



Review article

Assessment of Youth-Friendly Health Care: A Systematic Review of Indicators Drawn From Young People's Perspectives

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 A B S T R A C T

Purpose: To review the literature on young people's perspectives on health care with a view to defining domains and indicators of youth-friendly care.

Methods: Three bibliographic databases were searched to identify studies that purportedly measured young people's perspectives on health care. Each study was assessed to identify the constructs, domains, and indicators of adolescent-friendly health care.

Results: Twenty-two studies were identified: 15 used quantitative methods, six used qualitative methods and one used mixed methodology. Eight domains stood out as central to young people's positive experience of care. These were: accessibility of health care; staff attitude; communication; medical competency; guideline-driven care; age appropriate environments; youth involvement in health care; and health outcomes. Staff attitudes, which included notions of respect and friendliness, appeared universally applicable, whereas other domains, such as an appropriate environment including cleanliness, were more specific to particular contexts.

Conclusion: These eight domains provide a practical framework for assessing how well services are engaging young people. Measures of youth-friendly health care should address universally applicable indicators of youth-friendly care and may benefit from additional questions that are specific to the local health setting.

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IMPLICATIONS AND CONTRIBUTION

This systematic review summarizes the evidence on indicators of youth-friendly health care from young people's perspectives. It identifies eight core domains of health care that are important to young people. Designing survey instruments that measure these indicators will provide robust measurement of youth-friendly health care.

Over the past decade, the framework of adolescent-friendly health care has been used to better orient health services to the needs of young people. Initially described by the World Health Organization (WHO) and largely focused on primary health care in low-income countries [1], there is growing appreciation of the framework's potential in promoting quality health care to adolescents in high-income countries and

within specialist health services [2–4]. Professional organizations from across the world including the United States, United Kingdom, and Australia are increasingly applying the principles of adolescent-friendly practice within position papers and service guidance about delivery of quality health care to young people [5–7]. However, in recognition of the importance of young people's involvement in health service development, monitoring, and evaluation, there have also been calls for better indicators of quality health care to be developed [3,5–9].

Adolescent-friendly health care purportedly addresses five domains; equity, effectiveness, accessibility, acceptability, and

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appropriateness of care [1]. Equity of care relates to the right of all young people to obtain quality care. Effectiveness corresponds to the expected improvement in adolescent health outcomes when care is delivered in the right way at the right time. The other three domains relate to how health care should be provided in order to engage young people. The American Academy of Pediatrics and the Society for Adolescent Health and Medicine have suggested indicators of youth friendliness that primarily correspond to domains of accessibility and appropriateness of care [5,6]. However, the acceptability of health services—that is, how well they meet young people’s expectations—can only be effectively measured by obtaining young people’s views [10].

Over the past decade, the provision of patient-centered health care has been a growing feature of health care policy [11,12]. Based on the view that patient experiences are integral to improving the quality of health care, a strong evidence base has accrued from adult health care settings [7,12].

Despite these concurrent developments, it is surprising how few adolescent-oriented measures of health care quality, satisfaction, or experience of care are based on youth self-report [3,13]. This absence is especially notable given the longstanding acknowledgement through the United Nations convention on the Rights of the Child (article 12) of the importance of youth participation in all matters affecting them, including their health [14]. For example, in a comprehensive review of children and adolescent’s experiences of health care based on 38 national surveys in the United Kingdom, Hargreaves and Viner suggested that the views of those younger than age 16 and their families had largely not been included in national health surveys, supporting the view that the National Health Service is designed by older people for older people [15].

Because young people’s views, particularly on the acceptability of health care, are central to the evaluation of adolescent-

friendly health care, we undertook a systematic review to identify quantitative and qualitative studies of the adolescent friendliness of health services from the perspective of young people. Our goal was to extract the major constructs underlying young people’s experiences of health care and to identify domains and indicators of youth friendliness from their perspective.

Methods

Inclusion and exclusion criteria

We included any study of young people (10–24 years of age) that focused on measuring their satisfaction or experience of health care or any study measuring their views on the adolescent friendliness of services. Exclusion criteria were studies outside the target age group, studies focused on the outcome but from the perspective of others, or studies of the evaluation of youth-friendly interventions. Both quantitative and qualitative studies with any type of design were included. The search was restricted to studies published in English and French in the past 11 years (2000–2011) to correlate with the timing of the emergence of the youth-friendly services framework [1]. Information sources included three relevant databases (Medline [OvidSP], Embase [Ovid], and CINHAL [Ebsco]), hand searches of references, and contact with authors for additional studies. The search strategy and thesaurus specific terms used for each database are summarized in Panel 1. The full study selection process is detailed in Figure 1.

Definitions. The term “young people” refers to those between ages 10 and 24 years. The terms “adolescent-friendly health services” and “youth-friendly health services” have been used interchangeably as they appear within the literature reviewed.

Panel 1

Databases and citation indexes

| | A | B | C |
|---------|---|---|---|
| Embase | Health survey or Structured interview Interview or semistructured interview or unstructured interview | Confidentiality or Doctor patient relation or Patient satisfaction or Interpersonal communication or communication skill or nonverbal communication or verbal communication or trust | Health care access Outpatient department Hospital patient or hospitalized adolescent Health care quality or clinical effectiveness or clinical indicator or performance measurement system or exp practice guideline or “quality of nursing care” or exp treatment outcome or outpatient care or primary health care or “continuity of patient care” or patient-centered care |
| Medline | *Adolescent Health Services and (*Program evaluation or *Needs assessment or exp **Quality of health care*) | Adolescent behavior or exp patient satisfaction or physician-patient relations or trust or confidentiality | (*Adolescent Health Services) and (primary health care or “continuity of patient care” or patient-centered care or “Health Services Needs and Demand” or Health Services Accessibility) and (*Program Evaluation or *Questionnaires or *Needs Assessment or exp **Quality of Health Care*) |
| CINHAL | (MH “Interviews+”) or (MH “Surveys+”) or (MH “Survey Research”) or (MM “Patient Attitudes”) | (MM “Privacy and Confidentiality”) or (MM “Privacy and Confidentiality”) or (MM “Patient Satisfaction”) or (MM “Interpersonal Relations”) OR (MM “Professional-Client Relations”) OR (MM “Adult-Child Relations”) OR (MM “Professional-Patient Relations+”) or (MM “Trust”) | (MH “Outpatient Service”) or (MH “Quality of Health Care+”) or (MH “Health Services Accessibility”) or (MH “Outpatients”) OR (MH “Adolescent, Hospitalized”) |

For the three different databases, combination within columns by “OR” and then between columns with “AND” and with youth-friendly/adolescent-friendly (e.g., youth-friendly/adolescent-friendly AND A AND B AND C) resulted in the final search adding limitations of language (English and French) and timeframe (≥year 2000).

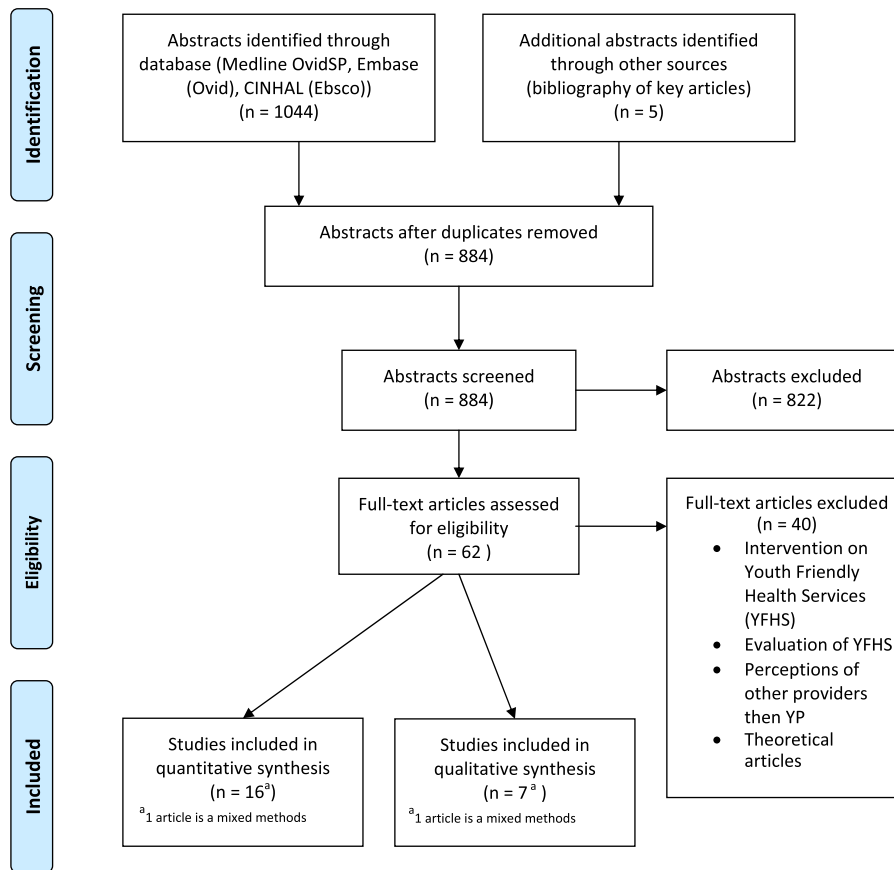


Figure 1. Flow chart of studies selection.

Data collection process

Data extracted from each article included country, study design, sample size, response rate, setting, domains of adolescent-friendly health care, measurement instruments, key findings, and limitations. A construct or domain refers to a distinct, underlying aspect of patient experience that cannot be observed directly but which can be measured indirectly through indicators [16]. When constructs, domains, or instruments were not clearly defined in an article, we referred to the source article for clarification. If the primary authors had developed the questionnaire, they were contacted by e-mail to obtain a copy. Indicators related to those constructs were then sought in order to facilitate the content review. The review of title, abstracts and articles was initially performed by A.E.A. and confirmed by S.M.S. and K.E.B.

Quality assessment

Glasziou et al's criteria were used to assess the quality of the quantitative studies [17]. These are summarized in Table 1 and provide a rating score out of 5. The qualitative studies were assessed using the criteria of Mills et al [18] which gives a rating score out of 9 and are summarized in Table 2. Quality assessment was performed by A.E.A.

Summary measures and synthesis of results

The main constructs and measures from the various studies were summarized (Table 3) using an assessment grid. The resulting information was thematically analyzed with identification of indicators. Finally the resulting indicators were assigned to constructs, based on the findings of each article. The indicators defining each construct were then compared across constructs to identify how distinct (or not) indicators were by construct (Table 4, results section).

Results

Study selection

The database searches yielded 1,044 potential titles and abstracts pertaining to studies of young people's views about their experience of health care and a hand search and contact with authors provided five additional studies. This was reduced to 884 titles after removing duplicates, and further reduced to 62 after applying the exclusion criteria to the abstracts. Review of these articles resulted in exclusion of a further 40 studies because they did not include indicators that related to young people's perspectives (Figure 1). This left 22 studies to review, of

Table 1
Methodological assessment of quantitative studies included in the review (based on criteria of Glasziou et al, 2001 [17])

| Criteria | Garland et al (2000) | Bethell et al (2001) | Farrant et al (2004) | Crossley et al (2005) | Erulkar et al (2005) | Mah et al (2006) | Shaw et al (2006) | Tugsdelger et al (2006) |
|--|----------------------|----------------------|----------------------|-----------------------|----------------------|--------------------------------------|--------------------------|-------------------------|
| Minimizing selection bias | | | | | | | | |
| Study participants well defined (time, place, personal characteristics)? | Yes | Yes | Yes | Yes | No | Yes | Yes | Yes |
| Selection random or consecutive? | Random | Random | No | Consecutive | No information | Consecutive | No information | Consecutive |
| Participant rate >80%? OR | Yes | No | Yes | No | No information | Yes | Yes | No |
| If participant rate is low, comparison respondents/nonrespondents described? | NA | No | NA | No | NA | NA | NA | No |
| Minimizing measurement bias | | | | | | | | |
| Standardized, validated questionnaire OR | No | No | No | No | No | Yes | Partially | No |
| Clear description of what outcomes were measured | Yes | Yes | No | Yes | Yes | NA | Yes | Yes |
| Other | | | | | | | | |
| Did the article report ethical review? | Yes | No | No | Yes | No | Yes | Yes | No |
| Number of criteria met (of 5) | 5 | 3 | 2 | 4 | 1 | 5 | 4 | 3 |
| Criteria | Britto et al (2007) | Fry et al (2007) | Garland et al (2007) | Haller et al (2007) | Viner et al (2007) | Byczkowski et al (2010) ^a | Mauerhoffer et al (2010) | |
| Minimizing selection bias | | | | | | | | |
| Study participants well defined (time, place, personal characteristics)? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | |
| Selection random or consecutive? | No information | Consecutive | Consecutive | Consecutive | No information | Random | Consecutive | |
| Participant rate >80%? OR | Yes | Yes | No | Yes | No | No | Yes | |
| If participant rate is low, comparison respondents/nonrespondents described? | NA | NA | Yes | NA | No | No | NA | |
| Minimizing measurement bias | | | | | | | | |
| Standardized, validated questionnaire OR | Yes | No | Yes | No | Yes | Yes | No | |
| Clear description of what outcomes were measured | NA | Yes | NA | Yes | Yes | Yes | Yes | |
| Other | | | | | | | | |
| Did the article report ethical review? | Yes | No | Yes | Yes | No | Yes | Yes | |
| Number of criteria met out of 5 | 4 | 4 | 5 | 5 | 3 | 4 | 5 | |

NA = not available.

^a This study used a mixed qualitative–quantitative methodology.

which 15 used quantitative methods, six used qualitative methods, and one used a mixed methodology.

Quality assessment

Quantitative studies. Six of the 16 studies fulfilled all of the identified methodological criteria. The other studies were of varying quality (Table 1). We elected to include studies with

relatively poor methodology to extract maximum information in order that studies from diverse countries and settings could be included because this would help ascertain which constructs and indicators might have more universal application. A recurrent problem was low participation rates with insufficient comparison between respondents and nonrespondents raising questions about potential recruitment bias [19–23]. Higher participation rates were generally seen in studies from specialist settings,

Table 2
Methodological assessment of the relevant qualitative studies (based on criteria by Mills et al, 2005 [45])

| Criteria | Ensign et al (2004) | Shaw et al (2004) | Tivorsak et al (2004) | Peterson et al (2007) | Stinson et al (2008) | Byczkowski et al (2010) ^a | Khalaf et al (2010) |
|---|---------------------|-------------------|-----------------------|-----------------------|----------------------|--------------------------------------|---------------------|
| Were data transcribed verbatim? | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Were interview questions predefined? | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| If focus groups were used, was the facilitator trained? | Yes | Unclear | Yes | Yes | Yes | NA | Yes |
| Was saturation mentioned? | Yes | No | No | Yes | No | No | No |
| Was there description of how the themes were derived from the data? | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Were findings analyzed by more than one assessor? | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Were participant answers reviewed for clarification? | Yes | Yes | No | Yes | No | Yes | Yes |
| Were quotes presented in the reports? | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Was there ethical review? | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Number of criteria met (of 9) | 9 | 7 | 7 | 9 | 7 | 7 | 8 |

^a This study used a mixed qualitative–quantitative methodology.

Table 3
Summary of included studies

| Authors | Study design | Setting | Participants | Instrument | Domains | Main findings | Limitations |
|-----------------------|---------------------------------|--|--|--|---|--|--|
| Garland et al (2000) | Prospective | 1 clinic for maltreated youth 1 high school-based center 1 university-affiliated outpatient psychiatry clinic USA | 180 adolescents Response rate: 80% Age: 13–18 Female: 52% | Multidimensional Adolescent Satisfaction Scale (MASS): 21 items self-report | Satisfaction of care | Satisfaction is associated with positive expectations about mental health and counsellor and with youth playing an active role in referral Severity of mental illness is inversely associated with satisfaction | Threat to external validity: youth in mental health care services |
| Bethell et al (2001) | Cohort study Cross-sectional | Commercially and publicly insured adolescents enrolled in managed care USA | 4,060 adolescents (1,767 responded by telephone, 2,293 by mail) Age: 14–18 Response rate 40% Female: 57% | Young Adult Health Care Survey (YAHCS) 45-item measurement scales developed by authors | Effectiveness of care (assessing and comparing health plan and provider adherence to guidelines in adolescent preventive services) Quality of care Experience of care | YAHCS has strong construct validity for purposes of measuring adherence to national guidelines 2.1% of adolescents were counselled on all topics (risky behaviors) | Threat to external validity: very low response rate (13%) for 1 of the 6 sample sites Sample may not be representative of U.S. adolescent population |
| Ensign et al (2004) | Qualitative | Homeless teenagers, USA | Response rate not known Age: 12–23 Female: not reported | 2 focus groups 30 semistructured interviews | Developmentally appropriate care Cultural and interpersonal care Physical aspects of health | Understand youth attitudes Be treated with respect Physical health outcomes | Threat to external validity: highly selective sample Baseline characteristics of the sample not well described |
| Shaw et al (2004) | Qualitative | Tertiary hospital rheumatology clinics (3 different regions) UK | 51 participants 1 group aged 11–18 Female: 67% 1 group aged 19–30 Female: 61% 2 groups of parents | 11 focus groups | Multidimensional program of coordinated care Transition to adult health care | Holistic care Assessment of adolescents including personal aspirations, life events, nonmedical aspects Communication Waiting time Youth-friendly environment Diversion material (leisure readings) Age-specific examination rooms | Small sample size Predominantly female sample |
| Tivorsak et al (2004) | Qualitative | Tertiary hospital USA | 54 adolescents Response rate: no info Age: 11–19 years old Female: 54% (School, church, recreation program) and chronically ill (subspecialty clinic, tertiary hospital) | 12 focus groups divided in healthy (5) and chronically ill (7) from tertiary hospital Semistructured open-ended questions | Health promotion and risks Preferred physician characteristics Preferred site characteristics | | Threat to internal validity: saturation not mentioned and patients' answers not reviewed for clarifications |
| Farrant et al (2004) | Quantitative | Tertiary hospital Specialist outpatient clinic New Zealand | 53 adolescents Response rate: 88% Age: 13–18 years old Female: 51% | 110 items questionnaire developed by authors | Current health care How to improve health care Needs for future health care | Honesty Confidentiality Medical knowledge Listening skills Trust No difference by gender | Threat to internal validity: potential selection bias (convenience sample) and information bias through non validated questionnaire Generalizability only to adolescents with chronic illness |

| | | | | | | | |
|-------------------------|---------------------------------|--|--|--|---|--|--|
| Crossley et al (2005) | Quantitative Cross-sectional | Tertiary hospital 3 outpatient clinics UK | 64 doctors and 352 patients and their parents Response rate: 58% Age: 7 to adult (>16) Female: not reported | 17 items questionnaire developed by authors 5-point Likert scale | Nonmedical elements of doctors' performance Doctor-patient interaction Controlling for confounders | Reliable questionnaire for assessing doctor's performance with children. Adolescents assessment of doctor-patient interaction is reliable >16 years old | Sample not focused on adolescents, and adolescents older than age 16 years were considered adults No description of sample characteristics |
| Erulkar et al (2005) | Quantitative Cross-sectional | Reproductive health center Kenya Zimbabwe | 1,344 adolescents Age: 10–19 (Kenya) Female: 51% 539 adolescents (Zimbabwe) Female: 46% | Interviews based on a list of indicators of youth friendliness | Youth friendliness | Staff attitudes, cost, short waiting time and the ability to obtain all services at one site | Threat to external validity: highly educated sample |
| Shaw et al (2006) | Cohort study | Tertiary Hospital 10 pediatric rheumatology centers | 308 adolescents and parents/guardians (n = 303) Response rate: 85.79% Age: 11–18 Female: 60% | Childhood Health Assessment Questionnaire (CHAQ) Mind the Gap scale (22 items) designed by authors | Satisfaction of care Transitional care | Provider characteristics (staff honesty and knowledge) more important than physical environment or process issues | Threat to internal validity: Mind the Gap scale not validated |
| Tugsdelger et al (2006) | Cohort study | 82 clinics (51 of AFHS intervention and 31 controls) 2/3 urban setting Mongolia | 1,301 adolescents Response rate: not known Age: 10–19 Female: 62% (pilot) Female: 58% (control) | Exit interview based on WHO criteria | Satisfaction of care Youth friendliness | Quality of toilets and facilities 30% were not satisfied with health care | Eligible number and response rate not described No randomization No baseline data before intervention for pilot and control groups |
| Britto et al (2007) | Cross-sectional | Tertiary hospital Hospital clinics (Sickle cell, Cystic fibrosis, twice daily, juvenile rheumatoid arthritis) USA | 155 Adolescents Age: 11–19 Response rate: unknown Female: 65% | Combination of qualitative and quantitative Phase 1: 7 focus groups (+5 for controls) Phase 2: Health Care Preference Questionnaire | Quality of care Patient-centered care Patient-doctors agreement on adolescents health care preferences | Agreement on importance of pain management Disagreements around key areas such as autonomy, communication (friendly), and confidentiality | Threat to internal validity: no response rate Highly selected sample |
| Fry et al (2007) | Prospective | Tertiary hospital, emergency department Ireland | 24 adolescents Response rate: 73% Age: 14–17 Female: 42% | Questionnaire created by authors based on retrospective study of medical files | Satisfaction with care Acceptability | Waiting time >3 hours not acceptable More privacy desired Delays in receiving treatment reported Access to television desired | Small sample size Questionnaire not validated |
| Garland et al (2007) | Prospective | Community-based clinic San Diego USA | 143 adolescents and their parents Response rate: 76% Age: 11–18 Female: 38% | Multidimensional Adolescent Satisfaction Scale (21 items MASS) Client Satisfaction Questionnaire (CSQ-8) | Satisfaction of care | Youth satisfaction was positively associated with the therapist's years of experience, with a reduction of functional impairment and being Caucasian | Threat to internal validity: low power because of small sample size |
| Haller et al (2007) | Cross-sectional | 26 general practices Australia | 50 adolescents Response rate: 90% Age: 16–24 Female: 66% | Questionnaire developed by author | Youth-friendly health services Communication | Main expectations for young people are treatment and good communication | Threat to external validity: only young people ≥ 16 |

(continued on next page)

Table 3
Continued

| Authors | Study design | Setting | Participants | Instrument | Domains | Main findings | Limitations |
|----------------------------|-----------------|---|--|---|---|--|---|
| Mah et al (2006) | Cross-sectional | Tertiary hospital Pediatric neurology ambulatory clinic Canada | 104 adolescent and their parent Response rate: 90% Age: 12–18 Female: 59% | Pediatric quality of life inventory Family-Centered Care Survey Give Youth a Voice survey Client Satisfaction Questionnaire | Satisfaction of care Quality of life patient- centered | Low scores on PedsQL associated with low satisfaction Potential effect of mood on adolescent evaluations of health services | Skewed distribution of satisfaction responses |
| Peterson et al (2007) | Qualitative | 3 postpartum units in 3 hospitals of the same city Canada | 14 adolescents Response rate: 82% Age: 15–19 Female: 100% | Transcendental phenomenological approach including semistructured interview, 16 closed questions and 1 open- ended question | Adolescent perception of postpartum nursing care | Satisfaction was associated with nurses sharing information about themselves with adolescents Friendliness Respect Active participation of adolescent in their own care | Threat to internal validity: potential selection bias as only adolescent attending the prenatal program could be selected Small sample size |
| Viner et al (2007) | Cross-sectional | 150 trusts (publicly funded management entity that may include 1 or more hospitals) in UK | 8,855 adolescents Response rate for trusts: 32–64% (adolescent response rate: 50%) Age: 12–17 Female: 50% | Picker Institute inpatient survey questionnaire | Quality of care Respect Coordination of care Information/education Physical comfort Emotional support Involvement of family and friends Continuity and transition Needs for transition Quality of care Self-management | Respect Confidentiality Communication Team-working Partnership Information-giving | Threat to internal validity: nonrespondent characteristics not known possible selection bias |
| Stinson et al (2008) | Qualitative | 4 rheumatology clinics, tertiary care centers Canada | 36 adolescents Response rate: 38% Age: 12–20 Female: 67% | Individual semistructured interviews | Quality of care Self-management | Information on medical condition and medication Learning to communicate with the doctor Emotion management skills Promote social support | Threat to external validity as it apply to adolescents with chronic conditions |
| Byczkowski et al (2010) | Cross-sectional | Teen Health Center within a tertiary pediatric hospital Outpatient USA | 170 pairs of adolescents/ parents Response rate: 55% Age: 11–17 Female: 77% | 1 phone interview (6 closed questions from Picker Institute) and 2 open-ended questions | Experience of care Satisfaction of care | Adolescents reported less involvement in decisions about medical care, and were less likely to receive understandable answers Most important aspects of care is communication, interpersonal skills and technical competence | Threat to internal validity: selection bias, as those with parents were included No description of nonresponders |
| Khalaf et al (2010) | Qualitative | University hospital Jordan | 60 adolescents Age 12–18 Female: 45% | 6 focus groups Semistructured open- ended questions | Physical environment Health care providers | Physical environment is important (privacy, male and female practitioners, affordable) Respectful and up-to- date | Saturation not mentioned. Discussion guide developed on literature review; did not include young people's views |

| | | | | | | | |
|-------------------------|-----------------|---|---|--|--|---|--|
| Mauerhofer et al (2010) | Cross-sectional | Youth outpatient clinic tertiary hospital Switzerland | 311 adolescents Response rate 98% Age: 12–22 Female: 89% | Quantitative questionnaire based on WHO instruments | Satisfaction of care | Self-perceived outcome of care and continuity of care influences satisfaction Key factors related to satisfaction are: Interpersonal skills Respect <80% were satisfied with clinicians asking adolescents if they had questions 81% only satisfied with privacy while talking with their clinicians | Threat to internal validity: selection bias (predominantly female) Threat to internal validity: small sample size (n = 100) with potential lack of precision for result and lack of power Threat to external validity: many exclusion criteria |
| Rutherford et al (2010) | Cross-sectional | Pediatric emergency department USA | 100 adolescents Response rate 93% Age: 13–21 Female: 49% | 27-item self administered survey (adapted from the Consumer Assessment of Healthcare Providers and Systems) 1 open-ended question | Satisfaction of care Perceived interpersonal communication (first name, doc explanation, ask questions) Perceived respect from caregivers Privacy | | |

AFHS = adolescent-friendly health services.

which had limited generalizability [24–28]. Only six of the 16 studies used a validated questionnaire to measure the outcomes of interest [21,22,25,27–29].

Qualitative studies. All seven studies were of good quality with scores ranging between 7 and 9 (Table 2). Two of the seven met all quality criteria [13,30]; five did not mention saturation of data and one provided no information about the training of the interviewer.

Constructs of interest

Within this literature, four different constructs have been used to investigate young people’s perspectives on health care. These are: satisfaction with health care; patient-centered care; experience of care; and quality of care (Table 4).

Satisfaction with health care. Measures used to assess satisfaction included the Client Satisfaction Questionnaire [24,28], satisfaction questionnaires that were derived from the Picker Institute principles [22,31], and questionnaires based on the WHO definition of adolescent-friendly health services [20,26]. Other authors created their own definition of satisfaction. For example, Shaw et al used a 22-item tool to measure satisfaction. Items of care reported as important for young people were rated first as “best” health care and second as “current” care. Satisfaction with each item was measured through the gap between “best” and “current” care [32]. Young people generally reported a high level of satisfaction with health care independent of the setting. Only one study, from Mongolia, reported that 30% of adolescents were not satisfied with their health care [20].

Patient-centered care. A few studies applied the principles of patient-centered care to the development of survey instruments [22,27–29] to measure young people’s views. Within these studies, respect, one of the eight key principles of patient-centered care, was the most important aspect of a youth-friendly consultation mentioned by young people [28,29].

Experience of care. Qualitative studies described a number of indicators emerging through thematic analysis of data (Table 4) that related to young people’s experience of care [13,22,33,34]. It appears that some authors used some of these same indicators to define other constructs. This is not surprising given that across studies, the construct of experience of care was sometimes measured using patient-centered care indicators [19,22] and sometimes using quality of care indicators [19], but with the aim of measuring experience of care.

Quality of care. This included studies that assessed the youth friendliness of implementing guideline driven care [20], the feasibility and reliability of young people in assessing the quality of clinicians’ communication skills [23], and young people’s expectations of quality health care [35].

Core domains of adolescent-friendly care

When the indicators from different studies that had been grouped under each of the four constructs were rearranged according to specific domains (such as clinicians’ interpersonal

Table 4
Summary of indicators within each construct, grouped by construct within WHO domains

| WHO domains of adolescent-friendly health care | Literature review of indicators of adolescent-friendly health care within each of four constructs | Summary of indicators across the four constructs, grouped within WHO domain |
|--|---|---|
| | Quality of care | Experience of care |
| Equitable | Cost [36,37] | |
| Accessibility | Respect [29,37] | |
| Acceptability | Friendliness [36,39] | Respect [13] |
| | Trust [13,39] | Trust [33] |
| | Honesty [36,39] | Communication [22] |
| | Staff attitude [36,39] | Listening [22,33] |
| | Communication [19,27,29,35] | Interpersonal skills [13,22] |
| | Information-giving [29] | Waiting time [33] |
| | Doctors interpersonal skills [23] | Environment [34] |
| | Continuity of care [13,39] | |
| | Waiting time [36] | |
| | Physical environment | |
| | Cleanliness [20,37] | |
| Appropriate | Confidentiality [19,29,36] | |
| | Treatment [35] | |
| | Transition (promotion of autonomy through learning communication skills and emotion management skills) [40] | |
| Effective | Technical/medical skills [13,27,37,39] | |
| | Pain management [27] | |
| | Satisfaction with health care | |
| | Respect [28,29] | |
| | Supportive [28,29] | |
| | Feeling welcome [28] | |
| | Communication [27–29] | |
| | Comprehension of answers [21] | |
| | Information sharing [27–29] | |
| | Involvement with health care [22,29] | |
| | Teen-centered environment in the clinic [28,29] | |
| | Autonomy [27,28] | |
| | Confidentiality [20] | |
| | Medical skill [32] | |
| | Quality of life [26,28] | |
| | Pain management [27] | |
| | Technical competence [22,33] | |
| | Medical competency | |
| | Guideline-driven care | |
| | Involvement in health care | |
| | Health outcomes | |

WHO = World Health Organization.

skills, guideline-driven care, or environmental aspects), a striking degree of overlap of domains within these constructs was apparent (Table 4). In other words, the set of indicators defined to measure domains within each of the four constructs was remarkably similar. As a result, we combined domains and indicators across the four sets, a process that resulted in eight core domains of adolescent-friendly care (Box 1).

Accessibility. Studies assessing young people's views on accessing youth-friendly care came primarily from low-income countries [36,37]. The most important indicators of youth friendliness related to accessibility of services in terms of location and affordability.

Staff attitude. A youth-friendly health care provider was usually defined as someone with accurate knowledge who could provide holistic care, was respectful and supportive, honest, trustworthy, and friendly. Respect by the health care provider was the most commonly reported indicator in relation to adolescent rating of quality care [13,28–30,36–38]. Young people described staff friendliness as someone who treats them “like a friend,” is interested in nonmedical aspects of their lives, and who shares personal information with them [27,30,32,36]. Repeatedly reported, trust was highlighted as a precondition for adolescents to discuss sensitive issues [13,33,39]. Trust was also associated with feeling safe with their health care provider and feeling as though they could tell them anything [22].

Communication. The main aspects of communication emphasized by young people were the clarity and amount of information provided to them and the quality of the clinician's listening skills [19,22,27–29,35]. A clinician's listening skill was the aspect most often reported by young people when describing what made their clinical visit feel good [22,33]. Young people wanted physicians to use a direct communication style that included clear technical information but without a lecturing tone of voice and “straight talk” when delivering bad news [13,27,37].

Medical competency. Pain management was reported as the most important aspect of good quality care in chronic illness [27]. Homeless young people in the United States stressed the

Box 1. Summary domains of adolescent-friendly care, with examples of relevant indicators

1. Accessibility of health care: location, affordability
2. Staff attitude: respectful, supportive, honest, trustworthy, friendly
3. Communication: clarity and provision of information, active listening, tone of communication
4. Medical competency: technical skills (procedures)
5. Guideline-driven care: confidentiality, autonomy, transition to adult health care services, comprehensive care
6. Age-appropriate environment: Flexibility of appointment times, separate physical space, teen-oriented health information, clean, waiting time, continuity of care, privacy
7. Involvement in health care
8. Health outcomes: pain management, quality of life

importance of technical skills such as physical examination and the clinician's injecting technique of enhancing trust in their health carer [13].

Guideline-driven care. Among indicators measuring guideline-driven care, confidentiality, autonomy, and transition to adult health care were the most important for young people. Young people asked for comprehensive care, defined as regular assessment of the adolescent's disease status, developmental level, life events, and personal aspirations [39]. Indicators about transition and autonomy were primarily reported in tertiary or chronic disease settings [27,28]. Young people needed promotion of autonomy through learning communication skills and emotion management skills [40]. Confidentiality came up as an important indicator in a range of settings, especially in the context of psychosocial assessment [19] and reproductive health services [36,37], and in low-income countries [20,36,37].

Age-appropriate environment. Young people defined age (and developmentally)-appropriate health care as care that included flexibility around appointments to minimize school absenteeism and support through less formal settings. Indicators included separate physical space for young people, teen-oriented leaflets and up-to-date health information available in the waiting room, television, or games [29,34,41]. A somewhat surprising indicator to emerge was the cleanliness of the environment. This was a priority in low-income country settings [20,37] but was also mentioned in high-income countries [38]. Waiting times were a universal issue for young people and closely related to them not feeling respected by the clinician when waiting times were too long [34,36,38,41]. Continuity of health care with the same clinician was reported as an important factor in developing trust [13,26,39]. Young people valued privacy [37].

Involvement in health care. Young people stressed their need to be involved in their health care. This indicator was directly

associated with a good understanding of their medical condition and treatment [22,29].

Health outcomes. Pain management was an important indicator in chronic illness settings [27], whereas outcomes such as mental health improvement and reduced pregnancy rates were the priority for U.S. homeless young people to enable them to find and keep a job, and thus maintain their social connections [13].

Other factors affecting young people's experience of health care

Certain individual characteristics appeared to influence young people's level of satisfaction that consequently had a modulating effect on the findings. For example, individuals who perceived the outcome of care in a positive way and those who wanted to adhere to treatment were more satisfied [24,26]. Other characteristics, such as the severity of mental health problems [24], low quality of life, and length of treatment were inversely associated with satisfaction [24,28]. However, in a chronic illness setting, patient satisfaction was not influenced by disease-related factors, including functional ability [32]. The positive relationship between adolescent quality of life measures and satisfaction with health care highlights the potential impact of emotional health on the subjective rating of services [24].

Table 5 summarizes recommendations from two U.S. professional organizations and the patient and family-centered approaches from the Picker Institute to show how they match with both the WHO domains of adolescent-friendly health care, and the results of this systematic review.

Discussion

This systematic review has identified those aspects of health care that are most important to young people. Four constructs (satisfaction with care, experience of care, quality of care, and patient-centered care) were identified, across which there was striking commonality of domains that described and measured

Table 5

Recommendations from key organizations on quality criteria for youth-friendly health care, showing how they relate to the domains and indicators from this systematic review

| WHO [1] | SAHM [5] | AAP [6] | Picker Institute [12] | Systematic review |
|---------------|---|--|---|---|
| Equitable | – | – | – | – |
| Accessibility | Health insurance coverage Visibility and flexibility of adolescent-oriented sites and services Affordability Compensation | Health insurance coverage Availability Visibility Affordability Flexibility | Access to care | Accessibility |
| Acceptability | – | – | Respect Emotional support Information and communication Continuity Involvement of family and carers Physical comfort | Staff attitude Communication Age-appropriate environment |
| Appropriate | Consent and Confidentiality High-quality care Availability of trained and experienced health care providers Comprehensive, coordinated benefits Coordination Safety net providers and programs | Confidentiality High-quality care Screening and counselling Physical and laboratory evaluations Provide professional education to adolescent health care providers Coordination | Transition Coordination of care | Medical competency Guideline-driven care Involvement in health care |
| Effective | – | – | – | Health outcomes |

AAP = American Academy of Pediatrics; SAHM = Society for Adolescent Health and Medicine; WHO = World Health Organization.

young people's views of adolescent-friendly health care. Our major finding is that eight domains stood out as central to young people's experience of adolescent-friendly care. These reflect clinicians' attitudes, such as respect and friendliness; the quality of clinical communication skills; and perceived medical competence. Others relate to young people's need to be involved in their health care, to the provision of guideline-driven care, and to their health outcomes. Yet others relate to accessibility of services in an age appropriate environment that provides continuity of care.

With the exception of equity (which is arguably intrinsic to youth-friendly care), these domains fit remarkably well within the WHO framework of adolescent-friendly health care. Notwithstanding, this framework being originally developed to promote the delivery of quality health care to young people in primary care settings in low income countries [1], our results suggest more universal applicability.

Similarly, these domains fit remarkably well with the principles of patient-centered care which emphasize the notions of respect, coordination of care, appropriate provision of information to patients, high-quality communication with patients, patient involvement in decisions about care, and the ability of health care providers to listen to patient needs [16]. Distinct findings relate to the need for indicators that define an age-appropriate environment and that articulate in greater depth the elements of high-quality communication with young people.

Despite the common use of the term satisfaction with health care in clinical settings, the lack of a universally accepted definition or measure led each research group to develop their own measure of satisfaction. Very high satisfaction rates are consistent with the adult literature that generally reports rates higher than 90% [26,42]. This suggests that the construct of satisfaction may not be sufficiently sensitive to reflect young people's experiences. Consistent with this, we found that studies of adolescent satisfaction still leave unexplained a significant component of the construct [24]. The rate of satisfaction varied according to many individual and interpersonal characteristics which suggests that it may be limited as a construct.

Patient-centered care is described as both a measure of a patient's satisfaction and experience of care [43]. However, indicators of experience of care greatly overlapped with indicators of both patient-centered care and quality of care. This is not surprising given that within the literature, patients' experience of care is recognized as a central element of quality health care [11]. Many authors defined both constructs as being a measure of experience of care [19,22,27]. In the absence of consensus of the definition of experience of care, we considered any indicators of a patient's perceived care lay within this construct. As qualitative research has the potential to explore patient experience in detail, it is not surprising that many indicators of experience of care were drawn from these studies [13,22,33,34].

A limitation of this review is the small number of studies and their often highly specific settings that could potentially threaten the generalizability of results. The inclusion of qualitative studies in systematic reviews is relatively novel, but shown here to be feasible [18,44]. In an effort to standardize the quality of qualitative studies, we used a widely accepted assessment tool [18] and found that all qualitative studies were methodologically sound. The inclusion of these studies was especially valuable in examining indicators representing young people's experience. Although the question of generalizability remains, the consistency of results from several qualitative studies was impressive. In contrast, the quantitative studies were more heterogeneous in

quality, setting, and design, leading to a lack of comparability. We chose not to exclude studies of lower quality because each shed light on a specific aspect of the assessment of youth-friendly health care that was not mentioned in the higher quality studies. The assessment of study quality provides critical appraisal of the internal validity of the studies and allows a cautious interpretation of the results: hypotheses arising from these data require further evaluation to confirm the accuracy of youth-friendly indicators. The strength of these data results from the studies having been obtained from systematic searches of several key databases and contact with authors, and to our knowledge represents the first synthesis of the literature on this topic.

Across and within different countries, adolescent health needs and issues will be highly heterogeneous, reflecting different economic, sociocultural and developmental contexts. Analysis of studies from very different cultural and clinical settings suggests that young people's appreciation of adolescent friendliness reflects a hierarchy of needs. However, some domains and indicators appeared universally applicable. For example, foremost in every study were indicators of patient-centered care. Feeling respected by the health care provider was one such example that was closely related to trust and friendliness of medical staff and the importance given to continuity of care. These apparently universal domains and indicators appear to constitute the base of a hierarchy of indicators.

Context-specific indicators of youth-friendly care varied according to the setting. Examples included technical proficiency and health outcomes, which were the most important indicators for homeless youth in the United States of America [13], and cleanliness, which was the most important criteria for young people in Mongolia [20]. In contrast, having a nonjudgmental health provider and the access to confidential care were deemed critical for young people of a Muslim background attending reproductive health services in Kenya and Jordan [36,37]. Chronically ill young people placed emphasis on the importance of holistic care and being seen as "teenagers with normal needs" rather than being seen through the lens of illness [28]. Indicators measuring guideline-driven care relate to the appropriateness of care and were prioritized by young people only in specific contexts. For example, confidential care was mentioned as an important indicator of youth friendliness in reproductive health settings [20,36,37] or when psychosocial screening was assessed [19].

In terms of measurement, we argue that universally applicable domains and indicators should be included in any instrument designed to measure youth-friendly health care. This would include the domains of respect for the young person, trust and continuity of care. It is likely that additional indicators that are specific to the setting where they will be used will also be required, taking into account factors such as cultural background, accessibility of health services, and the specific health needs of young people targeted by the service.

This review set out to identify what young people identify as central to youth-friendly health care. The finding of eight core domains is immediately applicable to interventions that better orient clinical services to young people's needs, and could similarly be incorporated within teaching and training initiatives about adolescent-friendly health care. Our longer-term research goal is to provide clarity around what domains and indicators should be included in questionnaires that measure the adolescent friendliness of health services and provide a validated set of

measures for these indicators. The scope of this systematic review did not extend to the assessment of the youth-friendliness of survey instruments themselves, such as reading age, questionnaire formatting, or mode of administration (e.g., pen and paper, computer or web-based). Nor did we set out to assess the extent of young people's participation in the design of any instruments or their engagement around the reporting and dissemination of research findings. Each of these areas could similarly benefit from youth input and would be valuable topics for future research.

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