



TECHNICAL   
SERIES  
**ON PRIMARY  
HEALTH CARE**

**Primary health care:**  
closing the gap between  
**public health** and **primary care**  
through integration

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## Key messages

- Most primary health care services have focused on treating illnesses as and when they arise rather than on the prevention of disease.
- Most health systems are based on an outdated “disease model” which cannot meet the individual and community health needs of the populations in today’s rapidly changing world.
- With advances in interventional public health, personal and community services need to be provided through an integrated service.
- Ageing, population growth, the rising burden of noncommunicable disease and technological advances are driving the transformation of primary care.
- A comprehensive primary care that reaches everyone is the cornerstone of achieving universal health coverage: “leave no one behind”.
- Securing the health of the whole population cannot be attained without universal coverage achieved through effective comprehensive primary health care that focuses not only on disease but also on health and how to improve it.
- Strengthening public health with universal coverage and access to all, irrespective of their ability to pay for it, should be the aim of all modern health systems.
- The six models of integration described in this report provide an opportunity to focus service around the population needs to improve health and longevity.



## Executive summary

Modern primary health care emerged when gross health inequalities became a global concern. Forty years ago, the Declaration of Alma-Ata endorsed primary health care as the means of attaining the World Health Organization's goal of Health for All. With declining premature mortality, rising longevity, and an increase in healthy lifestyle, the fitness-for-purpose of current health systems can be questioned. The current disease-focused model is dated and proactive approaches to health through strong and effective primary care are needed. Such primary care should integrate most of the public health functions to address population health needs at the individual and community levels. The question is, how can we integrate public health into primary care and what are the possible models? There are various possible models of integration of public health into primary care. These could be applied alone or in combination, but all can potentially achieve health gains.



## Introduction

Modern primary health care emerged when gross health inequalities became a global concern (1). The Declaration of Alma-Ata, 40 years ago, endorsed primary health care as the means of attaining the World Health Organization's goal of health for all (2,3). It was a global health milestone of the 20th century and, crucially, identified primary health care as a fundamental human right and a key factor in attaining equitable health for everyone. Strong health systems founded on the primary health care approach have made substantial gains in population health. Coupled with improvements in living standards and socioeconomic development, people are living longer, with a more healthy life, and premature mortality has declined (4–6). However, such progress is in jeopardy as the burden of chronic conditions and associated risk factors are on the rise (5,7,8). Many of these risk factors, such as smoking, obesity and diabetes, are linked closely to the social, economic, environmental and commercial determinants of health that, in turn, influence behaviour. An additional challenge to health is that the people most affected by these determinants are also more likely to have poor health literacy and are less likely to access health services (9,10).

Primary health care has three main elements: 1) primary care and essential public health functions as the core of integrated services, 2) multisectoral policy and action, 3) empowered people and communities. This paper focuses on the first element and describes ways in which primary care and public health can be effectively integrated to achieve population health benefits.

In many settings, primary care, which is the first contact of people with health services that are continuous, comprehensive and coordinated, has, too often, been focused on treating illness as and when it arises rather than preventing disease in the first place. Modern public health interventions at the individual and population levels aim to prevent disease, protect and promote health, and ensure the greatest threats to population health are addressed (including surveillance and monitoring) (11,12).

Integrating a public health approach into primary care could be an effective way of preventing disease in local communities, thus reducing the demand on primary care and improving the health of the population. Integrating public health functions into primary care involves many different actions including: enabling primary care to deliver more protective, promotive and preventive services to a defined population; improving communication and coordination between public health authorities and primary care providers and managers; sharing knowledge and data to evaluate the impact of both individual- and population-focused services on health; and strengthening the surveillance function of primary care and more effectively linking this to public health surveillance.

Methods for integration of primary care and public health should consider the existing structures, goals, needs, capacities, resources and competencies available within the given context (11). Integration should also address the inequities in health service provision.

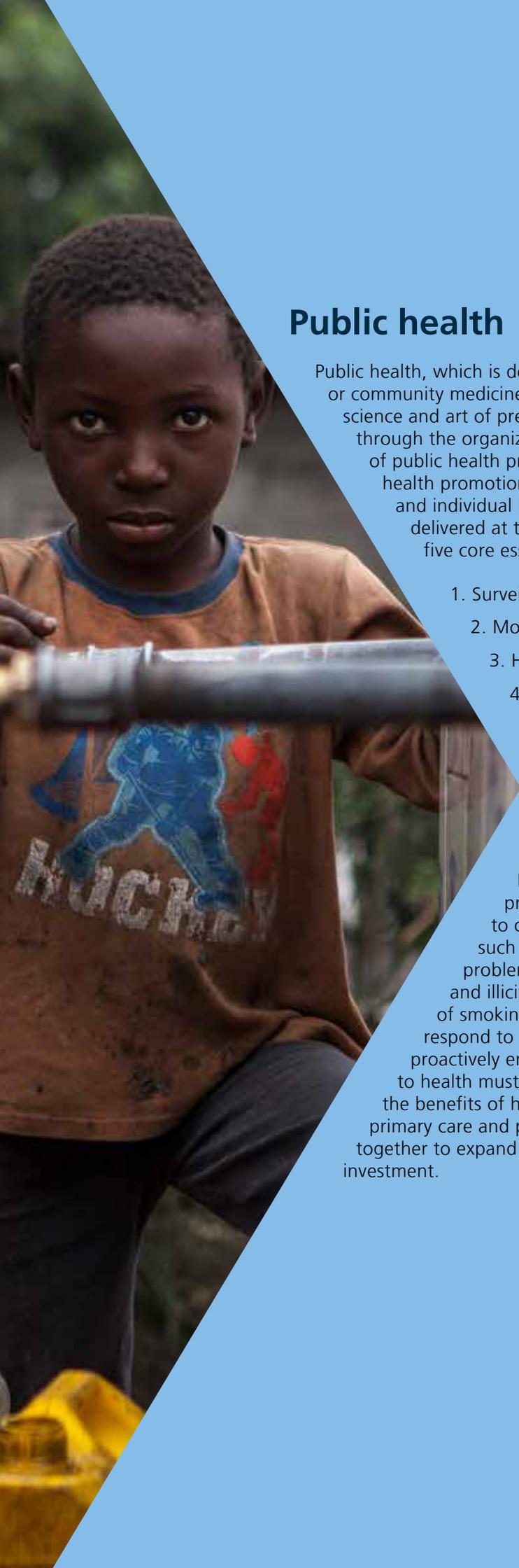
This paper reviews the various approaches reported in the literature that have been taken to integrate public health and primary care and summarizes both the strengths and weaknesses of each approach in order to advise policy-makers of the different approaches available. We have used the WHO definition for health, the Starfield definition for primary care and Acheson (1988) for public health (based on Winslow 1920) (13–17).

## Primary care

Worldwide primary care has been shown to be associated with enhanced access to health services, better health outcomes, and a decrease in hospitalization and emergency department visits (18). Primary care can also help counteract the negative effect of poor economic conditions on health (19). Traditional primary care focuses on personal health care services and continuity of care. The curative, “disease model” of the 1970s, which is still common today in many countries, is changing rapidly. Ageing, population growth, a rising burden of chronic, noncommunicable diseases and multimorbidity, and technological advances are driving the transformation of primary care. These demographic and epidemiological shifts require primary care to focus on prevention and quality of life, and encourage a proactive population management approach that targets individuals and groups that are most affected by the structural determinants of health. To do this effectively requires linking with public health (20). Proactive primary care means that radical changes need to be made to the current model of service, which include integrating key public health functions and interventions into primary care services. In her definition of primary care, Barbara Starfield indicated the need to move to a health model that provides “the first level of contact with the health system to promote health, prevent illness, care for common illnesses, and manage on-going health problems” (16,21). With this comprehensive and holistic approach, over 95% of patient contact with the health service would take place in primary care (17). It can therefore be argued that primary care is the backbone of any effective health system that aims for better population health. In settings where primary care has been effectively deployed and supported with adequate training and resources, family physicians only refer around 5% of patients from consultations onto secondary care (22–24). Patient satisfaction is high and at a decidedly low cost to the health system (19,25,26). The evidence is very clear, a health system that is not primary care-led is a weak and expensive system. Indeed, countries more oriented to primary care have populations with better health and services that are delivered at a lower cost (19,20,27,28).

Transforming primary care to have a proactive role in promoting health and preventing disease in addition to diagnosis, treatment and care is a logical next step in primary care development. Primary care, particularly when established with a clear responsibility for a population (empanelment or registration), is the building block of public health and is the appropriate location for local public health interventions. This raises the question: what is public health in the context of primary care? And, how can integration be achieved?





## Public health

Public health, which is described in some countries as public health medicine, or community medicine, is a multidisciplinary specialty, defined as “the science and art of preventing disease, prolonging life and promoting health through the organized efforts of society” (13). The multifaceted functions of public health provide the necessary tools to improve health through health promotion, protection and disease prevention at population and individual levels. Not all public health functions however can be delivered at the primary care level. In the WHO European Region, the five core essential public health operations are:

1. Surveillance
2. Monitoring preparedness for response
3. Health protection
4. Health promotion
5. Disease prevention.

There is enormous potential for primary care to take a more proactive role in contributing to tackling some of these essential public health operations, especially, promoting health and disease prevention. Public health guidance from the United Kingdom’s National Institute for Health and Care Excellence advises primary care professionals such as family physicians to opportunistically and proactively carry out activities such as short interventions to identify, reduce and prevent problematic use, abuse and dependence on alcohol, tobacco and illicit drugs, among others (27–32). However, in the case of smoking, for example, primary care professionals tend only to respond to requests for help with giving up smoking rather than proactively engaging with existing smokers. Such reactive approaches to health must become more proactive ones (12,31). Evidence of the benefits of health promotion within primary care is growing, and primary care and public health professionals and academics are working together to expand the evidence base with a particular interest in return on investment.



## Public health and primary care: the value of two natural allies

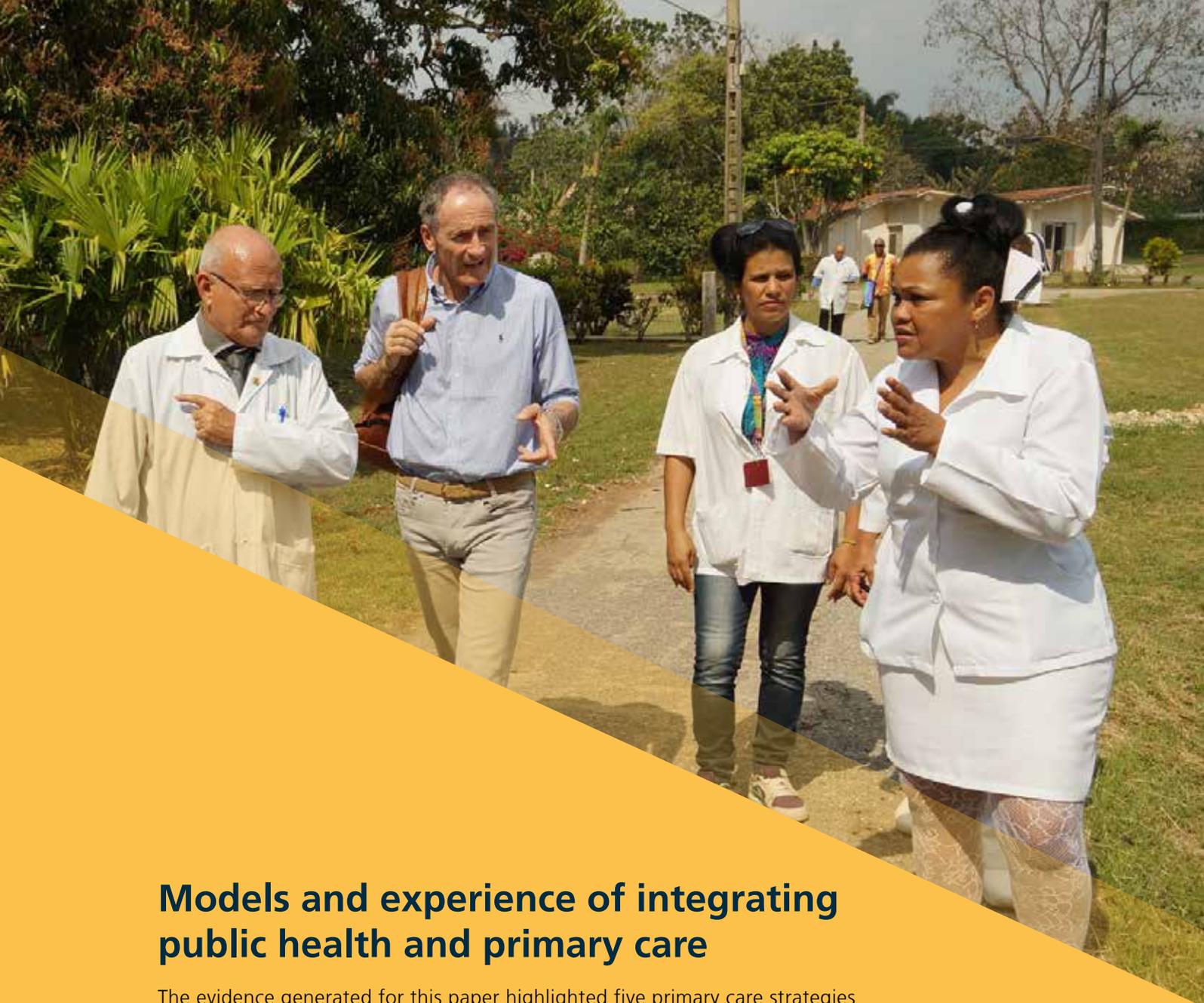
A health system is partly the product of a country's culture and the way people are willing to fund it to ensure equity and fairness. There is no perfect health system, each has strengths and weaknesses (26). However, the most effective systems are those able to secure the health of the whole population (33). This cannot be attained without universal health coverage achieved through effective comprehensive primary care focusing not only on disease but also on health and how to improve it. A strong proactive public health function, therefore, is required within primary care to protect the health of the population and the individual, promote health, and prevent disease.

Proactive primary care saves lives, reduces the burden of disease and improves quality of life. It is also an important means to improve productivity and provide a seamless service (34).

Considerable overlap occurs in roles, responsibilities and functions between public health and primary care, especially in protection and promotion of health, and disease and injury prevention (1). There are numerous possible scenarios of integration. One envisages full integration, where the structures, processes, and delivery of care for both public health and primary care are the responsibility of the same entity. A second is based on two separate organizational structures, where professionals work together and share the same aim and objectives. A third sees integration fostered by a continuity of information and communication channels, supported by routine coordination mechanisms (colocation or scheduled meetings with clear delineation of roles and responsibilities). In any scenario, we need to take into account the fact that both primary care and public health services are in high demand and under resourced. Mechanisms for integration, therefore, should look for mutual benefits and efficiency gains as well as opportunities to increase available resources to mutual benefit (e.g. seek grant funding for joint projects that are particularly effective) (35). However, evidence clearly shows that both primary care and public health would improve if their respective strengths were augmented through partnership and integration (5).

The real challenge to any health system is how to strengthen the relationship between public health and primary care to synergistically enhance both functions. Countries such as Brazil, Canada, and the United Kingdom provide some excellent examples of strong relationships between these two specialties. Public health achieves this through assessing health needs, defining priorities, providing evidence of effectiveness, developing strategies for population-wide interventions in promoting health, protecting health, preventing disease and injury, and evaluating health impacts. Primary care focuses on personal and family care interacting with the person in a holistic way (36). Through such personal and continuous care, primary care is able to implement public health strategies for healthy lifestyle (for example, smoking cessation, dietary advice, weight control, active living and control of stress), early recognition of disease (e.g. systematic and opportunistic screening), early intervention to tackle risk factors (e.g. hypertension, hyperlipidaemia and smoking), and health protection (e.g. immunization including the influenza vaccine and notifications of infectious disease). With the decline of infectious disease and increase in lifestyle-related diseases and conditions, integration of public health and primary care is vital to reduce the burden of chronic conditions (noncommunicable diseases) on communities, reduce the costs to the health system and improve health equity (37).

In many settings primary care teams have moved beyond individual-level work to assess and tackle structural determinants of disease at the local population level, for instance housing, transport, and the availability of fruit and vegetables. Primary care holds extensive information about the health profile of the local community, and professionals often develop a deep understanding of local social issues that drive illness. By proactively analysing the leading causes of ill health at the practice population level, primary care is able to generate unique public health insights.



## Models and experience of integrating public health and primary care

The evidence generated for this paper highlighted five primary care strategies and operational changes needed to integrate public health actions into primary care (19,35,38–80).

- Targeting health improvement actions and resources to the most disadvantaged areas.
- Building capacity in primary care to deliver proactive promotion and preventive care.
- Working beyond basic, essential and limited packages of care (terms not relevant to modern “family medicine” practice) to a full range of services needed for first contact with the health system.
- Providing early interventions to prevent escalation of health care needs.
- Taking a broader perspective so that care for individuals is framed in the context of population outcomes (e.g. equity and social cohesion).

The literature provides several possible models to integrate public health into primary care within the five strategic directions mentioned above. Six models were identified as possible means of achieving integration. These are based on adaptability to health systems to achieve best possible results through integration. These models could be implemented individually or in combination.

## Public health professionals integrated into primary care

In this model, there is no suggestion of full integration of public health and primary care, but integration of some public health professionals into primary care teams (39). The Islamic Republic of Iran has adopted such a model in rural primary care for the past 35 years, although it has not been extended to urban areas (40). One of the aims of the primary care network in the Islamic Republic of Iran was to integrate malaria control, family planning, school health and environmental health with primary care services (41).

Brazil has also integrated many of the public health functions into primary care through community health workers (42,43). This is in line with WHO recommendations on the role of health workers (44). These workers are involved directly with families in supporting chronic disease management, triaging conditions like anaemia or dehydration, managing disease-specific programmes (tuberculosis), providing sexual health advice, delivering pre- and postnatal care, including breastfeeding assistance and child development assessment, providing cancer screening, supporting immunization programmes, monitoring infectious disease, and providing health promotion advice (44–46). In South Africa, community health workers are being trained in new skills to screen for cardiovascular risks and diabetes, complementing their traditional role in addressing HIV and malaria (47).

In the United States of America, there are many initiatives to use community health networks, where public health agencies and primary care providers work with local communities to address local needs. These needs are mainly public health in nature and not related to medical services (48,49).

Placing a public health physician within practices may not be the best approach to transfer public health knowledge; however, issues important to the practice lend themselves to such an intervention with potential long-term benefit for public health and primary care and the population they serve (50). Time constraints limit the ability of family physicians to comply with preventive services recommendations. A study exploring the ability of a family physician to provide the recommended preventive services to a patient panel of 2500 people found that 7.4 hours per working day were required just to provide the preventive services (51).

## Public health services and primary care providers working together

These two services remain as separate organizations but work on a shared vision and agreed objectives to improve health. Primary care professionals provide personal public health interventions to complement population-level interventions carried out by public health practitioners (52,53). Such collaborative work is popular in the United States with many examples from New York to improve the health of the city's residents (54), Florida to increase uptake of influenza vaccination (55), Michigan to tackle diabetes (56) and North Carolina to improve the health outcomes of low-income mothers and infants (57), to list just a few. Such approaches may help improve communication and minimize separated insular thinking but may not reduce costs substantially or pool resources and they may be influenced by the changing roles of personnel (58). Some countries have adopted similar models of cooperation to tackle specific areas of health concern as the simplest approach to bring the two services together without organizational change. For example, in Australia and Canada, the two services collaborate to address chronic disease prevention (59,60). In the Netherlands, cooperation between public health and primary care has demonstrated success in preventing cardiovascular diseases (61).



## Comprehensive and proactive benefit packages that include public health

The United States Medicare system recognized that preventive interventions at a personal care level within primary care save money and provide an additional benefit to health services. Medicare provides a range of public health (preventive) services within primary care (62).

Burton and colleagues investigated whether adding preventive services to the health service benefits of older Medicare beneficiaries would affect utilization and costs of Medicare. There appeared to be a modest health benefit with no negative effect on cost. This triggered a discussion to extend Medicare benefits to include a general preventive visit from primary care clinicians, thus moving from essential to comprehensive services. A yearly preventive visit was not sufficient to result in a statistically significant reduction in smoking and alcohol use; however, there may be moderate benefit from preventive visits, especially if prevention occurs more regularly (63–68). Cohen and colleagues suggest that substantial resources can be saved through prevention (66). Medicare now provides a range of preventive public health services within their primary care programme (about 20 public health interventions). Similar packages, with or without copayments, have been introduced in some European (67) and low- and middle-income countries (68).

## Primary care services within public health settings

In countries where primary care does not provide universal coverage and especially those operating largely under the private sector (the United States, for example), public health agencies, such as the Iowa Department of Public Health, have undertaken a role as a health provider for a specific population or as a last resort for the socially disadvantaged (69). Such a model tends to develop through opportunity rather than by design and addresses only the particular needs of specific groups, not the entire population. Such a model should be the exception and not the rule. Strengthening public health with universal health coverage and access to all, irrespective of ability to pay, should be the aim of all modern health systems.

## Building public health incentives in primary care

The United Kingdom is one of the countries with longstanding experience of incentives for health. Over its 70-year history, the United Kingdom's National Health Service has introduced various changes and incentives to promote the health of the population through general practice, improve the quality of services and target certain conditions and populations (70,71).



Before the National Health Service introduced the Quality and Outcome Framework, there were various experiences of the use of incentives for general practice. These incentives led to an increase in immunization rates, cervical screening (72), breast cancer screening and many public health interventions. In 2004, the Quality and Outcome Framework was introduced as part of the new general medical service contract, which includes incentive schemes for general practices that reward them for how well they care for patients and provide good-quality promotion and preventative care services. The indicators of the quality and outcome framework are targets, which, if reached, result in extra payments to the practice (73–78). Estonia is another country that has introduced a bonus scheme based on quality to incentivize the inclusion of public health functions within primary care (79).

## Multidisciplinary training of primary care staff in public health

With accumulating evidence of the value of public health interventions in primary care, the importance of providing person-centred care (36), the importance of tackling the growing number of chronic conditions and encouraging positive and healthy lifestyles in individuals and communities (37), many primary care doctors and nurses in many countries are undertaking training in public health.

In the United Kingdom, some family physicians are developing a special interest in public health through formal training programmes described as “GPs with special interest” (80). Such a model of integration may be the best for effectively integrating these two services to improve the population’s health. Similar models have been developed in the United States.

Many members of the primary care team shy away from delivering effective public health services as they lack the skills needed. A new training curriculum is needed that provides a wide range of skills related to the prevention of ill health and public health. Additional training in public health is of great value to the skills of doctors and nurses in family practice. Short courses in interventional public health may be of additional value to the service and enhance the capacity of family doctors and primary care teams. Public health training should be extended to all members of the primary care team.

However, to provide comprehensive primary care in an integrated health system, primary care teams need at least 0.7 family physicians per 1000 population, and the coverage should be 100% of the population within one system (or under one umbrella), free at point of care (35).



## Conclusion

A proactive primary care approach has a crucial role in promoting healthier lifestyles through every contact with the public. Primary care professionals should “make every contact count”, which is about making healthy life a priority. Primary care physicians and nurses will need to be trained in public health to become proactive in promoting health and well-being. Shifting to prevention could alter the shape of the workforce, with more people delivering early intervention and public health services rather than interventions for acute illness. The six models described provide good opportunities to radically change health services to deliver a truly comprehensive service that can help achieve universal health coverage and fulfil the dream of the Declaration of Alma-Ata stated 40 years ago: health for all. Through integration alone, we can close the gap between primary care and public health, and move closer to that goal.

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