kidney disease: successful collaboration of a public health service, primary care physicians and nephrologists—community based cohort study. Clin Exp Nephrol. 2022;278:32–43.
[31] Valaitis R. Final Report for CFHI. Strengthening Primary Health Care through Primary Care and Public Health Collaboration. Hamilton: Ontario; 2012.
[32] 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.
[33] Gupta A. Stronger together – primary care and public health. Can Fam Physician blog post. May 15, 2020.
[34] Gyllstrom E, et al. Measuring Local Public Health and Primary Care Collaboration: A Practice-Based Research Approach. J Public Health Manag Pract. 2019;25(4):382–9.
[35] Brown AD, Upshur R, Sullivan TJ. Public Health and Primary Care: Competition or Collaboration. Healthc Pap. 2013;13(3):4–8.
[36] Benach J, et al. The case for planetary health prevention. J Epidemiol Community Health. 2022;76(2):105–6.
[37] Storm I, et al. How can collaboration be strengthened between public health and primary care? A Dutch multiple case study in seven neighbourhoods. BMC Public Health. 2015;15(1).
[38] Ottawa Charter for Health Promotion. The Ottawa Charter for Health Promotion. Ottawa: World Health Organization, Health and Welfare Canada & Canadian Public Health Association; 1986.
[39] Rechel B. How to enhance the integration of primary care and public health? Approaches, facilitating factors, and policy options. Copenhagen: European Observatory on Health Systems and Policies; 2020.
[40] Akhtar-Danesh N, et al. Viewpoints about collaboration between primary care and public health in Canada. BMC Health Serv Res. 2013;13(1):1.
[41] Pratt R, et al. Identifying Barriers to Collaboration Between Primary Care and Public Health: Experiences at the Local Level. Public Health Rep. 2018;133(3):311–17.