

## The People's Voice Survey on Health System Performance 4



# Primary health care in practice: usual source of care and health system performance across 14 countries

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Primary health care (PHC) is central to attainment of the Sustainable Development Goals, yet comparable cross-country data on key aspects of primary care have not been widely available. This study analysed data from the People's Voice Survey, which was conducted in 2022 and 2023 in 14 countries. We documented usual source of care across countries and examined associations of usual source of care with core PHC services, quality ratings, and health system confidence. We found that 75% of respondents had a usual source of care, and that 40% of respondents accessed usual care in the public sector at primary level. 44% rated their usual source of care as very good or excellent. Access to PHC-linked screenings and treatments varied widely within and across countries. Having any usual source of care was associated with higher take-up of preventive services, greater access to treatment including mental health services, and greater health system endorsement. Strengthening links between health system users and primary care providers could improve take-up of preventive care and increase user satisfaction with health system performance.

### Background

Primary health care (PHC) is at the core of a high-quality health system. Guiding principles of PHC include universal access and equitable coverage, as well as person-centred, high-quality, continuous, and comprehensive care that emphasises disease prevention, health promotion, community participation, intersectoral action on health determinants, and cost-effective use of available resources.<sup>1</sup> These attributes make PHC an essential mechanism for achieving universal health coverage and meeting other health targets of the Sustainable Development Goals.<sup>1</sup> Increased coverage of primary care services has been associated with longer life expectancy, lower mortality in children younger than 5 years (hereafter referred to as under-5 mortality), and more equitable, effective, and efficient health systems.<sup>2-5</sup>

Despite its importance, significant measurement gaps around PHC persist. Several initiatives, such as the Primary Health Care Performance Initiative Vital Signs Profiles and WHO PHC Measurement Framework and Indicators, have provided new ways to conceptualise PHC measurement across countries. However, it has not been possible to fully implement these frameworks, due in part to insufficient data.<sup>6,7</sup> Persistent data gaps relate to how people access care, including: the level, location, and type of care providers; the quality of care they receive; the uptake of core PHC functions, such as screening and early detection of diseases; and the extent to which patient-centred care is provided. For example, many cross-national surveys in low-income and middle-income countries (eg, Demographic and Health Surveys and Multiple Indicator Cluster Surveys) focus largely on maternal and child health, and do not inquire about ongoing relationships with a usual care provider or contain user-reported quality ratings or system endorsement. Cross-country surveys that contain detailed

modules on primary care use and public opinion, such as those conducted by the Commonwealth Fund, largely focus on higher-income countries. Other surveys focused on low-income and middle-income countries, such as Living Standards Measurement Surveys, might capture detailed information about financial barriers to primary care but do not provide detailed measurement of use of care.

These measurement gaps contribute to knowledge gaps, and pose challenges for comparative, multicountry PHC research. Previous cross-country research in this area has focused on barriers to primary care access (notably financial and distance-related barriers), on the quality of care provided in PHC facilities, and on specific elements of PHC that overlap directly with other areas of interest, such as maternal and child health or infectious disease. This study takes a different approach, focusing

### Key messages

- Health system users frequently have a usual source of care at the secondary level or in the private sector. Less than half of the sample had a usual source of care in the public sector at primary care level.
- Having a usual source of care was associated with greater receipt of screenings and treatments associated with primary care.
- There are significant gaps in coverage of key population-level screening and preventive services across countries, and relatively low user-reported quality ratings for usual sources of care.
- Stronger user connections to the health system via a usual source of care are associated with more positive evaluations of system performance, including perceptions of health security and endorsement of the health system.

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	Ethiopia (N=2779)	Kenya (N=2305)	South Africa (N=2036)	Peru (N=1255)	Colombia (N=1237)	Mexico (N=1002)	Uruguay (N=1237)	Argentina (N=1190)	Laos (N=2007)	India (N=2004)	South Korea (N=2000)	Italy (N=1001)	UK (N=1677)	USA (N=1500)	Total (N=23230)	
Sex																
Female	1388 (49.9%)	1164 (50.5%)	1040 (51.1%)	626 (49.9%)	640 (51.7%)	526 (52.5%)	644 (52.1%)	729 (61.3%)	1032 (51.4%)	960 (47.9%)	1007 (50.4%)	520 (51.6%)	866 (51.6%)	762 (50.8%)	11904 (51.2%)	
Male	1391 (50.1%)	1141 (49.5%)	990 (48.6%)	626 (49.9%)	593 (47.9%)	476 (47.5%)	593 (47.9%)	461 (38.7%)	971 (48.4%)	1042 (52.0%)	993 (49.7%)	481 (48.1%)	810 (48.3%)	727 (48.5%)	11289 (48.6%)	
Age (years)	32.0 (23.5-45.0)	32.0 (24.0-44.0)	37.0 (28.0-49.0)	40.0 (29.0-54.0)	40.0 (28.0-55.0)	40.0 (28.0-55.0)	45.0 (32.0-60.0)	47.0 (36.0-61.0)	38.0 (27.0-50.0)	36.0 (26.0-50.0)	49.0 (35.0-61.0)	53.0 (38.0-65.0)	48.0 (33.0-63.0)	46.0 (31.0-63.0)	40.0 (28.0-55.0)	
Urban	825 (29.7%)	757 (32.8%)	1399 (68.7%)	1032 (82.2%)	1058 (85.5%)	773 (77.1%)	1140 (92.2%)	1115 (93.7%)	677 (33.7%)	990 (49.4%)	1736 (86.8%)	952 (95.1%)	1515 (90.3%)	1309 (87.3%)	15278 (65.8%)	
Secondary education or higher	551 (19.8%)	805 (34.9%)	901 (44.3%)	776 (61.8%)	626 (50.6%)	707 (70.6%)	689 (55.7%)	862 (72.4%)	925 (46.1%)	1285 (64.1%)	1996 (99.8%)	817 (81.6%)	1650 (98.4%)	1426 (95.1%)	14016 (60.3%)	
Income																
Low	1092 (41.9%)	1454 (69.3%)	758 (38.6%)	639 (51.5%)	387 (31.7%)	540 (58.2%)	545 (44.9%)	486 (43.2%)	519 (28.4%)	785 (47.7%)	616 (30.8%)	411 (45.6%)	499 (33.5%)	502 (33.5%)	9233 (42.3%)	
Middle	695 (26.6%)	...	693 (35.3%)	410 (33.1%)	422 (34.5%)	193 (20.8%)	322 (26.5%)	387 (34.4%)	404 (22.1%)	627 (38.1%)	720 (36.0%)	265 (29.4%)	472 (30.4%)	379 (25.3%)	5989 (27.4%)	
High	821 (31.5%)	643 (30.7%)	512 (26.1%)	191 (15.4%)	413 (33.8%)	195 (21.0%)	347 (28.6%)	252 (22.4%)	903 (49.5%)	233 (14.2%)	663 (33.2%)	225 (25.0%)	584 (37.6%)	616 (41.1%)	6598 (30.2%)	
Insured	1735 (62.4%)	703 (30.5%)	2036 (100.0%)	1038 (82.7%)	1212 (100%)	760 (79.7%)	1230 (100%)	1190 (100.0%)	2007 (100.0%)	491 (24.6%)	1954 (99.1%)	1001 (100.0%)	1677 (100.0%)	1383 (92.2%)	18417 (79.3%)	
Self-rated health (excellent or very good)	1102 (39.7%)	849 (36.8%)	779 (38.3%)	154 (12.3%)	287 (23.2%)	224 (22.4%)	345 (27.9%)	400 (33.6%)	268 (13.4%)	483 (24.1%)	490 (24.5%)	319 (31.9%)	693 (41.3%)	683 (45.5%)	7076 (30.5%)	
Self-rated mental health (fair or poor)	622 (22.4%)	174 (7.5%)	393 (19.3%)	332 (26.5%)	182 (14.7%)	231 (23.1%)	177 (14.3%)	168 (14.1%)	484 (24.1%)	654 (32.6%)	489 (24.5%)	116 (11.6%)	408 (24.3%)	252 (16.8%)	4682 (20.2%)	
Has chronic illness	365 (13.1%)	361 (15.7%)	554 (27.2%)	312 (24.9%)	335 (27.1%)	235 (23.5%)	534 (43.2%)	492 (41.3%)	480 (23.9%)	291 (14.5%)	785 (39.3%)	322 (32.2%)	843 (50.3%)	611 (40.7%)	6520 (28.1%)	
Patient activation	1541 (55.5%)	1213 (52.6%)	1152 (56.6%)	405 (32.3%)	580 (46.9%)	429 (42.8%)	700 (56.6%)	667 (56.1%)	1083 (54.0%)	814 (40.6%)	179 (9.0%)	193 (19.3%)	591 (35.2%)	733 (48.9%)	10280 (44.3%)	
Visits	1 (0-3)	2 (1-4)	2 (0-4)	2 (1-4)	3 (1-4)	3 (1-6)	3 (2-6)	4 (2-6)	1 (0-3)	1 (0-3)	4 (2-7)	3 (1-5)	3 (2-6)	4 (2-7)	2 (1-5)	
Inpatient care	205 (7.4%)	253 (11.0%)	204 (10.0%)	135 (10.8%)	158 (12.8%)	84 (8.4%)	137 (11.1%)	109 (9.2%)	214 (10.7%)	234 (11.7%)	225 (11.3%)	99 (9.9%)	138 (8.2%)	146 (9.7%)	2341 (10.1%)	
Unmet health-care need	305 (11.0%)	491 (21.3%)	193 (9.5%)	323 (25.7%)	247 (20.0%)	67 (6.7%)	150 (12.1%)	234 (19.7%)	333 (16.6%)	122 (6.1%)	119 (6.0%)	62 (6.2%)	369 (22.0%)	281 (18.7%)	3296 (14.2%)	
Blood pressure checked	446 (16.0%)	416 (17.9%)	408 (20.0%)	306 (24.3%)	427 (34.6%)	442 (44.2%)	567 (45.9%)	542 (45.5%)	681 (33.2%)	177 (8.6%)	1123 (56.1%)	346 (34.6%)	763 (45.5%)	784 (52.3%)	7428 (32.0%)	

(Table 1 continues on next page)

on the population's ongoing interaction with PHC, especially their connection to the health system via a usual source of care. Having a usual or continuous relationship with a health-care provider is one definitional component of PHC, and has been shown to be a strong predictor of access to care, quality of care, and satisfaction with care in the USA and several other high-income and middle-income countries, but has not been widely analysed in low-income countries.<sup>8-14</sup> Building on this literature, this study took usual source of care as a proxy variable for access to key elements of primary care. We sought to document the nature of user interactions with primary care in a large, 14-country sample, including how users access their usual care and how they rate the quality of that care source. We examined how usual source of care relates to access to key PHC-linked services and to broader citizen views of the health system. In doing so, we documented significant diversity in how citizens access usual care within and across countries, and found wide variation in access to core PHC-linked preventive services and treatments, and in user satisfaction with care. These analyses allow us to fill important gaps in our understanding of how health system users interact with and view primary care.

### Study design

In this study we analysed a new cross-national survey dataset, the People's Voice Survey (PVS), which was fielded in 2022 and 2023 in 14 countries: Colombia, Peru, Uruguay, Mexico, Ethiopia, Kenya, South Africa, Laos, India, Italy, South Korea, Argentina (Province of Mendoza only), the UK, and the USA. The sample contains one low-income country (Ethiopia), three lower middle-income countries (Kenya, India, and Laos), five upper middle-income countries (Argentina, Colombia, Mexico, Peru, and South Africa), and five high-income countries (the USA, the UK, Italy, South Korea, and Uruguay). Countries were chosen for the PVS either because they hosted Quality Evidence for Health System Transformation Centers (USA, Kenya, Ethiopia, South Africa, India, Peru, and Argentina) or because affiliated researchers requested or were invited to field the survey. The resulting sample is geographically diverse and includes countries with a range of income levels and health system models.

Interviews began on May 9, 2022 (in Laos) and ended on April 3, 2023 (in India). These interviews followed a structured questionnaire and were conducted by mobile phone in most cases. Mobile phone surveys were supplemented with in-person samples in two countries (Kenya and Ethiopia) where mobile phones are owned by less than 80% of the population. Mobile phone respondents were selected through random-digit dialling in most cases; a known-list sampling approach was used in two countries (Ethiopia and Argentina). Interviews were also conducted with probability-based online panels in three countries where internet penetration is

	Ethiopia (N=2779)	Kenya (N=2305)	South Africa (N=2036)	Peru (N=1255)	Colombia (N=1237)	Mexico (N=1002)	Uruguay (N=1237)	Argentina (N=1190)	Laos (N=2007)	India (N=2004)	South Korea (N=2000)	Italy (N=1001)	UK (N=1677)	USA (N=1500)	Total (N=23230)
(Continued from previous page)															
Blood sugar tested	190 (49.4%)	192 (30.6%)	355 (61.0%)	225 (42.0%)	298 (52.3%)	343 (58.0%)	469 (58.3%)	435 (53.5%)	480 (45.2%)	118 (31.1%)	931 (69.7%)	426 (54.5%)	390 (35.5%)	601 (73.2%)	5453 (49.3%)
Blood cholesterol checked	83 (8.6%)	83 (13.3%)	213 (36.7%)	207 (38.7%)	324 (56.9%)	292 (49.2%)	481 (60.1%)	499 (61.7%)	460 (43.2%)	79 (20.9%)	955 (71.6%)	525 (67.4%)	454 (41.4%)	626 (75.2%)	5281 (47.7%)
Mammogram conducted	2 (1.7%)	11 (10.4%)	17 (11.5%)	21 (13.6%)	78 (38.6%)	80 (32.6%)	127 (38.9%)	153 (42.0%)	35 (13.0%)	9 (22.7%)	326 (63.3%)	175 (49.0%)	124 (29.0%)	167 (57.9%)	1325 (38.1%)
Cervical cancer screening	90 (12.2%)	65 (12.7%)	175 (30.6%)	120 (25.5%)	132 (26.0%)	136 (27.8%)	298 (46.3%)	278 (41.5%)	105 (16.8%)	38 (9.5%)	518 (62.0%)	173 (34.5%)	147 (19.6%)	202 (36.9%)	2477 (30.0%)
Eyes checked	400 (14.4%)	483 (21.0%)	577 (28.3%)	261 (20.8%)	502 (40.6%)	274 (27.3%)	477 (38.6%)	513 (43.1%)	368 (18.3%)	471 (23.5%)	1509 (75.5%)	395 (39.5%)	823 (49.1%)	835 (55.7%)	7888 (34.0%)
Teeth checked	206 (7.4%)	309 (13.4%)	403 (19.8%)	334 (26.6%)	583 (47.1%)	355 (35.4%)	626 (50.6%)	627 (52.7%)	325 (16.2%)	319 (15.9%)	1441 (72.1%)	553 (55.2%)	1037 (61.8%)	942 (62.8%)	8060 (34.7%)
Data are n (%) or median (IQR).															

Table 1: Respondent characteristics by country

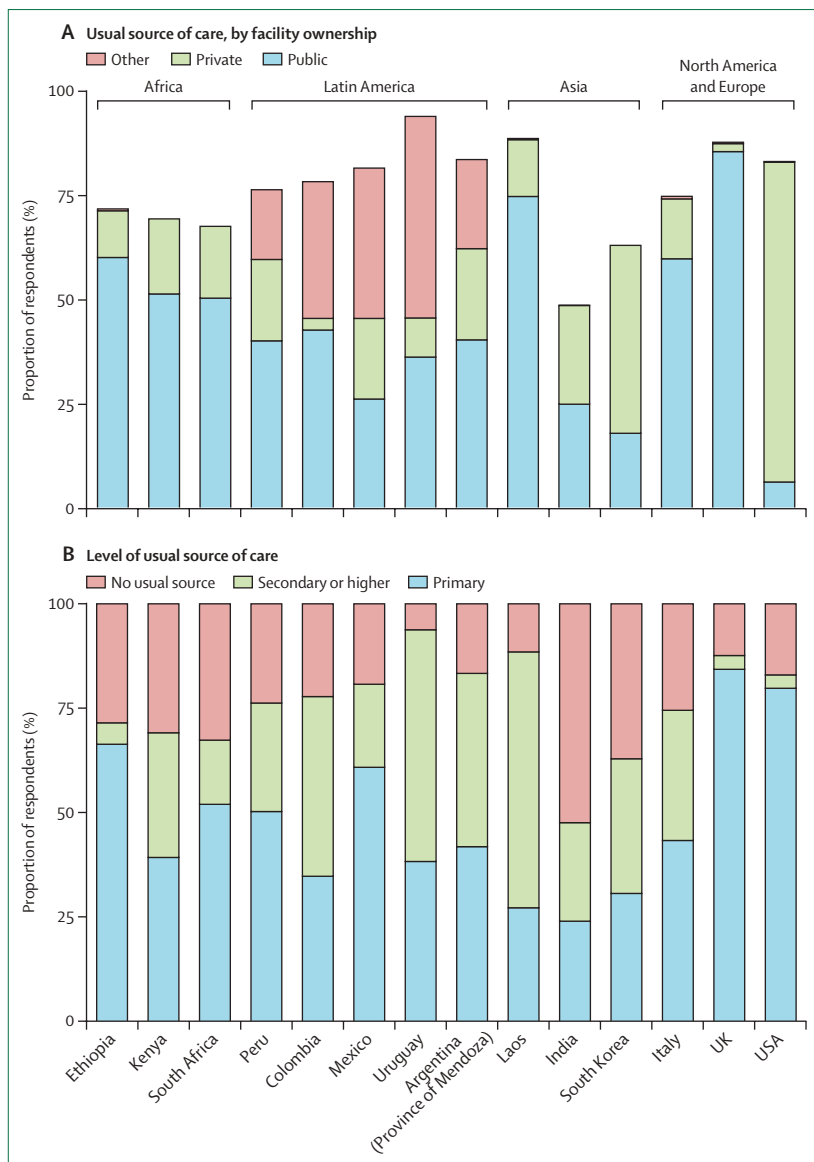


Figure 1: Usual source of care by (A) facility ownership and (B) level

very high and mobile phone survey response rates are low (the USA, the UK, and South Korea). In total, 76% of interviews were via mobile phone, 22% were online, and 3% were face to face. Response rates for mobile phone interviews, which ranged from 35% in Ethiopia to 2% in the USA, were within the expected range for random-digit-dialling surveys. However, even in the context of low response rates, population-representative statistics can be recovered through application of post-stratification weights.<sup>15</sup> We followed standard practice for such surveys by calculating post-stratification weights to account for non-response. Further details on how the survey was developed and fielded, and how weights were constructed and applied, can be found in appendix 1 (pp 39–46) and in Lewis and colleagues.<sup>16</sup>

See Online for appendix 1

The Harvard University Institutional Review Board deemed this research exempt from full review, and additional local ethical approval was obtained as required in the implementing countries.

### Measures and analyses

We ascertained whether or not respondents have a usual source of care, as well as the level and type of that source of care and their quality assessments of it. Evaluations of usual source of care quality were captured through the following question: “Overall, how would you rate the quality of health care you received in the past 12 months from this health-care facility?” with response options of excellent, very good, good, fair, or poor. (The facility referred to in the question is one previously identified by the respondent as providing their usual source of care.) Responses were limited to respondents with a usual source of care who had received care from that source in the preceding 12 months. Exact question wording for related questions can be found in appendix 2 (p 1). We then conducted multivariable logistic regressions with the following outcome variables: access to preventive services (core screenings, such as: measurement of blood pressure, blood sugar, and cholesterol; eye and teeth examinations; and, for women, mammograms and cervical cancer screening) and access to PHC-related treatments (for respondents with self-reported chronic illness or poor to fair mental health).

We also created a preventive care index for each country, comprised of the percentage of preventive services (blood pressure, blood sugar, and cholesterol checks for all respondents older than 40 years; cervical cancer screenings for all women older than 30 years; mammograms for women older than 50 years; and eye and dental examinations for all respondents) that each person received in the previous year, conditional on the respondent being eligible for that service. To assess mental health treatment access, we calculated the percentage of respondents who reported receiving any mental health care in the past 12 months, conditional on reporting that their mental health was among the lowest two response options on a five-point scale (“fair” or “poor”). For health service use among those with chronic illness, we calculated a binary variable equal to 1 if the respondent had more health facility visits over the previous year than the country-specific average for individuals without chronic illness. We also created a binary variable equal to 1 for respondents who reported unmet need for care in the past year.

Finally, we examined dependent variables related to opinion about the health system writ large: perceptions of health security, evaluation of system trajectory, and system endorsement. We created indicator variables for: health security, which equals 1 if the respondent believes that they can both access and afford care when sick; system endorsement, which equals 1 if the respondent believes that the system works well in its current form

and does not need major reform; and assessment of recent trajectory, which equals 1 if the respondent believes the system has been getting better over the past 2 years.

In one set of analyses, the explanatory variable of interest was whether or not the respondent had any usual source of care (0 or 1). In a second set of analyses, we restricted the sample to respondents who reported a usual source of

	Urban	Secondary education or higher	Income			Insurance
			Low	Middle	High	
<b>Ethiopia</b>						
Public primary	944 (57.9%)	901 (63.1%)	426 (89.1%)	392 (75.0%)	722 (66.4%)	868 (85.2%)
Public secondary	267 (16.4%)	159 (11.1%)	15 (3.1%)	36 (6.9%)	99 (9.1%)	48 (4.7%)
Private primary or secondary	420 (25.7%)	368 (25.8%)	37 (7.7%)	95 (18.1%)	266 (24.5%)	103 (10.2%)
<b>Kenya</b>						
Public primary	103 (14.2%)	280 (27.2%)	361 (58.2%)	..	112 (16.4%)	112 (15.3%)
Public secondary	293 (40.6%)	337 (32.8%)	152 (24.5%)	..	272 (39.6%)	273 (37.1%)
Private primary or secondary	326 (45.2%)	412 (40.0%)	107 (17.3%)	..	301 (44.0%)	350 (47.6%)
<b>South Africa</b>						
Public primary	556 (53.4%)	542 (51.5%)	278 (70.7%)	269 (65.5%)	175 (34.7%)	785 (58.3%)
Public secondary	175 (16.8%)	128 (12.1%)	68 (17.2%)	73 (17.7%)	68 (13.5%)	218 (16.2%)
Private primary or secondary	311 (29.8%)	383 (36.4%)	48 (12.1%)	69 (16.8%)	261 (51.8%)	343 (25.5%)
<b>Peru</b>						
Public primary	430 (48.5%)	409 (48.5%)	251 (64.4%)	153 (46.3%)	55 (22.5%)	447 (51.8%)
Public secondary	208 (23.5%)	196 (23.2%)	78 (19.9%)	83 (25.2%)	68 (28.1%)	210 (24.3%)
Private primary or secondary	248 (28.0%)	239 (28.3%)	61 (15.6%)	94 (28.5%)	119 (49.4%)	207 (23.9%)
<b>Colombia</b>						
Public primary	180 (21.7%)	116 (16.5%)	77 (31.6%)	81 (26.2%)	43 (10.8%)	213 (22.6%)
Public secondary	243 (29.3%)	145 (20.8%)	105 (43.3%)	113 (36.3%)	64 (16.2%)	434 (46.0%)
Private primary or secondary	407 (49.0%)	439 (62.7%)	61 (25.2%)	116 (37.5%)	288 (73.0%)	383 (59.0%)
<b>Mexico</b>						
Public primary	359 (55.9%)	378 (57.3%)	241 (61.7%)	87 (61.4%)	98 (46.3%)	383 (59.0%)
Public secondary	120 (18.7%)	117 (17.7%)	79 (20.3%)	26 (18.6%)	28 (13.1%)	131 (20.2%)
Private primary or secondary	163 (25.4%)	165 (25.0%)	70 (18.0%)	28 (20.0%)	86 (40.6%)	135 (20.8%)
<b>Uruguay</b>						
Public primary	405 (37.5%)	287 (37.1%)	185 (42.8%)	98 (35.6%)	136 (32.1%)	435 (37.9%)
Public secondary	560 (51.9%)	388 (50.2%)	227 (52.5%)	144 (52.5%)	217 (51.2%)	597 (52.0%)
Private primary or secondary	115 (10.6%)	98 (12.6%)	20 (4.6%)	33 (11.9%)	71 (16.7%)	115 (10.0%)
<b>Argentina</b>						
Public primary	373 (40.4%)	271 (37.2%)	221 (56.0%)	111 (35.0%)	47 (21.7%)	399 (40.7%)
Public secondary	314 (34.0%)	238 (32.6%)	139 (35.2%)	110 (34.5%)	57 (26.3%)	329 (33.6%)
Private primary or secondary	236 (25.6%)	220 (30.2%)	35 (8.8%)	97 (30.4%)	112 (52.1%)	251 (25.7%)
<b>Laos</b>						
Public primary	40 (3.7%)	175 (11.2%)	69 (25.1%)	55 (16.1%)	126 (11.8%)	303 (16.6%)
Public secondary	811 (75.5%)	1090 (70.1%)	172 (62.8%)	253 (73.8%)	739 (69.2%)	1238 (67.9%)
Private primary or secondary	223 (20.8%)	290 (18.7%)	33 (12.0%)	35 (10.1%)	203 (19.0%)	281 (15.4%)
<b>India</b>						
Public primary	96 (21.3%)	170 (24.5%)	103 (28.6%)	43 (15.6%)	27 (42.6%)	72 (32.5%)
Public secondary	102 (22.7%)	168 (24.3%)	97 (26.8%)	61 (22.2%)	9 (13.6%)	49 (21.9%)
Private primary or secondary	252 (56.0%)	355 (51.2%)	161 (44.6%)	172 (62.2%)	28 (43.8%)	101 (45.6%)
<b>South Korea</b>						
Public primary	111 (10.2%)	133 (10.6%)	50 (13.5%)	49 (10.9%)	34 (7.8%)	131 (10.6%)
Public secondary	198 (18.1%)	221 (17.6%)	87 (23.5%)	70 (15.6%)	65 (14.9%)	218 (17.6%)
Private primary or secondary	783 (71.7%)	901 (71.8%)	234 (63.1%)	331 (73.6%)	336 (77.2%)	889 (71.8%)

(Table 2 continues on next page)

	Urban	Secondary education or higher	Income			Insurance
			Low	Middle	High	
(Continued from previous page)						
<b>Italy</b>						
Public primary	342 (46.9%)	311 (46.2%)	120 (47.5%)	96 (45.9%)	108 (48.3%)	361 (47.6%)
Public secondary	249 (34.1%)	223 (33.1%)	93 (37.0%)	61 (29.5%)	73 (32.6%)	253 (33.3%)
Private primary or secondary	139 (19.0%)	140 (20.7%)	39 (15.5%)	51 (24.6%)	42 (19.0%)	145 (19.1%)
<b>USA</b>						
Public primary	81 (7.5%)	87 (7.3%)	41 (11.1%)	26 (8.1%)	24 (4.3%)	68 (5.8%)
Public secondary	..	..	..	..	..	..
Private primary or secondary	1011 (92.5%)	1110 (92.7%)	327 (88.9%)	300 (91.9%)	525 (95.7%)	1113 (94.2%)
<b>UK</b>						
Public primary	1219 (93.9%)	1355 (94.1%)	411 (93.9%)	380 (94.6%)	486 (93.3%)	1372 (94.1%)
Public secondary	52 (4.0%)	55 (3.8%)	23 (5.3%)	15 (3.8%)	14 (2.6%)	55 (3.8%)
Private primary or secondary	26 (2.0%)	30 (2.1%)	3 (0.8%)	7 (1.6%)	22 (4.1%)	31 (2.1%)
Data are n (%). The sample for this table is restricted to the 17 263 respondents who reported a usual source of care.						
<b>Table 2: Usual source of care by user characteristics</b>						

care; here, the explanatory variables of interest are the characteristics of this source (whether the usual source of care is from a primary, secondary, or tertiary level provider, and whether usual care is provided by a public or a private provider). Control variables in all regression analyses included survey mode, age, gender, education, urban residence, country-specific income categories, self-rated health, chronic illness, patient activation, and insurance coverage. (Patient activation is equal to 1 when respondents report that they are very confident managing their own health and very confident telling a health-care provider their concerns even when not asked). We report country-specific analyses as well as multicountry pooled regression results (which include country-specific fixed effects).

### Descriptive findings on usual source of care

Basic features of the sample in each country, including the sample size and demographic characteristics, are presented in table 1. In the full sample, 17 263 (74.6%) of 23 151 respondents stated that they have a usual source of care. This varied from a low of 971 (48.6%) of 1996 respondents in India to a high of 1155 (93.8%) of 1231 in Uruguay. Of those with a usual source of care, 10 621 (61.5%) reported that this is a public source, 4948 (28.7%) private, and 1832 (10.6%) other. There were large differences across countries in the public versus private mix of usual sources of care. In the USA, 1157 (92.5%) of 1251 respondents reported private facilities as usual sources of care. Private use was also high in South Korea (901 [71.7%] of 1257) and India (452 [48.8%] of 926; figure 1). The other (not public or private) category is small except in Latin America (Uruguay, Mexico, Colombia, Peru, and the Province of Mendoza in Argentina), where 1821 (37.5%) of 4861 respondents in the sample receive care from

other sources; these are often non-profit providers affiliated with public health insurance providers.

Turning next to care level, we found that conditional on having any usual source of care, 6152 (35.6%) of 17 296 respondents reported that their usual care is in hospitals, compared with 11144 (64.4%) at primary-level facilities (figure 1). This also varies notably by country: usual care at secondary level varied from 55 (3.8%) of 1462 in the UK, 48 (3.9%) of 1246 in the USA, and 160 (7.2%) of 2226 in Ethiopia to 1264 (69%) of 1823 in Laos. Breaking down the usual source of care measure further by both level and source, among those with any usual source of care, 6880 (39.8%) of 17 292 respondents had a usual source of care that is public and at primary level, 3681 (21.3%) received public care at secondary facilities, 3316 (19.2%) used private care at primary level, and 1583 (9.2%) used private secondary care.

There was also notable variation in the socioeconomic status of those using different care sources within and across countries (table 2). For example, in Ethiopia, 426 (89%) of 478 respondents in the lowest income group used public primary-level care as their usual source. By contrast, in India, only 103 (29%) of 361 respondents in the lowest income group used public primary care. Urban and rural care use patterns also varied widely; for example, the proportion of urban respondents accessing usual sources of care via public primary facilities ranged from 40 (3.7%) of 1075 respondents in Laos to 1219 (93.9%) of 1298 in the UK.

### User ratings of usual sources of care

Among those who had a usual source of care, 44% rated it as either very good or excellent. This varied from 17% in Laos to 72% in the USA (tables 3, 4). In pooled multivariable logistic regressions including all countries

	Ethiopia	Kenya	South Africa	Peru	Colombia	Mexico	Uruguay	Argentina
Quality rating	0.37 (0.48)	0.43 (0.50)	0.56 (0.50)	0.29 (0.45)	0.35 (0.48)	0.44 (0.50)	0.54 (0.50)	0.61 (0.49)
Sample size	2779	2305	2036	1255	1237	1002	1237	1190

Data are mean (SD) or n. Quality rating is equal to 1 when respondents rated their usual source of care as very good or excellent, and is equal to 0 for ratings of good, fair, or poor.

**Table 3: Quality ratings for usual source of care**

	Laos	India	South Korea	Italy	UK	USA	Total
Quality rating	0.17 (0.37)	0.29 (0.45)	0.44 (0.50)	0.46 (0.50)	0.51 (0.50)	0.72 (0.45)	0.44 (0.50)
Sample size	2007	2004	2000	1001	1677	1500	23230

Data are mean (SD) or n. Quality rating is equal to 1 when respondents rated their usual source of care as very good or excellent, and is equal to 0 for ratings of good, fair, or poor.

**Table 4: Quality ratings for usual source of care**

in the sample, controlling for gender, survey mode, urban or rural, secondary education, age categories (seven), income categories (three), health insurance, patient activation, and self-reported health, having a usual source of care at primary level (odds ratio [OR] 0.87, 95% CI 0.79–0.97) and in the public sector (OR 0.73, 0.57–0.94) was associated with a lower likelihood of giving a high quality rating (appendix 2 p 5). In country-level analyses, having a public-sector usual source of care was associated with significantly lower quality ratings in Ethiopia, Kenya, South Africa, Peru, Laos, and the UK. Having a primary-level usual source of care was associated with lower quality ratings in Ethiopia, South Korea, and Peru (figure 2).

### Variation in access to PHC-linked screenings and treatments

Table 1 shows take-up of primary health-care preventive services and treatments. 7428 (67.1%) of 11064 respondents older than 40 years had their blood pressure taken over the past 12 months, ranging from 346 (44%) of 784 in Italy to 784 (92%) of 850 in the USA. Blood sugar had been taken for 5453 (49.3%) respondents older than 40 years, with screening rates lowest in Ethiopia (190 [19%] of 979) and highest in the USA (601 [73%] of 821). Cholesterol had been tested in the past year for 5281 (47.7%) respondents older than 40 years, and of all 23230 respondents, 7888 (34.0%) had eye examinations and 8060 (34.7%) had dental examinations in the past year. 1325 (38.1%) of 3479 women older than 50 years had a mammogram in the past 12 months, and 2477 (30.0%) of 8265 women older than 30 years had received cervical cancer screening.

Adjusting for demographic and socioeconomic factors as well as self-rated health, patient activation, and insurance coverage, having a usual source of care was associated with statistically significant increases in probability of receiving all seven preventive services (figure 3). The increased probability of screening for blood pressure, cholesterol, and blood sugar associated with usual source of care was larger than for other characteristics frequently highlighted as drivers of access to care, such as

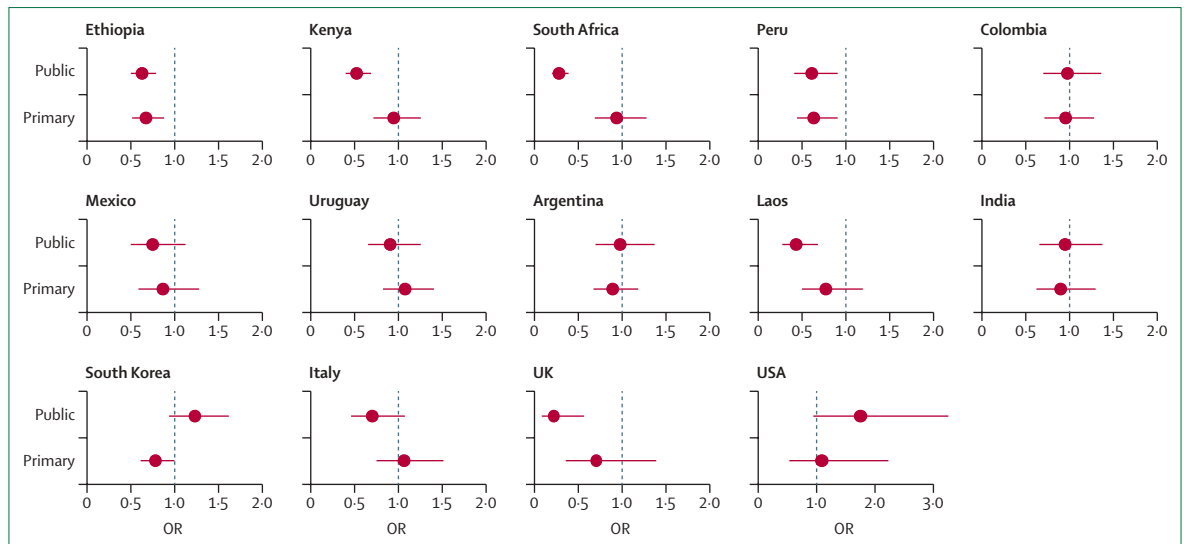
gender, self-reported health, insurance status, urban residence, and secondary education (appendix 2 p 6).

Moving to PHC-related treatments, only 932 (22.3%) of the 4167 respondents who reported having poor mental health had received treatment, ranging from 5 (1%) of 477 in Laos to 206 (53%) of 392 in the UK. Globally, 3296 (14.2%) respondents reported any unmet need for care (table 1); this was lowest in South Korea (119 [6.0%] of 2000), Italy (62 [6.2%] of 1001), and India (123 [6.1%] of 2004), and highest in Kenya (491 [21.3%] of 2305), the UK (369 [22.0%] of 1677), and Peru (323 [25.7%] of 1255). Among respondents who reported poor or fair mental health, having a usual source of care was associated with higher likelihood of care for mental health issues in multicountry pooled regressions (OR 1.44, 95% CI 1.14–1.82) and in country-specific regression analysis in the UK and South Korea. Among respondents who self-report chronic illness, usual source of care was associated with an above-median number of visits over the past year in the pooled sample, and in all countries except Mexico, Italy, Laos, and the USA. Having a usual source of care was also associated with unmet need for care in the pooled sample and in Kenya, Ethiopia, South Korea, and India (appendix 2 p 7).

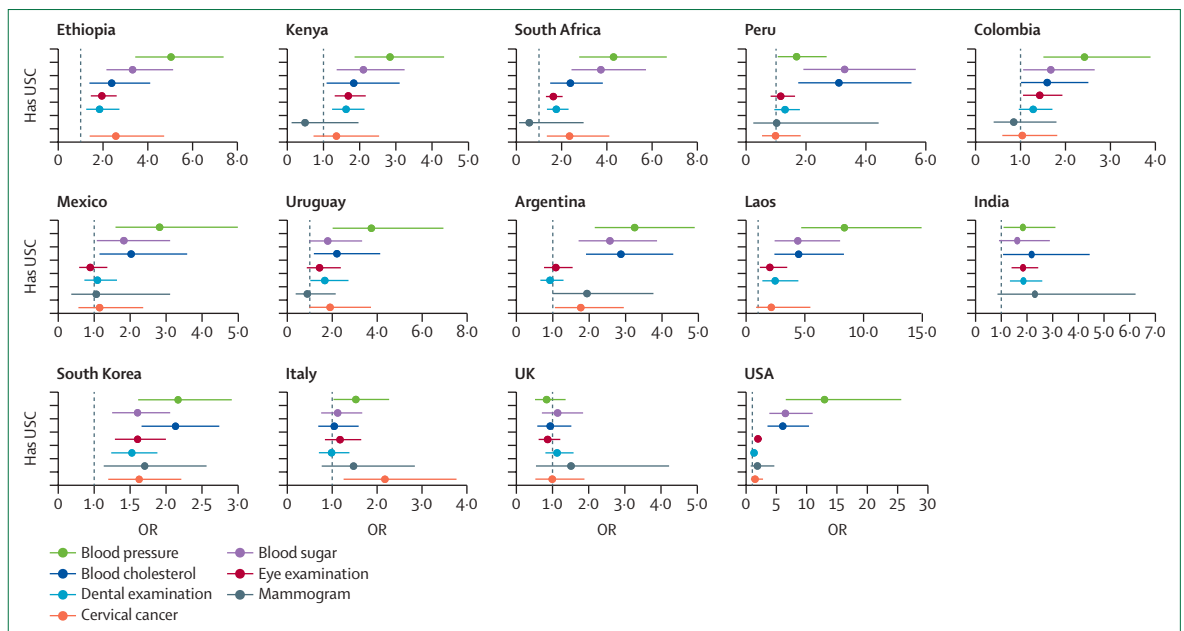
See Online for appendix 2

### Associations between ownership and level of usual source of care and access to preventive care

Accessing a usual source of care in the public sector was associated with lower values for the preventive services access index in Ethiopia, South Africa, Kenya, Peru, Colombia, Argentina (Mendoza), Laos, Italy, and the UK, and accessing a usual source of care at primary level was associated with lower preventive service index values in Peru, Ethiopia, and Laos (appendix 2 p 32). Public-sector usual source of care was associated with lower unmet need for care in Peru and Italy, and with higher unmet need in Uruguay, Argentina (Mendoza), and South Korea. A usual source of care at primary level was



**Figure 2: Association between quality rating and characteristics of respondents' usual source of care, by country**  
 The outcome is a binary variable that captures whether or not the respondent rates usual source of care quality as very good or excellent. Control variables include gender, survey mode, urban or rural location, secondary education (0 or 1), age categories (seven), income categories (three), health insurance (0 or 1), patient activation (0 or 1), and self-reported good health (0 or 1). Vertical lines are placed where OR=1. OR=odds ratio.



**Figure 3: Associations between usual source of care and preventive care or screenings**  
 ORs for associations between any usual source of care (Yes=1) and receipt of various preventive services and screenings. The outcome variables are whether or not the respondent has received a given screening or service. Control variables include gender, survey mode, urban or rural, secondary education (0 or 1), age categories (seven), income categories (three), health insurance (0 or 1), patient activation (0 or 1), and self-reported good health (0 or 1). Vertical lines are placed where OR=1. OR=odds ratio. USC=usual source of care.

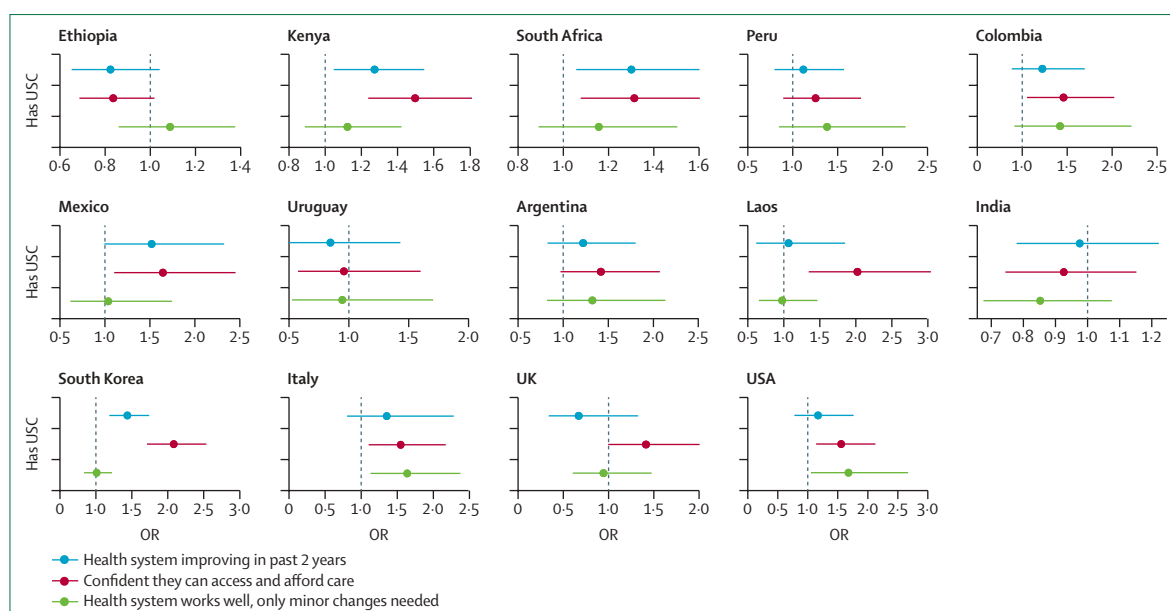
associated with lower unmet need in Ethiopia and Uruguay (appendix 2 p 33).

### Associations between having a usual source of care and opinions about the health system

Having a usual source of care was associated with greater health system endorsement (belief that the health system

works well and only needs minor changes) in Italy and the USA, with better assessments of recent health system trajectory (belief that the system has been improving in recent years) in Kenya, South Africa, and South Korea, and with greater perceptions of health security (belief that respondents could receive and afford the care that they needed if they were sick) in Kenya, South Africa,





**Figure 4: Usual source of care and other factors associated with health system confidence, endorsement, and health security**

ORs for associations between USC (Yes=1) and measures of health system confidence, endorsement, and security. Control variables include gender, survey mode, urban or rural, secondary education (0 or 1), age categories (seven), income categories (three), health insurance (0 or 1), patient activation (0 or 1), and self-reported good health (0 or 1). Vertical lines are placed where OR=1. OR=odds ratio. USC=usual source of care.

Colombia, Mexico, Laos, South Korea, Italy, and the USA (figure 4). In regressions that pooled all countries in the sample, having a usual source of care was associated with belief that the system is improving (OR 1.14, 95% CI 0.99–1.31), with greater health security (1.33, 1.08–1.63), and with higher levels of health system endorsement (1.10, 0.99–1.22; appendix 2 p 8).

## Discussion

Effective and comprehensive primary care is a shared global aspiration. A high-quality generalist provider that health system users trust, and have ready access to, is a key component of primary care. Globally, how do people access their usual source of care, where do they access it, what do they use it for, and what benefits does it bring them? This study presents findings on these questions from the PVS. First, we show that, among those with a usual source of care, fewer than half access this care in a public primary care setting. Thus, although primary care is still largely public in this sample, use of private and secondary facilities as a usual source of care is common. Second, having a usual source of care is associated with large increases in receipt of screenings and treatments associated with primary care. These associations are often larger than standard demographic and socio-economic predictors of access to care, such as having health insurance. We also show that delivery of preventive screenings and PHC-related treatments varies dramatically across countries, with the lowest rates in low-income countries, but with gaps also apparent in the health systems of high-income countries. For example, access to treatment for respondents with mental health

needs is low in all studied countries, with half or less of the need addressed even in high-income countries. Finally, we show associations between usual source of care and health system endorsement and perceptions of health security.

This study contributes to understanding of performance, quality, and access to key aspects of primary care globally through analysis of a novel cross-country dataset. This cross-national perspective highlights a diversity of health system models both in theory and in practice. In addition, as the PVS enables us to analyse countries of high, middle, and low income using the same data source, it draws attention to shared challenges facing health systems at all levels, such as missed opportunities to deliver screenings and preventive care, and low levels of user-assessed quality. For example, the high incidence of unmet need for care in both middle-income countries (eg, Peru and Colombia) and high-income countries (eg, the USA and the UK) reflects shared challenges in meeting population expectations.

We also use the PVS data to contribute to the literature on primary care by focusing on the role played by a usual source of care. Although the concept of primary health care encompasses clinical care as well as community participation and social determinants of health, an ongoing relationship with a local facility or provider remains central in most health systems. Although access to primary care is being frequently examined through the lens of financial or geographic barriers, the role of a usual source of care has often been overlooked, especially in low-income and middle-income countries. Although having a usual source of care is not a sufficient measure

of access to primary care, it might be a necessary precondition for effective and comprehensive primary care. Individuals who have no ongoing relationship with a care provider are unlikely to receive comprehensive care, as suggested by the associations that we document. At the same time, we observe that the importance of a usual source of care might vary based on other features of the health system. For example, among the highest-income countries in the sample (the USA, the UK, South Korea, and Italy), having a usual source of care is highly correlated with preventive service uptake in systems in which private provision plays a major role (the USA and South Korea), whereas it is less correlated with these services in public sector-dominated systems (the UK and Italy). These cross-country differences in the role that a usual provider can play are a promising area for further research.

Our findings are broadly consistent with a number of previous studies. Our findings on major gaps in access to preventive screenings and PHC-linked treatment echo findings of similar gaps for key population-level risk factors and illnesses, such as hypertension and diabetes, in many settings.<sup>17,18</sup> In addition, previous research has identified the importance of having a usual source of care to increase access to such preventive services in high-income and upper-middle-income settings.<sup>10–14</sup> Previous research has also documented widespread bypassing of primary providers for hospital or specialist care, and major quality gaps at primary level.<sup>19</sup>

This study has several limitations. First, data collection was focused primarily on access to care, use, and user perceptions. PVS measures of health status were limited to self-rated health, chronic conditions, and self-rated mental health. This limits our ability to measure condition-specific use conditional on need. Second, the PVS does not contain detailed accounting of patient expenditures. In addition, it is possible that our post-stratification weights do not fully account for selection effects into survey participation, which could result in biases in weighted results. For example, if individuals with low social trust were less likely to participate in the PVS, and this characteristic was not captured by weighting variables (region or education), estimates of health status positively correlated with social trust (eg, health system trajectory evaluations) could be biased upwards. Pooled multicountry analyses are also limited by the heterogeneity across countries, as respondents in different countries might have understood or interpreted certain survey questions differently. Finally, we are also limited by the observational nature of our data; the associations presented here cannot be interpreted causally.

These findings highlight the diverse nature of access to care around the world, which often does not match the way health systems are designed on paper. They also highlight the need to connect individuals to usual

sources of care, which could help to increase take-up of population screenings and treatments. More generally, these findings highlight gaps in system competence across prevention and treatment in low-income, middle-income, and high-income countries. Finally, these results show the importance of measuring community perspectives; there are relatively few settings in which respondents were very satisfied with their usual source of care. These gaps were present across high-income, middle-income, and low-income health systems.

As other papers in this Series have highlighted, the PVS is a tool that can contribute to measurement of health system performance, and that can be used to measure differences across countries and change over time within countries. Combining these health system user perspectives with other data sources can give policy makers and other health system stakeholders a more comprehensive view of health system performance, and can enable them to measure and evaluate system reforms.

#### Contributors

KC, MM, and MEK conceptualised the study. KC, NRK, and TPL accessed and verified the data. NRK and KC conducted the analysis. KC wrote the initial draft of the manuscript. All authors contributed substantially to the analysis, interpretation of the results, and completion of the manuscript.

#### Declaration of interests

We declare no competing interests.

#### Data sharing

Individual-level, de-identified data from the People's Voice Survey on Health System Performance will be publicly available in mid-2024. Data will be available on the Harvard Dataverse (<https://dataverse.harvard.edu>). The survey instrument and data dictionary will be available upon publication.

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#### References

- 1 WHO. Declaration on Primary Health Care. 2018. <https://www.who.int/teams/primary-health-care/conference/declaration> (accessed Nov 13, 2023).
- 2 Hsieh VC-R, Wu JC-L, Wu T-N, Chiang T-L. Universal coverage for primary health care is a wise investment: evidence from 102 low- and middle-income countries. *Asia Pac J Public Health* 2015; 27: NP877–86.
- 3 Organisation for Economic Co-operation and Development. Realising the potential of primary health care. Paris: Organisation for Economic Co-operation and Development Publishing, 2020.
- 4 WHO and UNICEF. A vision for primary health care in the 21st century: towards universal health coverage and the Sustainable Development Goals. 2018. <https://apps.who.int/iris/handle/10665/328065> (accessed April 26, 2023).
- 5 Bhalotra SR, Rocha R, Soares RR. Does universalization of health work? Evidence from health systems restructuring and expansion in Brazil. *SSRN* 2019; published online May 21. <https://papers.ssrn.com/abstract=3390099> (preprint).
- 6 Primary Health Care Performance Initiative. Vital Signs Profiles. <https://www.improvingphc.org/vital-signs-profiles> (accessed April 27, 2023).
- 7 WHO. Primary health care measurement framework and indicators: monitoring health systems through a primary health care lens. 2022. <https://www.who.int/publications-detail-redirect/9789240044210> (accessed April 26, 2023).

- 8 Levine DM, Landon BE, Linder JA. Quality and experience of outpatient care in the United States for adults with or without primary care. *JAMA Intern Med* 2019; **179**: 363–72.
- 9 Lee DC, Shi L, Wang J, Sun G. Usual source of care and access to care in the US: 2005 vs 2015. *PLoS One* 2023; **18**: e0278015.
- 10 Aoki T, Fujinuma Y, Matsushima M. Usual source of primary care and preventive care measures in the COVID-19 pandemic: a nationwide cross-sectional study in Japan. *BMJ Open* 2022; **12**: e057418.
- 11 An AR, Kim K, Lee JH, Sung NJ, Lee S il, Hyun MK. Having a usual source of care and its associated factors in Korean adults: a cross-sectional study of the 2012 Korea Health Panel Survey. *BMC Fam Pract* 2016; **17**: 167.
- 12 Doubova SV, Guanais FC, Pérez-Cuevas R, Canning D, Macinko J, Reich MR. Attributes of patient-centered primary care associated with the public perception of good healthcare quality in Brazil, Colombia, Mexico and El Salvador. *Health Policy Plan* 2016; **31**: 834–43.
- 13 Guanais FC. Primary healthcare access, experience, and coordination in Latin America and the Caribbean 2013 (PRIMLAC). 2018. <https://publications.iadb.org/handle/11319/9095> (accessed April 27, 2023).
- 14 Pérez-Cuevas R, Guanais FC, Doubova SV, et al. Understanding public perception of the need for major change in Latin American healthcare systems. *Health Policy Plan* 2017; **32**: 816–24.
- 15 Gelman A. Failure and success in political polling and election forecasting. *Stat Public Policy* 2021; **8**: 67–72.
- 16 Lewis T, Kapoor N, Aryal A, et al. Measuring people's views on health system performance: design and development of the People's Voice Survey. *PLoS Med* 2023; **20**: e1004294.
- 17 Zhou B, Carrillo-Larco RM, Danaei G, et al. Worldwide trends in hypertension prevalence and progress in treatment and control from 1990 to 2019: a pooled analysis of 1201 population-representative studies with 104 million participants. *Lancet* 2021; **398**: 957–80.
- 18 Joshi SR, Saboo B, Vadivale M, et al. Prevalence of diagnosed and undiagnosed diabetes and hypertension in India—results from the Screening India's Twin Epidemic (SITE) study. *Diabetes Technol Ther* 2012; **14**: 8–15.
- 19 Kruk ME, Mbaruku G, McCord CW, Moran M, Rockers PC, Galea S. Bypassing primary care facilities for childbirth: a population-based study in rural Tanzania. *Health Policy Plan* 2009; **24**: 279–88.

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