busy, anonymous and technical environment of hospital outpatient departments, with their many specialists and sub-specialists, produce mechanical interactions between nameless individuals and an institution – not people-centred care. Smaller clinics are less anonymous, but the care they provide is often more akin to a commercial or administrative transaction that starts and ends with the consultation than to a responsive problem-solving exercise. In this regard, private clinics do not perform differently than public health centres[64]. In the rural areas of low-income countries, governmental health centres are usually designed to work in close relationship with the community they serve. The reality is often different. Earmarking of resources and staff for selected programmes is increasingly leading to fragmentation[109], while the lack of funds, the pauperization of the health staff and rampant commercialization makes building such relationships difficult[110]. There are many examples to the contrary, but the relationship between providers and their clients, particularly the poorer ones, is often not conducive to building relationships of understanding, empathy and trust[62].

Building enduring relationships requires time. Studies indicate that it takes two to five years before its full potential is achieved[84] but, as the Alaska health centre mentioned at the beginning of this chapter shows, it drastically changes the way care is being provided. Access to the same team of health-care providers over time fosters the development of a relationship of trust between the individual and their health-care provider[97,111,112]. Health professionals are more likely to respect and understand patients they know

Box 3.5 Using information and communication technologies to improve access, quality and efficiency in primary care

Information and communication technologies enable people in remote and underserved areas to have access to services and expertise otherwise unavailable to them, especially in countries with uneven distribution or chronic shortages of physicians, nurses and health technicians or where access to facilities and expert advice requires travel over long distances. In such contexts, the goal of improved access to health care has stimulated the adoption of technology for remote diagnosis, monitoring and consultation. Experience in Chile of immediate transmission of electrocardiograms in cases of suspected myocardial infarction is a noteworthy example: examination is carried out in an ambulatory setting and the data are sent to a national centre where specialists confirm the diagnosis via fax or e-mail. This technology-facilitated consultation with experts allows rapid response and appropriate treatment where previously it was unavailable. The Internet is a key factor in its success, as is the telephone connectivity that has been made available to all health facilities in the country.

A further benefit of using information and communication technologies in primary-care services is the improved quality of care. Health-care providers are not only striving to deliver more effective care, they are also striving to deliver safer care. Tools, such as electronic health records, computerized prescribing systems and clinical decision aids, support practitioners in providing safer care in a range of settings. For example, in a village in western Kenya, electronic health records integrated with laboratory, drug procurement and reporting systems have drastically reduced clerical labour and errors, and have improved follow-up care.

As the costs of delivering health care continue to rise, information and communication technologies provide new avenues for personalized, citizen-centred and home-centred care. Towards this end, there has been significant investment in research and development of consumer-friendly applications. In Cape Town, South Africa, an "on cue compliance service" takes the names and mobile telephone numbers of patients with tuberculosis (supplied by a clinic) and enters them into a database. Every half an hour, the on cue server reads the database and sends personalized SMS messages to the patients, reminding them to take their medication. The technology is low-cost and robust. Cure and completion rates are similar to those of patients receiving clinic-based DOTS, but at lower cost to both clinic and patient, and in a way that interferes much less with everyday life than the visits to the clinic[106]. In the same concept of supporting lifestyles linked to primary care, network devices have become a key element of an innovative community programme in the Netherlands, where monitoring and communication devices are built into smart apartments for senior citizens. This system reduces clinic visits and facilitates living independently with chronic diseases that require frequent checks and adjustment of medications.

Many clinicians who want to promote health and prevent illness are placing high hopes in the Internet as the place to go for health advice to complement or replace the need to seek the advice of a health professional. New applications, services and access to information have permanently altered the relationships between consumers and health professionals, putting knowledge directly into people's own hands.

Table 3.5 Regular entry point: evidence of its contribution to quality of care and better outcomes

Increased satisfaction with services – Weiss (1996)[116], Rosenblatt (1998)[117], Freeman (1997)[124], Miller (2000)[125]
Better compliance and lower hospitalization rate – Weiss (1996)[116], Rosenblatt (1998)[117], Freeman (1997)[124], Mainous (1998)[126]
Less use of specialists and emergency services – Starfield (1998)[82], Parchman (1994)[127], Hurley (1989)[128], Martin (1989)[129], Gadomski (1998)[130]
Fewer consultations with specialists – Hurley (1989)[128], Martin (1989)[129]
More efficient use of resources – Forrest (1996)[82], Forrest (1998)[95], Hjortdahl (1991)[131], Roos (1998)[132]
Better understanding of the psychological aspects of a patient's problem – Gulbrandsen (1997)[55]
Better uptake of preventive care by adolescents – Ryan (2001)[133]
Protection against over-treatment – Schoen (2007)[134]

well, which creates more positive interaction and better communication[113]. They can more readily understand and anticipate obstacles to continuity of care, follow up on the progress and assess how the experience of illness or disability is affecting the individual's daily life. More mindful of the circumstances in which people live, they can tailor care to the specific needs of the person and recognize health problems at earlier stages.

This is not merely a question of building trust and patient satisfaction, however important these may be[114,115]. It is worthwhile because it leads to better quality and better outcomes (Table 3.5). People who use the same source of care for most of their health-care needs tend to comply better with advice given, rely less on emergency services, require less hospitalization and are more satisfied with care[98 116,117,118]. Providers save consultation time, reduce the use of laboratory tests and costs[95,119,120], and increase uptake of preventive care[121]. Motivation improves through the social recognition built up by such relationships. Still, even dedicated health professionals will not seize all these opportunities spontaneously[122,123].

The interface between the population and their health services needs to be designed in a way that not only makes this possible, but also the most likely course of action.

Organizing primary-care networks

A health service that provides entry point ambulatory care for health- and health-related problems should, thus, offer a comprehensive range of integrated diagnostic, curative, rehabilitative and palliative services. In contrast to most conventional health-care delivery models, the offer of services should include prevention and promotion as well as efforts to tackle determinants of ill-health locally. A direct and enduring relationship between the provider and the people in the community served is essential to be able to take into account the personal and social context of patients and their families, ensuring continuity of care over time as well as across services.

In order for conventional health services to be transformed into primary care, i.e. to ensure that these distinctive features get due prominence, they must reorganized. A precondition is to ensure that they become directly and permanently accessible, without undue reliance on out-of-pocket payments and with social protection offered by universal coverage schemes. But another set of arrangements is critical for the transformation of conventional care – ambulatory- and institution-based, generalist and specialist – into local networks of primary-care centres[135,136,137,138,139,140]:

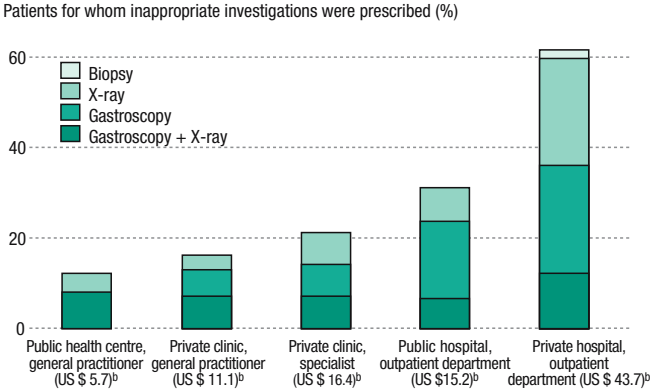
- bringing care closer to people, in settings in close proximity and direct relationship with the community, relocating the entry point to the health system from hospitals and specialists to close-to-client generalist primary-care centres;
- giving primary-care providers the responsibility for the health of a defined population, in its entirety: the sick and the healthy, those who choose to consult the services and those who choose not to do so;
- strengthening primary-care providers' role as coordinators of the inputs of other levels of care by giving them administrative authority and purchasing power.

Bringing care closer to the people

A first step is to relocate the entry point to the health system from specialized clinics, hospital outpatient departments and emergency services, to generalist ambulatory care in close-to-client settings. Evidence has been accumulating that this transfer carries measurable benefits in terms of relief from suffering, prevention of illness and death, and improved health equity. These findings hold true in both national and cross-national studies, even if all of the distinguishing features of primary care are not fully realized[31].

Generalist ambulatory care is more likely or as likely to identify common life-threatening conditions as specialist care[141,142]. Generalists adhere to clinical practice guidelines to the same extent as specialists[143], although they are slower to adopt them[144,145]. They prescribe fewer invasive interventions[146,147,148,149], fewer and shorter hospitalizations[127,133,149] and have a greater focus on preventive care[133,150]. This results in lower overall health-care costs[82] for similar health outcomes[146,151,152,153,154,155] and greater patient satisfaction[125,150,156]. Evidence from comparisons between high-income countries shows that higher proportions of generalist professionals working in ambulatory settings are associated with lower overall costs and higher quality rankings[157]. Conversely, countries that increase reliance on specialists have stagnating or declining health outcomes when measured at the population level, while fragmentation of care exacerbates user dissatisfaction and contributes to a growing divide between health and social services[157,158,159]. Information on low- and middle-income countries is harder to obtain[160], but there are indications that patterns are similar. Some studies estimate that in Latin America and the Caribbean more reliance on generalist care could avoid one out of two hospital admissions[161]. In Thailand, generalist ambulatory care outside a hospital context has been shown to be more patient-centred and responsive as well as cheaper and less inclined to over-medicalization[162] (Figure 3.4).

Figure 3.4 Inappropriate investigations prescribed for simulated patients presenting with a minor stomach complaint, Thailand[a,b,162]



[a] Observation made in 2000, before introduction of Thailand's universal coverage scheme.

[b] Cost to the patient, including doctor's fees, drugs, laboratory and technical investigations.

The relocation of the entry point into the system from specialist hospital to generalist ambulatory care creates the conditions for more comprehensiveness, continuity and person-centredness. This amplifies the benefits of the relocation. It is particularly the case when services are organized as a dense network of small, close-to-client service delivery points. This makes it easier to have teams that are small enough to know their communities and be known by them, and stable enough to establish an enduring relationship. These teams require relational and organizational capacities as much as the technical competencies to solve the bulk of health problems locally.

Responsibility for a well-identified population

In conventional ambulatory care, the provider assumes responsibility for the person attending the consultation for the duration of the consultation and, in the best of circumstances, that responsibility extends to ensuring continuity of care. This passive, response-to-demand approach fails to help a considerable number of people who could benefit from care. There are people who, for various reasons, are, or feel, excluded from access to services and do not take up care even when they are in need. There are people who suffer illness but delay seeking care. Others present risk factors and could benefit from screening or prevention programmes (e.g. for cervical cancer or for childhood obesity), but are left out because they do not consult: preventive services that are limited to service users often leave out those most in need[163]. A passive, response-to-demand

approach has a second untoward consequence: it lacks the ambition to deal with local determinants of ill-health – whether social, environmental or work-related. All this represents lost opportunities for generating health: providers that only assume responsibility for their customers concentrate on repairing rather than on maintaining and promoting health.

The alternative is to entrust each primary-care team with the explicit responsibility for a well-defined community or population. They can then be held accountable, through administrative measures or contractual arrangements, for providing comprehensive, continuous and person-centred care to that population, and for mobilizing a comprehensive range of support services – from promotive through to palliative. The simplest way of assigning responsibility is to identify the community served on the basis of geographical criteria – the classic approach in rural areas. The simplicity of geographical assignment, however, is deceptive. It follows an administrative, public sector logic that often has problems adapting to the emergence of a multitude of other providers. Furthermore, administrative geography may not coincide with sociological reality, especially in urban areas. People move around and may work in a different area than where they live, making the health unit closest to home actually an inconvenient source of care. More importantly, people value choice and may resent an administrative assignment to a particular health unit. Some countries find geographical criteria of proximity the most appropriate to define who fits in the population of responsibility, others rely on active registration or patient lists. The important point is not how but whether the population is well identified and mechanisms exist to ensure that nobody is left out.

Once such explicit comprehensive responsibilities for the health of a well-identified and defined population are assigned, with the related financial and administrative accountability mechanisms, the rules change.

- The primary-care team has to broaden the portfolio of care it offers, developing activities and programmes that can improve outcomes, but which they might otherwise neglect[164]. This sets the stage for investment in prevention and promotion activities, and for venturing into areas that are often overlooked, such as health in schools and in the workplace. It forces the primary-care team to reach out to and work with organizations and individuals within the community: volunteers and community health workers who act as the liaison with patients or animate grassroots community groups, social workers, self-help groups, etc.
- It forces the team to move out of the four walls of their consultation room and reach out to the people in the community. This can bring significant health benefits. For example, large-scale programmes, based on home-visits and community animation, have been shown to be effective in reducing risk factors for neonatal mortality and actual mortality rates. In the United States, such programmes have reduced neonatal mortality by 60% in some settings[165]. Part of the benefit is due to better uptake of effective care by people who would otherwise remain deprived. In Nepal, for example, the community dynamics of women's groups led to the better uptake of care, with neonatal and maternal mortality lower than in control communities by 29% and 80%, respectively[166].
- It forces the team to take targeted initiatives, in collaboration with other sectors, to reach the excluded and the unreached and tackle broader determinants of ill-health. As Chapter 2 has shown, this is a necessary complement to establishing universal coverage and one where local health services play a vital role. The 2003 heatwave in western Europe, for example, highlighted the importance of reaching out to the isolated elderly and the dramatic consequences of failing to do so: an excess mortality of more than 50 000 people[167].

For people and communities, formal links with an identifiable source of care enhance the likelihood that long-term relationships will develop; that services are encouraged to pay more attention to the defining features of primary care; and that lines of communication are more intelligible. At the same time, coordination linkages can be formalized with other levels of care – specialists, hospitals or other technical services – and with social services.

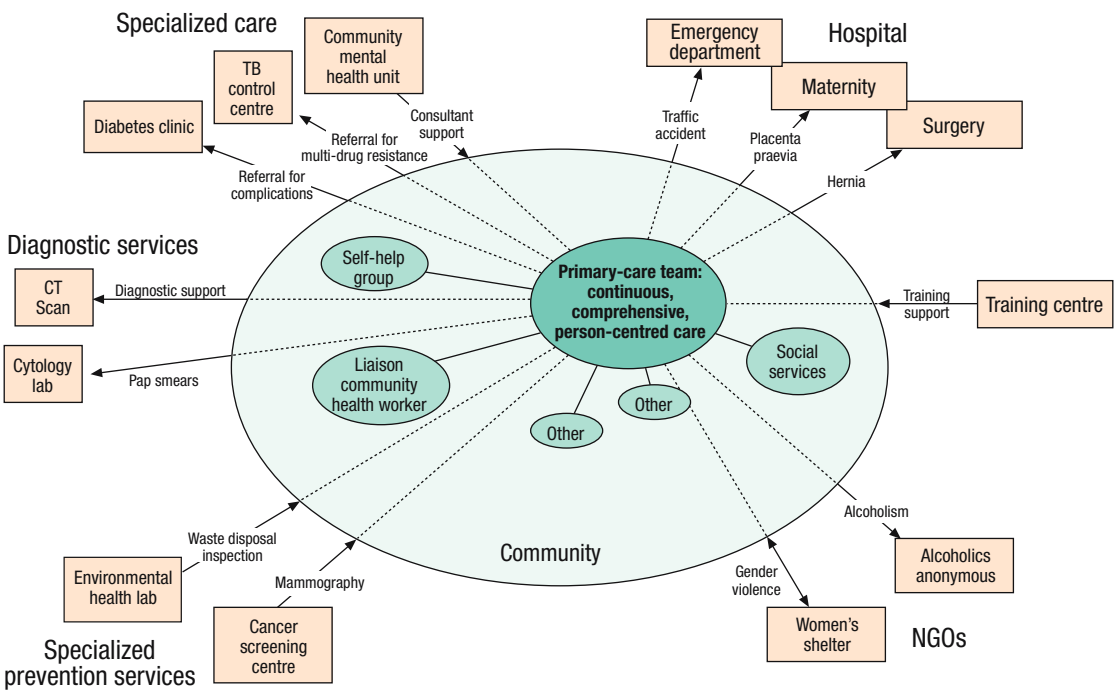
The primary-care team as a hub of coordination

Primary-care teams cannot ensure comprehensive responsibility for their population without support from specialized services, organizations and institutions that are based outside the community served. In resource-constrained circumstances, these sources of support will typically be concentrated in a "first referral level district hospital". Indeed, the classic image of a health-care system based on PHC is that of a pyramid with the district hospital at the top and a set of (public) health centres that refer to the higher authority.

In conventional settings, ambulatory care professionals have little say in how hospitals and specialized services contribute – or fail to contribute – to the health of their patients, and feel little inclination to reach out to other institutions and stakeholders that are relevant to the health of the local community. This changes if they are entrusted with responsibility for a defined population and are recognized as the regular point of entry for that population. As health-care networks expand, the health-care landscape becomes far more crowded and pluralistic. More resources allow for diversification: the range of specialized services that comes within reach may include emergency services, specialists, diagnostic infrastructure, dialysis centres, cancer screening, environmental technicians, long-term care institutions, pharmacies, etc. This represents new opportunities, provided the primary-care teams can assist their community in making the best use of that potential, which is particularly critical to public health, mental health and long-term care[168].

The coordination (or gatekeeping) role this entails effectively transforms the primary-care pyramid into a network, where the relations between the primary-care team and the other institutions and services are no longer based only on top-down hierarchy and bottom-up referral, but on cooperation and coordination (Figure 3.5). The primary-care team then becomes the mediator between the community and the other levels

Figure 3.5 Primary care as a hub of coordination: networking within the community served and with outside partners[173,174]



of the health system, helping people navigate the maze of health services and mobilizing the support of other facilities by referring patients or calling on the support of specialized services.

This coordination and mediation role also extends to collaboration with other types of organizations, often nongovernmental. These can provide significant support to local primary care. They can help ensure that people know what they are entitled to and have the information to avoid substandard providers[169,170]. Independent ombudsman structures or consumer organizations can help users handle complaints. Most importantly, there is a wealth of self-help and mutual support associations for diabetics, people living with handicaps and chronic diseases that can help people to help themselves[171]. In the United States alone, more than five million people belong to mutual help groups while, in recent years, civil society organizations dealing with health and health-related issues, from self-help to patient's rights, have been mushrooming in many low- and middle-income countries. These groups do much more than just inform patients. They help people take charge of their own situation, improve their health, cope better with ill-health, increase self-confidence and diminish over-medicalization[172]. Primary-care teams can only be strengthened by reinforcing their linkages with such groups.

Where primary-care teams are in a position to take on this coordinator role, their work becomes more rewarding and attractive, while the overall effects on health are positive. Reliance on specialists and hospitalization is reduced by filtering out unnecessary uptake, whereas patient delay is reduced for those who do need referral care, the duration of their hospitalization is shortened, and post-hospitalization follow-up is improved[83,128,129].

The coordination function provides the institutional framework for mobilizing across sectors to secure the health of local communities. It is not an optional extra but an essential part of the remit of primary-care teams. This has policy implications: coordination will remain wishful thinking unless the primary-care team has some form of either administrative or financial leverage. Coordination also depends on the different institutions' recognition of the key role of the primary-care teams. Current professional education systems, career structure and remuneration mechanisms most often give signals to the contrary. Reversing these well-entrenched disincentives to primary care requires strong leadership.

Monitoring progress

The switch from conventional to primary care is a complex process that cannot be captured in a single, universal metric. Only in recent years has it been possible to start disentangling the effects of the various features that define primary care. In part, this is because the identification of the features that make the difference between primary care and conventional health-care delivery has taken years of trial and error, and the instruments to measure them have not been generalized. This is because these features are never all put into place as a single package of reforms, but are the result of a gradual shaping and transformation of the health system. Yet, for all this complexity, it is possible to measure progress, as a complement to the follow-up required for measuring progress towards universal coverage.

The first dimension to consider is the extent to which the organizational measures required to switch to primary care are being put into place.

- Is the predominant type of first-contact provider being shifted from specialists and hospitals to generalist primary-care teams in close proximity to where the people live?
- Are primary-care providers being made responsible for the health of all the members of a well-identified population: those who attend health services and those who do not?
- Are primary-care providers being empowered to coordinate the various inputs of specialized, hospital and social services, by strengthening their administrative authority and purchasing power?

The second dimension to consider is the extent to which the distinctive features of primary care are gaining prominence.

- Person-centredness: is there evidence of improvement, as shown by direct observation and user surveys?

- Comprehensiveness: is the portfolio of primary-care services expanding and becoming more comprehensive, reaching the full essential benefits package, from promotion through to palliation, for all age groups?
- Continuity: is information for individuals being recorded over the life-course, and transferred between levels of care in cases of referral and to a primary-care unit elsewhere when people relocate?
- Regular entry point: are measures taken to ensure that providers know their clients and vice versa?

This should provide the guidance to policy-makers as to the progress they are making with the transformation of health-care delivery. However, they do not immediately make it possible to attribute health and social outcomes to specific aspects of the reform efforts. In order to do so, the monitoring of the reform effort needs to be complemented with a much more vigorous research agenda. It is revealing that the Cochrane Review on strategies for integrating primary-health services in low- and middle-income countries could identify only one valid study that took the user's perspective into account[160]. There has been a welcome surge of research on primary care in high-income countries and, more recently, in the middle-income countries that have launched major PHC reforms. Nevertheless, it is remarkable that an industry that currently mobilizes 8.6% of the world's GDP invests so little in research on two of its most effective and cost-effective strategies: primary care and the public policies that underpin and complement it.

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