

Adolescent Health 6



Youth-friendly primary-care services: how are we doing and what more needs to be done?

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For developmental as well as epidemiological reasons, young people need youth-friendly models of primary care. Over the past two decades, much has been written about barriers faced by young people in accessing health care. Worldwide, initiatives are emerging that attempt to remove these barriers and help reach young people with the health services they need. In this paper, we present key models of youth-friendly health provision and review the evidence for the effect of such models on young people's health. Unfortunately, little evidence is available, since many of these initiatives have not been appropriately assessed. Appropriate controlled assessments of the effect of youth-friendly health-service models on young people's health outcomes should be the focus of future research agendas. Enough is known to recommend that a priority for the future is to ensure that each country, state, and locality has a policy and support to encourage provision of innovative and well assessed youth-friendly services.

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This is the sixth in a **Series** of six papers about adolescent health

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Introduction

The present generation of young people face more complex challenges to their health and development than their parents did.¹ However, the major health problems for young people are largely preventable. Access to primary-health services is seen as an important component of care, including preventive health for young people. Two decades of research in both developed and developing countries have drawn attention to the barriers young people face in accessing health services. This research has resulted in a growing recognition that young people need services that are sensitive to their unique stage of biological, cognitive, and psychosocial transition into adulthood, and an impression of how health services can be made more youth-friendly has emerged. Recommendations encouraging the removal of these barriers^{2–4} have been complemented by the WHO-led call for the development of youth-friendly services worldwide.⁵ In this paper, we summarise the recommendations for providing more youth-friendly primary-care services and provide a descriptive review of evidence that implementation of such services is beneficial to health outcomes for young people. Panel 1 explains the terminology we use throughout this paper.

The immense changes in emotional and cognitive functioning that take place during adolescence, heralded by puberty, have implications for health care that are unique to this age-group. The emerging capacity for abstract thinking and planning opens a path to increasing autonomy which goes together with a growing need for privacy and confidentiality. These new thinking abilities also bring with them the constructions of the imaginary audience (eg, everyone is interested in me), and personal fable (eg, “this behaviour may be risky for others, but not for me”) both of which contribute to higher risk taking in this age-group than in people of other ages.¹⁰ Furthermore, the interaction of these developmental changes with the quality of the social contexts in which young people live, work, and play (eg, family, school, community) have a bearing on health and health-risk behaviours quite apart from influences in childhood.¹¹

Although adolescents report that they welcome the opportunity to discuss health issues such as contraception,

Major health problems and health-risk behaviours

Worldwide, HIV/AIDS and depression are the leading causes of disease burden for young people (those aged 10–24 years).⁶ Half the newly acquired HIV infections occur in young people, with most of those affected living in developing countries.⁷ In developed countries, mental disorders are at the forefront of disease burden in young people.⁸ Studies show that psychosocial issues form a great burden of disease for young people, including intentional and unintentional injuries, mental disorders, tobacco, alcohol and other substance use, and unprotected sexual intercourse.⁹ Many people will explore these health-risk behaviours, others will engage in them more steadily, both groups placing their health at risk.

Search strategy and selection criteria

Information used in the introduction, epidemiology, and information on barriers was drawn from previous reviews. For the descriptive review on the effects of different health-care models, we undertook additional searches for relevant articles in MEDLINE, PsycLit, Embase and the Cochrane Depression, Anxiety and Neurosis Controlled Trials Register Studies database, between 2000 and 2005, using as our main search terms: “young person”, “young people”, “adolescent”, “primary health care”, “general practice”, “family practice”, “community mental health”, “school health services”, “student health services”, “adolescent health services” (specific search terms are available from the authors). The resulting abstracts were searched manually to identify any previously unidentified articles. We included all studies assessing the effects of different service models of health-care provision for young people in primary-care or community-health settings. Articles in which youth-friendly services, or their potential benefit, were merely described but not specifically assessed were excluded. Similarly, studies assessing services which were said to be directed towards youth but for which no component was described of what had been introduced to make these services youth friendly were also excluded.

Panel 1: Terminology

This review describes research undertaken to improve primary-care services relevant to people who are developing from children into adults. WHO defines adolescents as people aged 10–19 years, youth as those aged 15–24 years, and young people as those aged 10–24 years. In practice, young people undergo a range of connected physical, social, psychological, and cognitive changes throughout their transition into adulthood, and all are confronted by the same difficulties in acquiring appropriate health care. In recognition of the various definitions used for the term young people in different settings over the past two decades, we have allowed a broad definition of young people to include those aged between 10 and 24 years.

substance use, and sexually transmitted infection with health-care providers and are generally prepared to trust their advice,¹² young people tend not to disclose their health-risk behaviours to health-care providers unless prompted.¹³

Help-seeking behaviour

Despite the differences in service provision and social context, help-seeking behaviour in the developed and developing world is remarkably similar. Research, mainly from developed countries, indicates that 70–90% of young people contact primary-care services at least once a year,^{14–22} mostly for respiratory or dermatological reasons.^{23–25} However, for mental-health problems they seek help from friends and family rather than health services.²⁶ In developing countries, young people are less willing to seek professional help for more sensitive matters^{27,28} and turn more readily to friends or family members they can trust or health educators for sexual advice or family-conflict advice.²⁹ Often, the adults around the adolescent decide whether or not health care needs to be sought, and if so when and where it should be sought.²⁸

Barriers to provision and use of health services

With this large gap between the nature of the services young people seek from primary health-care professionals and the actual major disease burdens they endure (mental disorders, sexually transmitted diseases, etc), much work has been directed to understanding the barriers young people face to accessing care. During the past two decades, evidence has converged in describing these barriers. Studies include randomised controlled trials,³⁰ large cross-sectional surveys,³¹ studies using mixed methods,³² and well designed qualitative studies.¹⁵ The barriers met by providers of services to young people have also been explored.^{33,34} Studies from around the world indicate that young people are often unwilling or unable to obtain needed health services, which address these barriers.^{3,27,35,36} Broadly categorised, these barriers relate to the availability, accessibility, acceptability, and equity of health services.^{27,28,37}

In developing countries, primary-care health services are sometimes still not available. In parts of the world, where these health services are available, restrictive laws and policies might prevent them from being provided to some groups of young people (eg, laws or policies forbid the provision of contraceptives to unmarried young people in some countries).²⁷

Even where health services are available, they might be inaccessible for a variety of reasons which relate in particular to costs,^{36,38,39} lack of convenience (eg, health facilities might be located a long distance from where young people live, study, or work; or have inconvenient opening hours),^{3,5,36,38} or lack of publicity and visibility.^{3,5,27} Young people might also not access available services because they lack knowledge of what the services offer.^{15,40} In many developed countries where services exist, absence of adequate financial reimbursement of providers for developmentally appropriate consultations with young people often limits the availability of affordable services.^{5,36,41}

Health services might not be acceptable to young people, even if available and accessible. Fear about lack of confidentiality is a major reason for young people's reluctance to seek help.^{2,27,42} For example, fears about being recognised in a clinic waiting room with the possible stigma attached deters young people from visiting health services.⁴⁰ Young people might also fear that health workers will not maintain confidentiality, especially from parents.^{5,38,43} The fear of parents or guardians finding out about a visit to a health service can be profound. For example, in cultures in which social norms forbid premarital sex, unmarried young people with a sexual problem such as a genital ulcer or unplanned pregnancy are likely to deal with the issue themselves, turn to trusted friends or siblings, or to service-delivery points, such as pharmacies or clinics far from home. In some cases, service providers operate illegally and therefore secretly (eg, illegal abortionists).²⁸ Other reasons for low acceptability of services are the fear that health workers will scold, ask difficult questions, or carry out unpleasant procedures.^{5,38,43} Health professionals might not be trained in communicating with young people and their parents or in negotiating time alone with the young person so that sensitive issues can be discussed without parents being present.^{2,44}

Health services might be friendly to some young people, such as those from well-to-do families, but might be decidedly unfriendly to others, such as young people living and working on the streets. Barriers, such as differential access to comprehensive health insurance can also make some services less accessible to certain cultural groups.^{36,45} Services might be available, accessible, and acceptable, but not necessarily equitable.

If and when young people seek help, they are often unhappy with the consultation and determine not to go back, if possible.^{46,47} To ensure prevention and early intervention efforts, clinicians and public-health workers

are increasingly recognising the pressing need to overcome the many barriers that hinder the provision and use of health services by young people, and to transform the negative image of health facilities to one of welcoming user-friendly settings.

High order principles governing development of youth-friendly services

High order principles for establishing youth-friendly services include addressing inequities (including gender inequities) and easing the respect, protection, and fulfilment of human rights, as stipulated in internationally agreed human rights agreements such as the Millennium Development Goals and the UN Convention on the Rights of the Child (which also supports the more specific characteristics of youth-friendly services, such as youth participation and confidentiality, as discussed later).^{3,5,27,48,49}

Contexts for the provision of youth-friendly services

The different types of health services that try to reach young people can be categorised into six groups. First is the centre specialising in adolescent health set in a hospital. The centre provides in-patient services as well as a drop-in service to young people. Additionally, it serves as a secondary or tertiary referral centre for nearby health facilities and provides professional training and a research agenda.^{5,50} Second is the community-based health facility. This facility caters for young people within the context of health-service provision to all segments of the population (eg, a general practice, or a family-planning clinic). This model includes stand-alone units (which are generally run by non-governmental organisations or by private individuals or institutions), and units that are an integral part of a district or municipal health system (that are run by the government).^{38,51,52} A third type of service is school-based or college-based health services and centres linked with schools or colleges. This model offers a preventive and curative health service in or close to the premises of schools or colleges.^{5,53} Fourth is a community-based centre that is not only a health facility, but also provides other services. These centres provide health information and perhaps recreation or help with literacy or numeracy skills. In addition to providing some health services, they often have links with health facilities nearby where young people could be referred.^{5,38,54} A fifth are pharmacies and shops, which sell health products, such as condoms and postcoital contraception, but do not yet provide health services, such as treatment of sexually transmitted infections. In many countries, social marketing programmes that use marketing methods to promote the use of condoms and improve their availability are in place.⁵⁵ A final group consists of outreach information and service provision. Efforts are underway in many countries to take health information, health products, and health services to young people who might be marginalised.^{38,56} The point of contact is in places where young people congregate (eg, street corners,

Panel 2: WHO framework for development of youth-friendly health services

An equitable point of delivery is one in which:

Policies and procedures are in place that do not restrict the provision of health services on any terms and that address issues that might hinder the equitable provision and experience of care

Health-care providers and support staff treat all their patients with equal care and respect, regardless of status

An accessible point of delivery is one in which:

Policies and procedures are in place that ensure health services are either free or affordable to all young people

Point of delivery has convenient working hours and convenient location

Young people are well informed about the range of health services available and how to obtain them

Community members understand the benefits that young people will gain by obtaining health services, and support their provision

Outreach workers, selected community members and young people themselves are involved in reaching out with health services to young people in the community

An acceptable point of delivery is one in which:

Policies and procedures are in place that guarantee client confidentiality

Health-care providers

- provide adequate information and support to enable each young person to make free and informed choices that are relevant to his or her individual needs
- are motivated to work with young people
- are non-judgmental, considerate, and easy to relate to
- are able to devote adequate time to their patients
- act in the best interests of their patients

Support staff are motivated to work with young people and are non-judgmental, considerate, and easy to relate to

The point of delivery

- ensures privacy (including discrete entrance)
- ensures consultations occur in a short waiting time, with or without an appointment, and (where necessary) swift referral
- lacks stigma
- has an appealing and clean environment
- has an environment that ensures physical safety
- provides information with a variety of methods

Young people are actively involved in the assessment and provision of health services

The appropriateness of health services for young people is best achieved if:

The health services needed to fulfil the needs of all young people are provided either at the point of delivery or through referral linkages

Health-care providers deal adequately with presenting issue yet strive to go beyond it, to address other issues that affect health and development of adolescent patients

The effectiveness of health services for young people is best achieved if:

Health-care providers have required competencies

Health-service provision is guided by technically sound protocols and guidelines

Points of service delivery have necessary equipment, supplies, and basic services to deliver health services

shopping malls, or bars) or where they work (eg, in brothels, factories, etc) or in schools.⁵⁷

Making health services youth friendly

The characteristics of youth-friendly health services have been presented in a framework, which WHO uses to guide programme development (panel 2).^{27,58} The

characteristics build on reviews of evidence and experiences of frontline organisations on adolescent barriers to care and offer proposals for the removal of these barriers.^{27,38,43,44,59} Similar principles guide consensus statements of key organisations in several countries.^{2,36,60} These statements, however, need to be translated into government policies and ultimately into practice.

	Country	Measure of improvement	Intervention/assessment	Design	Results/conclusions	Comments
Studies showing improvement in access as a result of intervention						
Klein et al 2001 ⁶¹	USA	Access Provider performance	Guideline implementation in preventive care in 14–19 year-olds Team training	Audit before and after intervention	Exposed teens more aware of health services Some increase in health-risk behaviour screening	Uncontrolled purposive sampling A third of providers did not receive training
Walker et al 2002 ⁶²	UK	Access Health-risk behaviours	Nurse-led general practice wellness visits for 14–15 year-olds	randomised trial	Exposed teenagers more aware about confidential and reproductive services Minimal reduction in health-risk behaviours	High attrition rate
Brindis et al 2003 ⁶³	USA	Access	School based health services	National survey of service directors and providers	School-based services cover only 2% of school population, high enrolment and use reported, wide variety of services provided	No comparison data Uncertain integration with existing systems of care
Brindis et al 2003 ⁶³	USA	Access	Providing free and affordable services >19 year-olds involved in setting up clinics	Cross-sectional satisfaction survey before and after intervention	Reported increase in access especially by minority groups and high satisfaction rates	Perceptions of non-users not sought
Martinez et al 2003 ⁶⁴	USA	Access	Outreach to HIV-infected 15–54 year-olds to improve access	Cross-sectional survey with historical control	Improved transition to care with reduced barriers	Imprecise sampling framework and choice of controls
Naccarella 2003 ⁶⁵	Australia	Access Provider performance	Evaluation of rural general practice initiative to strengthen relationship between GPs and school-aged YP	Qualitative method	Young peoples' say more likely to access general practitioners, but mixed views about youth-friendliness Raised general practitioner awareness about youth health issues	Informants already committed to youth issues
Raine et al 2003 ⁶⁶	USA	Access	Peer-led sexual-health clinic and outreach for young men	Audit of service provision	Young male attendees increased greatly and females did not reduce attendance or express dissatisfaction	No comparison group
Bhuiya et al 2004 ⁶⁷	Bangladesh	Access	Reproductive health intervention to improve access for people aged 13–19 years, including provider training, subsidised services, improved confidentiality	Quasi-experimental design two intervention and one control groups	Service use doubled in groups one and increased 10-fold in group 2	Non-random selection of intervention clinics
NAFCI 2004 ⁶⁸	South Africa	Access Provider performance	National quality improvement initiative to improve sexual health services for people aged 10–24 years	Audit of service before and after intervention. 11 intervention and control clinics assessed per year	Training of >4000 providers improved quality standards in the 328 clinics implementing initiative and improved access with more than 500 000 young people reached in 2004. Intervention clinics did better than controls on all standards	Non-random selection and allocation
Save the children 2004 ⁶⁹	Bolivia	Access	Pharmacy-based intervention including provider training, provision of information materials, and education of young people	Randomised trial with four pharmacies in the intervention and four in the control group Mystery-client assessment of services and record assessment	Significant increase in demand for services and in sale of condoms in intervention group. Less age-related discrimination and improved information provision according to mystery-client assessments	Purposive sampling of participating pharmacies Sustainability not considered
Brindis et al 2005 ⁷⁰	USA	Access Health-risk behaviour	Peer-led sexual-health promotion for 15–19 year-olds	Cross-sectional survey before and after intervention	Improved likelihood of returning for yearly visit Reduction in sexual-health-risk behaviour	No control group Stringent inclusion criteria High drop-out rate assessment

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Study reporting mixed results in relation to access as a result of the intervention

Mmari et al 2003 ⁷¹	Zambia	Access	Provider and peer educator training to increase youth friendliness of clinic-based reproductive services	Cross-sectional survey before and after intervention, (eight intervention and two control clinics) Qualitative assessment of clinic youth-friendliness and community acceptance	Improved use of services in some but not all intervention clinics.	Increased use seemed more related to community acceptance of services than to youth-friendliness
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Studies suggesting lack of improvement in access as a result of the intervention

Britto et al 2001 ⁷²	USA	Access	School-based intervention to improve access for underserved 7th to 12th grade students (median age 15 years)	Quasi-experimental design with matched comparison	No improvement in access in intervention group compared with controls Slight decrease in use of emergency services	Non-random sampling Short-term Low response rate on the surveys
Fox et al 2003 ⁴¹ and English et al 2003 ⁷³	USA	Access	Extension of State Children's Health Insurance Programme	Qualitative assessment	No effect on access (owing to limited implementation, provider resistance, absence of policy around other barriers to care)	

Table 1: Summary of initiatives examining benefits of youth-friendly services: access to health services**Evidence for effectiveness of youth-friendly health services**

A multitude of youth-friendly health initiatives are being developed throughout the world. For example, in the state of New South Wales in Australia, more than 70 such initiatives have been identified.³⁸ In view of the wide

array of approaches to providing care to young people, review of the evidence, which favours some initiatives over others, is important. The enthusiasm arising from the realisation that so many initiatives are being created is tempered by the recognition that consideration of the methods they use threatened the validity of most of the

	Country	Measure of improvement	Intervention/assessment	Design	Results/conclusions	Comments
Studies showing some positive health outcomes as a result of intervention						
Moyo et al 2000 ⁷⁵	Zimbabwe	Health-risk behaviours	Youth-friendly protocol in clinics including youth corners, peer education, and nurse training	Cross-sectional survey before and after intervention	Change in attitudes towards condom use in girls only	No control group
Lou et al 2004 ⁷⁶	China	Health-risk behaviours	Programme to increase contraceptive use in unmarried young people aged 15–24 years via provision of information, community sensitisation, improved provision of services, and education of health workers	Quasi-experimental design	Use of contraceptives significantly higher in the intervention communities. Exposure to intervention was most powerful correlate of condom use	Sampling of intervention and control sites based on willingness of authorities to participate
Brindis et al 2005 ^{70*}	USA	Access Health-risk behaviour	Peer-led sexual health promotion for 15–19 year-olds	Cross-sectional survey before and after intervention	Improved likelihood of returning for yearly visit Reduction in sexual-health-risk behaviour	No control group Stringent inclusion criteria High drop-out rate in assessment
Asarnow et al 2005 ⁷⁷	USA	Disorder outcome	Quality improvement for management of depression including expert leader teams, care managers supporting providers, training workshops, patient and clinician choice of treatment	Randomised trial	Patients in the intervention group had significantly lower depression scores than those in the usual care group	Sustainability over 6 months not reported Clinical significance of reported difference uncertain
Study showing minimal improvement in health outcomes as a result of intervention						
Walker et al 2002 ^{69*}	UK	Access Health-risk behaviours	Nurse-led general practice wellness visits for 14–15-year-olds	Randomised trial	Exposed teenagers more aware of confidential and reproductive services Small reduction in health-risk behaviours	High attrition rate

* These studies are also in table 1.

Table 2: Summary of initiatives—improvement in health outcomes

	Country	Measure of improvement	Intervention/assessment	Design	Results/conclusions	Comments
Sanci et al 2000 ⁸³ and 2005 ⁸⁵	Australia	Provider performance	Educational intervention for general practitioners in adolescent health care	Randomised trial	Objective ratings of consultations by standardised adolescent patients. All outcomes, except standardised patients' ratings of general practitioners' ability to explain confidentiality, were sustained at 13 months and changes in general practitioners' knowledge, attitudes, and self-reported behaviour maintained after 5 years	Self-selection of participants 5-year assessment on basis of general practitioners self report
Klein et al 2001 ^{61*}	USA	Access Provider performance	Guideline implementation in preventive care in 14–19 year-olds, team training	Audit before and after intervention	Exposed teens more aware of health services Some increase in health-risk behaviour screening	Uncontrolled Purposive sampling A third of providers not given training
Lustig et al 2001 ⁸⁶	USA	Provider performance	Training workshops in adolescent care principles	Cross-sectional survey of adolescent patients pre and post-intervention	Training helps to improve screening and counselling in some areas but not sensitive ones	Sustainability not measured beyond 3 months
Ozer et al 2001 ⁸⁸	USA	Provider performance	Provider training followed by introduction of screening and charting measures. Health educator in clinics	Cross-sectional intervention survey in adolescent patients done before and after intervention	Increase in reported clinician screening and counselling for health-risk behaviours (tobacco, alcohol, sex, helmet, and seat-belt use) at 5 months, sustained at 18 months	No control group Purposive selection of participating clinics
Pfaff et al 2001 ⁸⁷	Australia	Provider performance	1-day training workshop on suicide risk, detection, and management in 15–24 year-olds	Cross-sectional survey of patients before and after intervention	Increased rate of screening for depression and suicidal ideas No changes in management	Uncontrolled Self-selection of participants No measure of sustainability beyond 6 weeks
Shafer et al 2002 ⁸³ Tebb et al 2005 ⁸⁴	USA	Provider performance	Quality improvement intervention to increase screening for chlamydia in sexually active young people	Randomised trial	Screening rates increased for <i>Chlamydia trachomatis</i> during routine checkups	Long-term sustainability unknown Purposive sampling of participating clinics
Klein et al 2003 ⁹⁰	USA	Provider performance	Quality-improvement intervention Educational sessions sponsored by insurance companies, academic detailing by nurses	Audit of preventive screening and counselling before and after intervention	Improvement in delivery of preventive services after intervention	Purposive sampling No control group
Naccarella 2003 ^{65*}	Australia	Access Provider performance	Assessment of Rural general practice initiative to strengthen relationship between general practitioners and school-aged young-people	Qualitative method	Young people's reported more likely to access general practitioners, but mixed views about youth-friendliness Raised general practitioners' awareness about youth health issues	Informants already committed to youth issues
Ozer et al 2005 ⁸⁹	USA	Provider performance	Training workshop followed by use of screening and charting instruments for health-risk behaviours in 13–17 year-olds	Quasiexperimental design with survey of adolescent patients before and after intervention	Improved counselling for health-risk behaviours after provider training. Greater effect size for helmet use. No further improvement of counselling rate after introduction of screening instruments.	Long-term sustainability not assessed Purposive sampling of participating clinics

*These studies are also in table 1.

Table 3: Summary of initiatives—improved provider performance

assessments made of these programmes. Although we have identified several experimental studies and programmes, most of the research in this specialty comes from uncontrolled observational studies and is therefore likely to be prone to bias and confounding limiting interpretation. The studies providing this evidence are summarised in the tables (see later).

Access to health services

Table 1^{53,61–73} shows that several studies in developed and developing countries have addressed access to primary-care services. We identified only two randomised controlled

trials, which can be considered to have examined the effectiveness of a youth-friendly intervention on access to care. One study examined the offer of nurse-led wellness visits in general practices in the UK.⁶² This study improved awareness as a proxy for access by showing that exposed teenagers were more aware of confidential services and where to go for reproductive health needs than those who were not exposed to the visits. The other randomised controlled trial showed that an intervention to make pharmacies more youth-friendly in Bolivia by training pharmacists and providing materials improved access to contraceptive advice for young people.⁶⁹

Other studies have involved a variety of interventions including guideline implementation,⁷⁴ outreach,^{64–66} removing the barrier of cost,^{41,63,73} use of peers,^{66,70,71} provider training,^{65,71,74} and the provision of school-based health services.^{53,72} Two studies undertaken in developing countries included more components of the WHO framework and tested multifaceted interventions that included provider training, links with the community, and provision of subsidised confidential services.^{67,68} In the initiatives from Bangladesh, Bolivia, and South Africa, health-service provision was combined with other interventions.^{67–69} Most studies suggest that access to all settings can be improved through youth-friendly interventions. In two studies,^{41,73} in which access did not improve, the authors suggested limited implementation of the intervention as an explanation.

Health outcomes

Four studies^{62,70,75,76} had measured the effect on young people's health-risk behaviours of an intervention providing youth-friendly services (table 2^{62,70,75–77}). One of these studies,⁶² in which young people were invited to attend a nurse-led general-practice visit reported only minor changes in participants' health-risk behaviours. The other studies,^{70,75,76} which focused on reductions in sexual-risk behaviours, reported a positive effect of the intervention (one of them in women only⁷⁵). In one of these studies,⁷⁶ information and education activities of health workers in health facilities were considered key contributors to the changes in reported behaviours.

Only one study,⁷⁷ a randomised trial, reported the effect of a youth-friendly service initiative on the outcome of a disorder. The investigators showed the effectiveness of a quality-improvement intervention for the management of depression in primary care on the basis of symptoms reported by young people at 6 months. However, the extent to which the quality-improvement strategy included youth-friendly elements was unclear (table 2).

Evidence for improved provider performance

Three main types of approaches have been used to improve providers' performance in caring for young people: provision of guidelines, provider training, and quality-improvement strategies incorporating provider training. The limitations of only issuing guidelines in bringing consistent change in practitioners' performance has been well described.^{61,78,79}

Primary-care practitioners surveyed in various parts of the world have repeatedly expressed a need for better training in adolescent health.^{33,80,81} Evidence from two randomised controlled trials indicates that provider performance in addressing youth health issues can be improved with appropriate training.^{82–85} Reports showing similar evidence from uncontrolled studies are also presented in table 3.^{61,65,82–90} Although some studies incorporated quality-improvement strategies alongside

provider training, with the exception of one study,⁶⁸ little evidence was provided of benefits beyond provider performance.^{88–90}

Where do we go from here?

Two decades of research has provided clear guidance on the barriers young people meet in accessing primary-care services. We have shown that this evidence has not yet been translated into the design of youth-friendly services in a comprehensive way. Neither have the benefits of youth-friendly initiatives on the health of young people been appropriately shown. Further evidence in support of the principles outlined in the WHO framework is needed, and this can be achieved by incorporating the principles into the design of services for young people and assessing the strategies in well designed studies. Ideally, interventions to be tested should involve young people in their design and address all the barriers by working at the level of policy, service providers, service environment, and by creating linkages with the community. We need to know whether involving young people in the development of quality indicators for primary care enhances practitioner training and guidance (Graham T, unpublished). As several randomised trials are in progress across the world, reliable evidence might soon be available for how services that apply this youth-friendly framework benefit young people in terms of access and outcomes. Rapid translation of new evidence into practice and policies will also be essential.

Although provider training and organisational system interventions seem logical first steps in improving health outcomes for adolescents in primary care, more well designed studies are needed to assess the effect of screening and counselling primary-care services on health outcomes and on engagement, satisfaction, and access. Clinicians' behaviour and clinic systems can be altered to incorporate preventive health,⁸⁹ although more evidence is needed for the sustainability and responsiveness of these system changes to old and new youth-health issues. We found only one study,⁸⁸ which addressed sustainability of system changes, provider screening, and counselling behaviour at 18 months. The cost-benefit balance of implementing such youth-friendly services also remains entirely unexplored.⁸⁸

Higher order principles lend support to the development of youth-friendly services. However, the evidence for the effectiveness of youth-friendly service initiatives (beyond improving access) is still insufficient. Additionally, initiatives to improve services will not be effective in reducing the burden of disease in this population without the support of a broader public-health response offering a favourable context in which these services can operate. We are responsible for taking this agenda forward to improve the health of young people now and in the future. Service use has often been increased in the studies and programmes described here and this is considered by many to provide a solid platform for action. However,

increased use or access to health care is not the only change that will improve health outcomes for young people. Population-based initiatives, socioeconomic conditions, and political conditions are among the other forces that have a bearing on health. A priority for the future is to ensure that each country, state, and locality has a policy and support to encourage provision of innovative well assessed youth-friendly services.

Conflict of interest statement

We declare that we have no conflict of interest.

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