

International Health Transitions



Technical notes for unmet need

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Contents

Technical notes for unmet need	1
Appendix 1. Background characteristics of the studies	1
Appendix 2. Variable definition	4
1. Did not need health care	4
2. Met health care need	4
3. Unmet health care need	4
4. Types of unmet health care need	4
Appendix 3. Variable generation for unmet health care need	6
A. Met, unmet need, and types of unmet health care need	6
B. Sex, age, and residency	29
C. Survey weighting	33
Handling missing values	34
Notes and considerations	34
Appendix 4. Construction of Table A, Table B, and Table C in the report	35
Table A: No need, met and unmet need, by country/study.	35
Table B: Unmet need by selected respondent characteristics, by country.	35
Table C: Overall unmet need and type of need, by country.	35
Coverage: Respondents aged ≥ 30 years with at least one unmet health care need.	35

Appendix 1. Background characteristics of the studies

No	Study	Countries	Wave (Year)	N (age)
1	Brazilian Longitudinal Study of Aging (ELSI-Brazil)	Brazil	Wave 1 (2015/16)	9,412 (50+ years)
2	Cambodia Elderly Survey	Cambodia	2004	1273 (60+ years)
3	Commonwealth Fund survey (CMWF)	1. Australia 2. Canada 3. France 4. Germany 5. Netherlands 6. New Zealand 7. Norway 8. Sweden 9. Switzerland 10. United Kingdom 11. United States	Wave 7 (2017)	22,933 (65+ years)
4	Integrated Household Survey (IHS)	Gambia	Wave 3 (2015/16)	52,955 (0+ years)
5	Mexico Health and Aging Study (MHAS)	Mexico	Wave 1 (2001) Wave 2 (2003) Wave 3 (2012) Wave 4 (2015) Wave 5 (2018)	12,235 (50+ years) 11,539 (50+ years) 13,308 (50+ years) 13,253 (50+ years) 14,805 (50+ years)
6	Myanmar Aging Study (MAS)	Myanmar	2012	4,080 (60+ years)
7	Myanmar Survey on Accessing Healthcare to Older Persons	Myanmar	2016	1,000 (60+ years)
8	Mongolia Mini SAGE	Mongolia	Wave 2 (2017)	983 (60+ years)
9	New Zealand Health Survey (NZHS)	New Zealand	Wave 8 (2014/15) Wave 9 (2015/16) Wave 10 (2016/17) Wave 11 (2017/18) Wave 12 (2018/19)	10,361 (30+ years) 10,636 (30+ years) 10,598 (30+ years) 10,799 (30+ years) 10,728 (30+ years)
10	Puerto Rican Elderly: Health Conditions (PREHCO)	Puerto Rico	Wave 1 (2002/03)	4,291 (60+ years)

No	Study	Countries	Wave (Year)	N (age)
			Wave 2 (2006/07)	3,165 (60+ years)
11	Study of global AGEing and adult health (SAGE)	1. Ghana 2. India (Wave 1) 3. China (Wave 1) 4. Mexico 5. Russia (Wave 1) 6. South Africa	Wave 1 (2007/10) Wave 2 (2014/15)	42,487 Wave 1 (India, China, Russia—18+ years) 12,522 Wave 2 Ghana, South Africa, Mexico—18+ years)
12	Survey on Health, Well-Being, and Aging (SABE)	1. Colombia	Wave 1 (2015)	23,694 (60+ years)
		2. Ecuador	Wave 1 (2009)	5,212 (60+ years)
13	Sustainable Health Financing (SHIFT)	Timor-Leste	2014/15	1,712 households; 9,843 individuals (1+ years)
14	Thai Health and Welfare Survey (HWS)	Thailand	Wave 17 (2011) Wave 18 (2013) Wave 19 (2015) Wave 20 (2017)	71,847 (0+) 71,533 (0+) 139,858 (0+) 65,781 (0+)
15	Tunisian Health Examination Survey (THES)	Tunisia	Wave 1 (2016)	10,158 (15+ years)
16	Vietnam Ageing Survey (VNAS)	Vietnam	Wave 1 (2011) Wave 2 (2019)	Long to complete Long to complete
17	World Health Survey (WHS)	Tunisia	2003/4	5,300 (18+ years)
18	World Values Survey (WVS)	60 countries	Wave 6 (2019/14)	89,656 (16+ years)
		49 countries	Wave 7 (2017/21)	70,867 (16+ years)

List of WVS countries:

Wave 6: 1. Algeria; 2. Azerbaijan; 3. Argentina; 4. Australia; 5. Armenia; 6. Brazil; 7. Belarus; 8. Chile; 9. China; 10. Taiwan ROC; 11. Colombia; 12. Cyprus; 13. Ecuador; 14. Estonia; 15. Georgia; 16. Palestine; 17. Germany; 18. Ghana; 19. Haiti; 20. Hong Kong SAR; 21. India; 22. Iraq; 23. Japan; 24. Kazakhstan; 25. Jordan; 26. South Korea; 27. Kuwait; 28. Kyrgyzstan; 29. Lebanon; 30. Libya; 31. Malaysia; 32. Mexico; 33. Morocco; 34. Netherlands; 35. New Zealand; 36. Nigeria; 37. Pakistan; 38. Peru; 39. Philippines; 40. Poland; 41. Qatar; 42. Romania; 43. Russia; 44. Rwanda; 45. Singapore; 46. Slovenia; 47. South Africa; 48. Zimbabwe; 49. Spain; 50. Sweden; 51. Thailand; 52. Trinidad and Tobago; 53. Tunisia; 54. Turkey; 55. Ukraine; 56. Egypt; 57. United States; 58. Uruguay; 59. Uzbekistan; 60. Yemen.

Wave 7: 1. Andorra; 2. Argentina; 3. Australia; 4. Bangladesh; 5. Bolivia; 6. Brazil; 7. Myanmar; 8. Chile; 9. China; 10. Taiwan ROC; 11. Colombia; 12. Cyprus; 13. Ecuador; 14. Ethiopia; 15. Germany; 16. Greece; 17. Guatemala; 18. Hong Kong SAR; 19. Indonesia; 20. Iran; 21. Iraq; 22. Japan; 23. Kazakhstan; 24. Jordan; 25. South Korea; 26. Kyrgyzstan; 27. Lebanon; 28. Macau SAR; 29. Malaysia; 30. Mexico; 31. New Zealand; 32. Nicaragua; 33. Nigeria; 34. Pakistan; 35. Peru; 36. Philippines; 37. Puerto Rico; 38. Romania; 39. Russia; 40. Serbia; 41. Vietnam; 42. Zimbabwe; 43. Tajikistan; 44. Thailand; 45. Tunisia; 46. Turkey; 47. Ukraine; 48. Egypt; 49. United States.

Appendix 2. Variable definition

1. Did not need health care

Definition

The proportion of respondents who reported that they did not need health care.

Numerator : Number of respondents who reported that they did not have health problem or did not need health care.

Denominator : All respondents

2. Met health care need

Definition

The proportion of respondents who reported that their need for health care was met.

Numerator : Number of respondents who reported that their demand for health care service(s) (including medical visit, dental care, mental health care, prescription/medication, examination, and surgical care) was met.

Denominator : Number of respondents with health care needs

3. Unmet health care need

Definition

The proportion of respondents who reported that they needed health care but did not receive it.

Numerator : Number of respondents who reported that they needed health care service(s) (including medical visit, dental care, mental health care, prescription/medication, examination, and surgical care) but did not receive it.

Denominator : Number of respondents with health care needs.

4. Types of unmet health care need

Definition

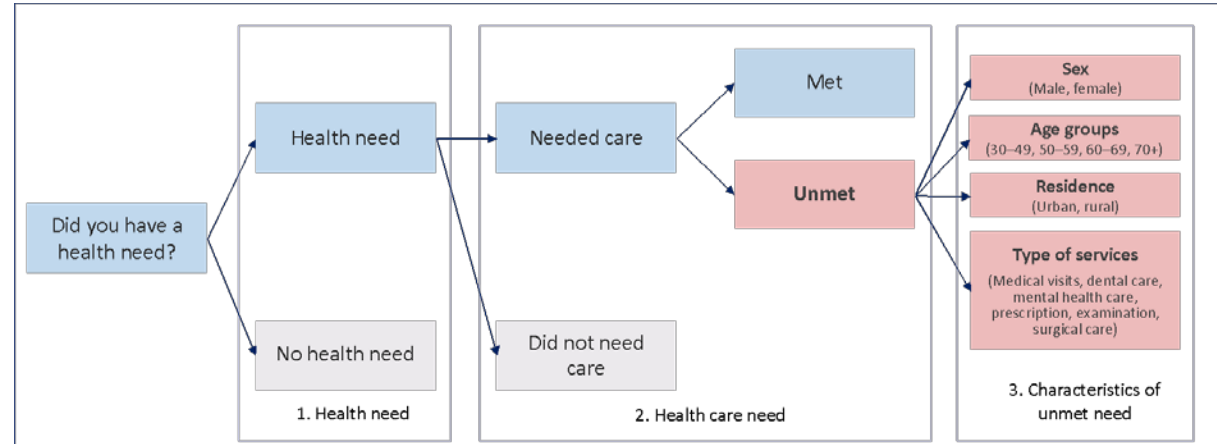
The proportion of respondents with specific types of unmet health care needs.

Numerator : Number of respondents with specific types of unmet health care needs, including:

- unmet medical visit needs (unmet_visit)
- unmet dental care needs (unmet_dentist)
- unmet mental health care needs (unmet_mental)
- unmet prescription/medication needs (unmet_medication)
- unmet examination needs (unmet_examination)
- unmet surgical care needs (unmet_surgical)

Denominator : Number of respondents with unmet health care needs.

Appendix 2 Figure 1. Decision tree of met and unmet health care need



Notes: Some of surveys started from the "health care need" (2) without asking respondents' health need (1).

Appendix 3. Variable generation for unmet health care need

A. Met, unmet need, and types of unmet health care need

(Original variables names are referring to variables name in Stata file (.dta). The name can be different in the questionnaire)

1. Brazilian Longitudinal Study of Aging (ELSI-Brazil)

Questions	Original response categories
u32. Have you looked for a health service to get an appointment related to your health, in the <u>PAST 2 WEEKS</u> ?	0=No (→ u36) 1=Yes 9=Didn't know/didn't answer
u34. Were you immediately taken care of on the first time you sought care in this health service in the <u>PAST 2 WEEKS</u> ?	0=No 1=Yes 9=Didn't know/didn't answer
u36. In this latest appointment, within the <u>PAST 2 WEEKS</u> , were you prescribed any medication?	0=No (→ t5) 1=Yes 9=Didn't know/didn't answer
u37. Were you able to get all the medication that was prescribed to you on your latest appointment within the <u>PAST 2 WEEKS</u> ?	0=No 1=Yes 9=Didn't know/didn't answer
t5. In general, what is the main issue you have to deal with in order to get medications, prescribed by the doctor, of regular or continuous use?	1=Has no problem getting the medications 2=Financial issues 3=Difficulties finding the medications at the pharmacy, including the public pharmacy (SUS), popular pharmacy (Popular Pharmacy Program) or any other pharmacy 4=Difficulties getting to the pharmacy (it is far away from home and/or there is no transportation) 5=Difficulty getting someone to go to the pharmacy to buy the medication 6=Other issues 9=Didn't know/didn't answer
t6. In the <u>PAST 30 DAYS</u> , due to financial issues, you:	1=Had no financial issues to buy the medication(s) 2=Did not take a medication that was prescribed by a doctor or a dentist 3=Decrease the number of pills of the medication(s) that were prescribed by the doctor 4=Decreased the dose of the medication, breaking the pills or taking less drops 5=Didn't use medication(s) 9=Didn't know/didn't answer

Health care need (variable name: unmet_health)

1 = Met need ([u32=1 and u34=1] and [u36=1 and u37=1] and t5=1 and t6=1)

2 = Unmet need ([u32=1 and u34=0] or [u36=1 and u37=0] or t5>1 or t6>1)

3 = Did not need care (u32=0 and u36=0 and t6=5)

Types of health care need

- Medical visit (derived variable name: unmet_visit)
1 = Unmet need ([u32=1 & u34=0] and unmet_health=1)
- Prescription (derived variable name: unmet_medication)
1 = Unmet need ([u36=1 & u37=0] and unmet_health=1)

2. Cambodia Elderly Survey (CES)

Questions	Original response categories
G20. During the past <u>year</u> , were there any times that you were sick or injured?	1=Yes (→ G21) 2=No
(Not used) (For respondents who answered "Yes" in G20)	
G21. For how many days, if any, during the last year would you say you were unable to perform your usual activities because of illness or injuries? [Write 0 if none]	
G.22 Did you receive any professional treatment or take any medicines for these illnesses or injuries over the past year?	1=Yes (→ G26) 2=No (→ G23)
(For respondents who answered "No" in G22)	1=Yes (→ G24)
G23. Do you think that you needed treatment or medicines?	2=No (→ G31)
(Not used) (For respondents who answered "Yes" in G23)	
G24. What were the reasons that you did not receive this treatment? [circle all that are mentioned. After one reason is mentioned, ask if there are any other reasons]	1=I did not have enough money to pay for treatment 2=I did not have anyone to help me pay for treatment 3= no one to take met 4= did not know where to go 5= too far to go 6= too shy to ask for help 7= did not want to go for help 8= other reason (specify)
(not used)	One reason only (→ G31)
G24x. Interviewer: Based on G24 check box indicating if respondent stated more than one reason and follow instruction	More than one reason(→ G25)
(not used)	
G25. What is the main reason? [record code from G24] (→ G31)	

3. Commonwealth Fund International Health Policy Survey (CMWF)

Questions	Original response categories
qn810. During the past <u>12 months</u> , was there a time when you:	
qn810_a1. Did not fill/collect a prescription for medicine, or you skipped doses of your medicine because of the cost	1=Yes 2=No 3=Not applicable

	8=Not sure 9=Decline to answer
qn810_a2. Had a medical problem but did not consult with/visit a doctor because of the cost	1=Yes 2=No 3=Not applicable 8=Not sure 9=Decline to answer
qn810_a3. Skipped a medical test, treatment, or follow-up that was recommended by a doctor because of the cost	1=Yes 2=No 3=Not applicable 8=Not sure 9=Decline to answer
qn810_a4. Did not visit a dentist when you needed to because of the cost	1=Yes 2=No 3=Not applicable 8=Not sure 9=Decline to answer

Health care need (derived variable name: unmet_health)

- 1 = Met need (qn810_a1=2 and qn810_a2=2 and qn810_a3=2 and qn810_a4=2)
2 = Unmet need (qn810_a1=1 or qn810_a2=1 or qn810_a3=1 or qn810_a4=1)
3 = Did not need care (qn810_a1=3 and qn810_a2=3 and qn810_a3=3 and qn810_a4=3)

Types of unmet health care need

- Prescription (derived variable name: unmet_medication)
1 = Unmet need (qn810_a1=1 and unmet_health=1)
- Medical visit (derived variable name: unmet_visit)
1 = Unmet need (qn810_a2=1 and unmet_health=1)
- Examination (derived variable name: unmet_examination)
1 = Unmet need (qn810_a3=1 and unmet_health=1)
- Dentist care (derived variable name: unmet_dentist)
1 = Unmet need (qn810_a4=1 and unmet_health=1)

4. Integrated Household Survey (IHS) – Gambia

Questions	Original response categories
s2aq3_1: During the last 2 weeks, what symptoms has [name] suffered from?	1–22=List of symptoms 99=Other symptoms
s2aq4_1: Did [NAME] consult a health provider for this illness/injury last 2 weeks for MAIN illness?	1=Yes 2=No
s2aq5_1: What was the main reason that [NAME] did not visit a health practitioner during his/her illness?	1=Too far 2=Too expensive 3=Waiting time too long 4=No privacy 5=Lack of medical supplies 6=No faith in healing power 7=Unfriendly staff

	8=Unqualified staff 9=Cost of transport 10=Indecision 99=Other
s2aq3_2: During the last 2 weeks, what symptoms has [name] suffered from?	1–22=List of symptoms 99=Other symptoms
s2aq4_2: Did [NAME] consult a health provider for this illness/injury last 2 weeks for SECONDARY illness?	1=Yes 2=No
s2aq5_2: What was the reason that [NAME] did not visit a health practitioner during his/her illness?	1=Too far 2=Too expensive 3=Waiting time too long 4=No privacy 5=Lack of medical supplies 6=No faith in healing power 7=Unfriendly staff 8=Unqualified staff 9=Cost of transport 10=Indecision 99=Other

Health need (derived variable name: sick)

- 1 = No health need (s2aq3_1=missing & s2aq3_2=missing)
2 = Health need (s2aq3_1=1 to 22 & s2aq3_2=1 to 22)

Derived variable name: unmet_health

Categories

- 1 = Met need (sick=1 & s2aq4_1=1 & [s2aq4_2=1 or missing])
2 = Unmet need (sick=1 & s2aq4_1=2 or s2aq4_2=2)
3 = Didn't need care (sick=0)

5. Mexico Health and Aging Study (MHAS)

Questions	Original response categories
Year 2001 (D12), 2003 (D19), 2012 (D.12C_12), 2015 (D.12C_15), 2018 (D.12C_18)	
D12. <u>In the last year</u> , have you not taken medications because of excessive cost?	1=Yes 2=No 8=RF 9=DK
Year 2001 (D15), 2003 (D22), 2012 (D15_12), 2015 (D.15_15), 2018 (D.15_18)	
D15. <u>In the last five years</u> , was there at least one instance when you had a serious health problem but you did not go to the doctor?	1=Yes 2=No 8=RF 9=DK

Health care need (variable name: unmet_health)

- D12 in 2001; D19 in 2003; D12C in 2012
- D15 in 2001; D22 in 2003

- 0 = Met need (d12=2 and d15=2)
1 = Unmet need (d12=1 or d15=1)

Types of health care need

- Medical visit (derived variable name: unmet_visit)
1 = Unmet need (d15=1 and unmet_health=1)
- Prescription (derived variable name: unmet_medication)
1 = Unmet need (d12=1 and unmet_health=1)

6. Myanmar Aging Study (MAS)(2012)

Questions	Original response categories
J41. During the past <u>12 months</u> , were there any times that you were sick or injured that prevented you from performing your usual activities?	1=Yes (→ J43) 2=No
J43. Did you receive any professional treatment for these illnesses or injuries?	1=Yes (→ J46) 2=No (→ J44)
(For respondents who answered "No" in J43)	1=Yes
J44. Do you think that you needed treatment?	2=No
(For respondents who answered "Yes" in J43)	1=Yes
J46. Do you need additional treatment but could not afford?	2=No

Health need (derived variable name: sick)

3 = No health need (J41=2)

4 = Health need (J41=1)

Health care need (derived variable name: unmet_health)

1 = Met need (sick=1 and J43=1 and J46=2)

2 = Unmet need ([sick=1 and J43=1 and J46=1] or [sick=1 and J43=2 and J44=1])

3 = Did not need care (sick=0 or [sick=1 and J43=2 and J44=2])

7. [Myanmar] Survey on Accessing Healthcare to Older Persons (2016)

Questions	Original response categories
C1. During the past <u>12 months</u> , were there any times that you were sick or injured that prevented you from performing your usual activities?	1=Yes 2=No (→ stop)
C3. The last time you needed health care, did you get health care?	1=Yes (→ J46) 2=No (→ J44)

Health need (derived variable name: sick)

1 = No health need (C1=2)

2 = Health need (C1=1)

Health care need (derived variable name: unmet_health)

1 = Met need (sick=1 and C3=1)

2 = Unmet need (sick=1 and C3=2)

3 = Did not need care (sick=0)

8. Mongolia Mini SAGE (2017)

Questions	Original response categories
q5001jil, q5001sar & q5001odor. When was the last time that you needed health care?	q5001jil: numbers of years from 0 to 50, -8,88=Dk 98=Never (→ q5046) q5001sar: numbers of months from 0 to 12 q5001odor: numbers of days from 0 to 25
q5001_computed_days. generated variable	Duration since last needed health care (days) from 0 to 17812.50 .=missing
q5002. The last time you needed health care, did you get health care?	1=Yes (→ q5025) 2=No
q4067. During the last 12 months, have you had any problems with your mouth and/or teeth (this includes problems with swallowing)?	1=Yes 2=No (→ q4069)
q4068a. Have you received any medications or treatment from a dentist or other oral health specialist during the last 2 weeks?	1=Yes 2=No
q4068b. Have you received any medications or treatment from a dentist or other oral health specialist during the last 12 months?	1=Yes 2=No

Health care need (derived variable name: **unmet_health**)

- 1 = Met need ([q5001_computed_days=(0 to 18000) and q5002=1] or [q4067=1 and (q4068a=1 or q4068b=1)])
- 2 = Unmet need ([q5001_computed_days=(0 to 18000) and q5002=2] or [q4067=1 and (q4068a=2 or q4068b=2)])
- 3 = Did not need care ([q5001_computed_days=. and q5001jil=98] and q4067=2)

9. New Zealand Health Survey (NZHS)

Questions	Original response categories
A2.06 In the past 12 months, has there been a time when you wanted to see a GP, nurse or other health care worker at your usual medical centre within the next 24 hours, but they were unable to see you?	1=Yes 2=No .K=Don't know .R=Refused

10. Puerto Rican Elderly: Health Conditions (PREHCO)

Questions	Original response categories
(Wave 1, 2003: J1, J12 K48, K49, K60) (Wave 2, 2007: WJ1, WJ12, WK48, WK49 WK60, WK61)	
J1/WJ1. Could you tell me how many medications, <u>PRESCRIBED BY A DOCTOR</u> , you have been taking regularly in the last year? Interviewer: Indicate zero if interviewee does not take any prescribed medication.	Number of prescribed medications -1=Does not know -2=Does not answer
J12/WJ12. During the last year, have you stopped taking or have you taken less of any medication that was prescribed because you could not afford it?	1=Yes 2=No -1=Does not know -2=Does not answer
K48/WK48. In the last twelve months, were you ever told you should get an x-ray or have laboratory tests done, not including tests for a hospitalization?	1=Yes 2=No(→ K53/WK53) -1=Does not know(→ K53/WK53) -2=Does not answer(→ K53/WK53)
K49/WK49. Did you have those tests done?	1=Yes, all of them(→ K51/WK51) 2=Only some of them 3=Did not get them done -1=Does not know(→ K51/WK51) -2=Does not answer(→ K51/WK51)
(not used) K50/WK50. Why did you not have all of those laboratory tests done? (K:50 Mark all the responses given by the interviewee, WK50: Mark all the responses given by the interviewee up to three)	1=Lack of transportation 2=They're too time consuming 3=Could not pay for them 4=Did not consider it a serious problem 5=Health insurance/Health plan would not cover them 6=Appointment was scheduled for later (still waiting to have them done) 7=Another reason 8=Was afraid 9=Does not want/Does not like/Negligence -1= Does not know -2= Does not answer

(not used, asked to those who answered “No” or did not know/did not respond in K48) K53/WK53. In the last year, have you received the influenza vaccine?	1=Yes 2=No -1= Does not know -2=Does not answer
K60. In the last two years, have you needed medical attention that you could not get?	1=Yes 2=No -1=Does not know -2=Does not answer
(not used) K61/WK61. Why were you unable to get the medical attention that you needed? (Mark all the options mentioned spontaneously)	1=Lack of transportation 2=Too time consuming 3=Could not pay for it 4=Did not consider it a serious problem 6=Health insurance/Health plan would not cover it 7=Appointment was scheduled for later 8=Another reason 9=Did not have a doctor’s referral 10=Not authorized by health plan -1=Does not know -2=Does not answer

Health care need (derived variable name: unmet_health)

- 1 = Met need (J1>=1 and J12==2) or (K48=1 and K49=1)
- 2 = Unmet need (J1>=1 and J12==1) or (K48=1 and K49=2, 3) or (K60=1)
- 3 = Did not need care (J1==0 and K48==2 and K60==2)

Types of health care need

- Medical visit (derived variable name: unmet_visit)
1 = K60=1 and unmet_health==1
- Prescription (derived variable name: unmet_medication)
1 = (J1>=1 and J12==1) and unmet_health==1
- Examination (derived variable name: unmet_examination)
1= (K48=1 and K49=2,3) and unmet_health==1

11. Study of global AGEing and adult health (SAGE) (Wave 1 and 2)

Questions	Original response categories
q5001yy & q5001mm. When was the last time that you needed health care?	q5001yy: numbers of years from 0 to 75 q5001mm: numbers of months from 0 to 12 -8,88=Dk -9,98=Never (→ q5046)
q5002. The last time you needed health care, did you get health care?	1=Yes (→ q5004) 2=No
q5003a. What was the main reason you needed care, even if you did not get care?*	1=Communicable disease (infections, malaria, tuberculosis, HIV) 2=Maternal and perinatal conditions (pregnancy) 3=Nutritional deficiencies

	4=Acute conditions (diarrhoea, fever, flu, headaches, cough, other) 5=Injury (not work related, see 8 below) 6=Surgery 7=Sleep problems 8=Occupation/work related condition/injury 9=Chronic pain in your joints/arthritis (joints, back, neck) 10=Diabetes or related complications 11=Problems with your heart including unexplained pain in chest 12=Problems with your mouth, teeth or swallowing 13=Problems with your breathing 14=High blood pressure / hypertension 15=Stroke/sudden paralysis of one side of body 16=Generalized pain (stomach, muscle or other nonspecific pain) 17=Depression or anxiety 18=Cancer 87=Other, specify:
q4067. During the last 12 months, have you had any problems with your mouth and/or teeth, including problems with swallowing?	1=Yes 2=No (→ q4069)
q4068a. Have you received any medications or treatment from a dentist or other oral health specialist during the last 2 weeks?	1=Yes 2=No
q4068b. Have you received any medications or treatment from a dentist or other oral health specialist during the last 12 months?	1=Yes 2=No
* Only for Wave 1, reason in Wave 2 is not present	

Health care need (variable name: unmet_health)

- 1 = Met need (((q5001yy=(0 to 75) and q5001mm≠(-9,98)) or (q5001mm=(0 to 12) and q5001yy≠(-9,98))) and q5002=1) or [q4067=1 and (q4068a=1 or q4068b=1)])
- 2 = Unmet need (((q5001yy=(0 to 75) and q5001mm≠(-9,98)) or (q5001mm=(0 to 12) and q5001yy≠(-9,98))) and q5002=2) or [q4067=1 and (q4068a=2 or q4068b=2)])
- 3 = Did not need care ([q5001yy=(-9,98) or q5001mm=(-9,98)] and q4067=2)

Types of unmet health care need (only W1)

- Medical visit (derived variable name: unmet_visit)
1 = Unmet need (q5003a=(1,4,9,10,11,13,14,15,16,18) and unmet_health=1)
- Dentist care (derived variable name: unmet_dentist)
1 = Unmet need (q5003a=12 or [q4067=1 and (q4068a=2 or q4068b=2)]) and unmet_health=1)
- Mental health care (derived variable name: unmet_mental)
1 = Unmet need (q5003a=17 and unmet_health=1)

- Surgical care (derived variable name: unmet_surgical)
1 = Unmet need (q5003a=6 and unmet_health=1)

12. Survey on Health, Well-Being, and Aging (SABE)

Ecuador (2009)	
Questions	Original response categories
E9. In the last year – did not take medication	1=Yes (→ E9_1) 2=No 98=DK 99=Did not respond
(not used)	1=Yes (→ E9_1)
E9_1. Did not take x cost	2=No
E9_2. Did not take x medicine not available	98=DK
E9_3. Did not take x transportation	99=Did not respond
E9_4. Did not take x does not like to take	
E9_5. Did not take x other reasons	
F3_1. In the last year - was not sick	1=Yes 2=No (→ F3_2) 98=DK 99=Did not respond
F3_2. In the last year - did not consult even if need it	1=Yes 2=No 98=DK 99=Did not respond
(only for those not sick)	1=Yes
F11. In the last 4 months, did you need medical attention?	2=No 98=DK 99=Did not respond
F20. In the consultation did they ask for radiographies?	1=Yes (→ F20a) 2=No 98=DK 99=Did not respond
F20a. These exams were performed	1=Yes, they were all performed 2=No, but they are scheduled 3=No, they were not, or just some 98=DK 99=Did not respond
F30_1 (not used). Did not do any consultation – did not need	1=Yes 2=No 98=DK 99=Did not respond

Health need (derived variable name: sick)

- 0=No health need (F3_1=1)
- 1=Health need (F3_1=2)

Health care need (derived variable name: unmet_health)

- 0=Met need e9=2 and f3_2=2 and [f20=2 or (f20a=1 or f20a=2)] and sick=1
- 1=Unmet need (e9=1 or f3_2=1 or f20a=3) and sick=1
- 2=Did not need care (sick=0 or f11=2)

Types of health care need

- Medical visit (derived variable name: unmet_visit)
1 = Unmet need f3_2=1 and unmet_health~=2
- Prescription (derived variable name: unmet_medication)
1= Unmet need e9=1 and unmet_health~=2
- Examination (derived variable name: unmet_examination)
1 = Unmet need (f20a=1 or f20a=2) and unmet_health~=2

Colombia (2015)	
Questions	Original response categories
P902. During the last 30 days, have you had any health problems?	1=Yes 2=No(→ P907) 8=No response(→ P907) 9=Did not know (→ P907)
P903 For any of the problems you have had in the last 30 days, have you consulted or sought help?	1=Yes. How many times (→ P905) 2=No 8=No response 9=Did not know
P904 What was the main reason for NOT consulting or seeking help? (E: DO NOT READ. RU) (Listen to the respondent and point out the option that comes closest to what he/she mentioned.)	1=Mild case 2=Lack of time 3=Service is far away 4=Very expensive transportation 5=Very expensive service 6= Went but not attended 7=Poor quality service 8=Do not trust doctors 9=A lot of paperwork 10=Don't know where service is provided 11=Consultation hours inconvenient 12=Delay in assigning appointments 13=Delay in on-site care 14=Did not know you were entitled 15=Not affiliated 98=No response 99=Don't know
P905 Did you receive the requested care from your health service for the problems that you have experienced.	1=Yes (→ P907) 2=No 8=No response 9=Did not know
(not used) P907 The last time you sought help for health-related issues, or because you felt ill Who did you consult?	1=General practitioner or specialist 2=Nurse 3=Dentist, optometrist 4=Physiotherapist, speech therapist, or occupational therapist 5=Pharmacist or druggist 6=Acupuncturist, naturopath, bioenergetician 7=Healer, witchdoctor 8=friend, relative, neighbor

	98=No response 99=Did not know
P911. In the last consultation, regardless of when it took place, were you prescribed medicines or remedies?	1=Yes 2=No(→ P914) 8=No response(→ P914) 9=Did not know (→ P914)
P912. Were you able to obtain the medicines or remedies prescribed?	1=Yes, all(→ P915) 2=Some yes, others no 3= No, none 8= No response 9=Did not know
P914. When your health service does not have the medicines available when you consult them, do they send the medicines within 3 days to your home?	1=Yes, all 2=Some yes, others no 3= No, none 8=No response 9=Did not know
P915 During the last visit, were you asked to undergo laboratory tests?	1=Yes 2=No 8=No response 9=Did not know
P916 At the last visit, were X-rays, ultrasounds, or tomography requested?	1=Yes 2=No 8=No response 9=Did not know
P917 (E: If in questions 915 and 916 both answers are NO, skip to hospitalizations). Were you able to have the laboratory tests or X-rays?	1=Yes, all 2=Some yes, others no 3= Not all were done, but they are scheduled 4=No, none 8=No response 9=Did not know

Health need (derived variable name: sick)

0=No health need (P902=2)

1=Health need (P902=1)

Health care need (variable name: unmet_health)

0= Met need: sick=1 & [(P903=1 and P905=1) & (P911=1 and P912=1) & (P12= 1 & (P915=1 and P917=1) & (P916=1 & P917=1)]

1= Unmet need: sick=1 & [(P903=1 and P905=2) or (P911=1 and (P912 =2, 3)) or (P912=1 & (P915=1 & (P917=2, 3,4)) or (P916=1 & P917=2,3,4)]

2= Did not need care (P902=2 or P911=2 or (P911=2 & P914=1) or P915=2 or P916=2)

Types of health care need

- Medical visit (derived variable name: **unmet_visit**)
- 1 = Unmet need (P903=2 or (P903=1 and P905=2) and unmet_health=1
- Prescription (derived variable name: **unmet_medication**)
- 1 = Unmet need (P911=1 and P912=2, 3) and unmet_health=1
- Examination (derived variable name: **unmet_examination**)

1= Unmet need [(P912=1 & (P915=1 & P917=2,3,4)) or (P916=1 & P917=2,3,4) and unmet_health=1

13. Sustainable Health Financing (SHIFT) (Timor-Leste)

Questions	Original response categories
Q45. Did any members of this HH visit a H/Post, CHC, Private/Charity Clinic in the past month?	1=Yes 2=No 97=Don't know
Q51. Did that [Person 1, Person 2...] obtain all the medicines he/she needed from the facility?	1=Yes 2=No 97=Don't know 99=Not applicable

Health care need (derived variable name: unmet_health)

1 = Met need (Q45=1 and Q51=1)

2 = Unmet need (Q45=1 and Q51=2)

3 = Did not need care(Q45=2)

Types of unmet health care need

- Medication (derived variable name: unmet_medication)
 - 1 = Unmet need (Q45=1 and Q51=2)

14. Thai Health and Welfare Survey (HWS)

Wave 17 (2011)

Questions	Original response categories
HW47 Was there any time during the last 12 months when you were sick and needed a medical treatment but you did not receive it?	1=No 2=Yes
HW48 What was the reason for not receiving the treatment at that time?	0=Don't think that there is any affective treatment 1=Don't trust or feel confident with facilities or providers 2= Did not know where to receive treatment 3=Difficulty travelling/Living faraway from facilities 4=No time to go get treatment 5=No one was able to take me to get treatment 6=Could not afford travel costs to receive treatment 7=Could not afford the treatment 8= Other (specify)
HW49 Was there any time during the last 12 months when you needed or were recommended by medical doctor to admit to a health facility but you did not receive it?	1=No 2=Yes

HW50 What was the reason for not receiving the treatment at that time?	0=Don't think that there is any affective treatment 1=Don't trust or feel confident with facilities or providers 2= Did not know where to receive treatment 3=Difficulty travelling/Living faraway from facilities 4=No time to go get treatment 5=No one was able to take me to get treatment 6=Could not afford travel costs to receive treatment 7=Could not afford the treatment 8=Facility-related limitation such as beds not available, in-patient treatment is not available at the facility 9=Other (specify)
HW51 Was there any time during the last 12 months when you needed a treatment for an oral health problem, but you did not receive it?	1=No 2=Yes
HW52 What was the reason for not receiving the treatment at that time?	0=Don't think that there is any affective treatment 1=Don't trust or feel confident with facilities or providers 2= Did not know where to receive treatment 3=Difficulty travelling/Living faraway from facilities 4=No time to go get treatment 5=No one was able to take me to get treatment 6=Could not afford travel costs to receive treatment 7=Facility-related limitation such as dentist not available, dental care is not available at the facility 8= Other (specify)

Health care need (derived variable name: unmet_health)

0=Met need (HW47=1 and HW49=1 and HW51=1)

1=Unmet need (HW47=2 or HW49=2 or HW51=2)

"Did not need care" is not applicable.

Type of unmet health care need

-Checkup/examination (derived variable name: unmet_exam)

1=Unmet need (HW47=2 and unmet_health=1)

-Medical visits (derived variable name: unmet_visit)

1=Unmet need (HW49=2 and unmet_health=1)

-Dental care (derived variable name: unmet_dental)

1=Unmet need (HW51=2 and unmet_health=1)

Thai HWS Wave 18 (2013)

Questions	Original response categories
HW63 Was there any time during the last 12 months when you were sick and needed a medical treatment but you did not receive it?	1=No 2=Yes
HW64 What was the reason for not receiving the treatment at that time?	1= Could not afford the treatment 2=Could not afford travel costs to receive treatment 3=Long waiting list/time 4=Difficulty travelling/Living faraway from facilities 5=No time to go get treatment 6=Don't trust or feel confident with facilities or providers 7= Did not know where to receive treatment 8=No one was able to take me to get treatment 9= Other (specify)
HW65 Was there any time during the last 12 months when you needed or were recommended by medical doctor to admit to a health facility but you did not receive it?	1=No 2=Yes
HW66 What was the reason for not receiving the treatment at that time?	1= Could not afford the treatment 2=Could not afford travel costs to receive treatment 3=Long waiting list/time 4=Difficulty travelling/Living faraway from facilities 5=No time to go get treatment 6=Don't trust or feel confident with facilities or providers 7= Did not know where to receive treatment 8=No one was able to take me to get treatment 9=Facility-related limitation such as beds not available, in-patient treatment is not available at the facility 10= Other (specify)
HW67 Was there any time during the last 12 months when you needed a treatment for an oral health problem, but you did not receive it?	1=No 2=Yes
HW68 What was the reason for not receiving the treatment at that time?	1= Could not afford the treatment 2=Could not afford travel costs to receive treatment 3=Long waiting list/time

4=Difficulty travelling/Living faraway from facilities
5=No time to go get treatment
6=Don't trust or feel confident with facilities or providers
7= Did not know where to receive treatment
8=No one was able to take me to get treatment
9=Facility-related limitation such as dentist not available, dental care is not available at the facility
10= Other (specify)

Health care need (derived variable name: unmet_health)

0=Met need (HW63=1 and HW65=1 and HW67=1)

1=Unmet need (HW63=2 or HW65=2 or HW67=2)

"Did not need care" is not applicable.

Type of unmet health care need

-Checkup/examination (derived variable name: unmet_exam)

1=Unmet need (HW63=2 and unmet_health=1)

-Medical visits (derived variable name: unmet_visit)

1=Unmet need (HW65=2 and unmet_health=1)

-Dental care (derived variable name: unmet_dental)

1=Unmet need (HW67=2 and unmet_health=1)

Thai HWS Wave 19 (2015)

Questions	Original response categories
HW49 Was there any time during the last 12 months when you were sick and needed a medical treatment but you did not receive it?	1=No 2=Yes
HW50 What was the reason for not receiving the treatment at that time?	1= Could not afford the treatment 2=Could not afford travel costs to receive treatment 3=Long waiting list/time 4=Difficulty travelling/Living faraway from facilities 5=No time to go get treatment 6=Don't trust or feel confident with facilities or providers 7= Did not know where to receive treatment 8=No one was able to take me to get treatment 9= Other (specify)

HW51 Was there any time during the last 12 months when you needed or were recommended by medical doctor to admit to a health facility but you did not receive it?	1=No 2=Yes
HW52 What was the reason for not receiving the treatment at that time?	1= Could not afford the treatment 2=Could not afford travel costs to receive treatment 3=Long waiting list/time 4=Difficulty travelling/Living faraway from facilities 5=No time to go get treatment 6=Don't trust or feel confident with facilities or providers 7= Did not know where to receive treatment 8=No one was able to take me to get treatment 9=Facility-related limitation such as beds not available, in-patient treatment is not available at the facility 10= Other (specify)
HW53 Was there any time during the last 12 months when you needed a treatment for an oral health problem, but you did not receive it?	1=No 2=Yes
HW54 What was the reason for not receiving the treatment at that time?	1= Could not afford the treatment 2=Could not afford travel costs to receive treatment 3=Long waiting list/time 4=Difficulty travelling/Living faraway from facilities 5=No time to go get treatment 6=Don't trust or feel confident with facilities or providers 7= Did not know where to receive treatment 8=No one was able to take me to get treatment 9=Facility-related limitation such as dentist not available, dental care is not available at the facility 10= Other (specify)

Health care need (derived variable name: unmet_health)

0=Met need (HW49=1 and HW51=1 and HW53=1)

1=Unmet need (HW49=2 or HW51=2 or HW53=2)

"Did not need care" is not applicable.

Type of unmet health care need

-Checkup/examination (derived variable name: unmet_exam)

1=Unmet need (HW49=2 and unmet_health=1)

- Medical visits (derived variable name: unmet_visit)
1=Unmet need (HW51=2 *and* unmet_health=1)
- Dental care (derived variable name: unmet_dental)
1=Unmet need (HW53=2 *and* unmet_health=1)

Thai HWS Wave 20 (2017)

Questions	Original response categories
UN1 Was there any time during the last 12 months when you were sick and needed a medical treatment but you did not receive it?	1=No 2=Yes
UN2 What was the reason for not receiving the treatment at that time? (<i>out-patient</i>)	1= Could not afford the treatment 2=Could not afford travel costs to receive treatment 3=Long waiting list/time 4=Difficulty travelling/Living faraway from facilities 5=No time to go get treatment 6=Don't trust or feel confident with facilities or providers 7= Did not know where to receive treatment 8=No one was able to take me to get treatment 9= Other (specify)
UN3 Was there any time during the last 12 months when you needed or were recommended by medical doctor to admit to a health facility but you did not receive it?	1=No 2=Yes
UN4 What was the reason for not receiving the treatment at that time?	1= Could not afford the treatment 2=Could not afford travel costs to receive treatment 3=Long waiting list/time 4=Difficulty travelling/Living faraway from facilities 5=No time to go get treatment 6=Don't trust or feel confident with facilities or providers 7= Did not know where to receive treatment 8=No one was able to take me to get treatment 9=Facility-related limitation such as beds not available, in-patient treatment is not available at the facility 10= Other (specify)
UN5 Was there any time during the last 12 months when you needed a treatment for an oral health problem, but you did not receive it?	1=No 2=Yes

UN6 What was the reason for not receiving the treatment at that time?	1= Could not afford the treatment 2=Could not afford travel costs to receive treatment 3=Long waiting list/time 4=Difficulty travelling/Living faraway from facilities 5=No time to go get treatment 6=Don't trust or feel confident with facilities or providers 7= Did not know where to receive treatment 8=No one was able to take me to get treatment 9=Facility-related limitation such as dentist not available, dental care is not available at the facility 10= Other (specify)
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Health care need (derived variable name: **unmet_health**)

0=Met need (UN1=1 and UN3=1 and UN5=1)

1=Unmet need (UN1=2 or UN3=2 or UN5=2)

"Did not need care" is not applicable.

Type of unmet health care need

-Checkup/examination (derived variable name: **unmet_exam**)

1=Unmet need (UN1=2 and **unmet_health**=1)

-Medical visits (derived variable name: **unmet_visit**)

1=Unmet need (UN3=2 and **unmet_health**=1)

-Dental care (derived variable name: **unmet_dental**)

1=Unmet need (UN5=2 and **unmet_health**=1)

15. Tunisian Health Examination Survey (THES) (2016)

Questions	Original response categories
A5008M & A5008Y. How many time from your last need for health care (in public or private sectors)?	A5008M: numbers of months from 0 to 11 97=Never (→ A5043) 98=Don't know (→ A5009) A5008Y: numbers of years from 0 to 50
A5010. The last time you needed health care, did you get health care?	1=Yes 2=No
A5010a. What was the main reason you needed care, even if you did not get care?	1=Communicable disease (infections, malaria, tuberculosis, HIV) 2=Maternal and perinatal conditions (pregnancy) 3=Nutritional deficiencies 4=Acute conditions (diarrhoea, fever, flu, headaches, cough, other) 5=Injury (not work related, see 8 below) 6=Surgery 7=Sleep problems 8=Occupation/work related condition/injury

	9=Chronic pain in your joints/arthritis (joints, back, neck)
	10=Diabetes or related complications
	11=Problems with your heart including unexplained pain in chest
	12=Problems with your mouth, teeth or swallowing
	13=Problems with your breathing
	14=High blood pressure / hypertension
	15=Stroke/sudden paralysis of one side of body
	16=Generalized pain (stomach, muscle or other nonspecific pain)
	17=Depression or anxiety
	18=Cancer
	19=Other, specify:
A4045. During the last 12 months, have you had any problems with your mouth and/or teeth (this includes problems with swallowing)?	1=Yes 2=No (→ q4047)
A4046a. The last 2 weeks?	1=Yes 2=No (→ q4047)
A4046b. The last 12 months?	1=Yes 2=No

Health care need (derived variable name: unmet_health)

- 1 = Met need ([A5008M=(0 to 11) and A5010=1] or [A4045=1 and (A4046A=1 or A4046B=1)])
- 2 = Unmet need ([A5008M=(0 to 11) and A5010=2] or [A4045=1 and (A4046A=2 or A4046B=2)])
- 3 = Did not need care(A5008M=97 and A4045=2)

Types of unmet health care need

- Medical visit (derived variable name: unmet_visit)
1 = Unmet need (A5010A=(1,4,9,10,11,13,14,15,16,18) and unmet_health=1)
- Dentist care (derived variable name: unmet_dentist)
1 = Unmet need (A5010A=12 or [A4045=1 and (A4046A=2 or A4046B=2)] and unmet_health=1)
- Mental care (derived variable name: unmet_mental)
1 = Unmet need (A5010A=17 and unmet_health=1)
- Surgical care (derived variable name: unmet_surgical)
1 = Unmet need (A5010A=6 and unmet_health=1)

16. Vietnam Ageing Survey (VNAS) (2011)

Questions	Original response categories
I18. During the <u>last 12 months</u> , were there any times that you were sick or injured that prevented you from performing your usual activities?	1=Yes 2=No (→ stop)
I20. Did you receive any professional treatment for these illnesses or injuries over the <u>last 12 months</u> ?	1=Yes (→ stop) 2=No
I21. Do you think that you needed treatment?	1=Yes 2=No
Health need (derived variable name: sick)	
1 = No health problem (I18=2)	
2 = Health problem (I18=1)	
3 =	
Health care need (derived variable name: unmet_health)	
1 = Met need ([sick=1 and I20=1])	
2 = Unmet need (sick=1 and I20=2 and I21=1)	
3 = Did not need care (sick=0 or [sick=1 and I20=2 and I21=2])	

Vietnam Ageing Survey (VNAS) (2019)

Questions	Original response categories
q0604. During the <u>last 12 months</u> , were there any times that you were sick or injured that prevented you from performing your usual activities?	1=Yes 2=No (→ stop)
q0606. Did you receive any professional treatment for these illnesses or injuries?	1=Yes (→ stop) 2=No
q0610. Do you think that you needed treatment?	1=Yes 2=No
Health need (derived variable name: sick)	
1 = No health problem (q0604=2)	
2 = Health problem (q0604=1)	
Health care need (derived variable name: unmet_health)	
1 = Met need ([sick=1 and q0606=1])	
2 = Unmet need (sick=1 and q0606=2 and q0610=1)	
3 = Did not need care (sick=0 or [sick=1 and q0606=2 and q0610=2])	

17. World Health Survey (WHS) (Tunisia) (2003/2004)

Questions	Original response categories
q7000. When was the last time that either you as an adult, or a child of yours aged 12 years or less, needed health care?	1=In the last 30 days 2=Between 1 month and less than 1 year ago 3=Between 1 year and less than 2 years ago 4=Between 2 years and less than 3 years ago

Questions	Original response categories
	5=Between 3 years and less than 5 years ago 6=More than 5 years ago 7=Never needed (→q7020)
q7001. Was the last need for health care for yourself or for your child?	1=Yourself 2=Your child
q7003. What was the main reason you needed care, even if you did not get care?	1=High fever, severe diarrhea, or cough 2=Immunization 3=Antenatal consultation 4=Family planning 5=Childbirth 6=Dental care 7=Arthritis 8=Asthma 9=Heart disease 10=Bodily injury 11=Minor surgery 12=Other
q7004. The last time you [your child] needed health care, did you get health care?	1=Yes (→q7016) 5=No
q6750. During the last 12 months, did you have any problems with your mouth and/or teeth?	1=Yes 5=No (→q6757)
q6751. During the last 12 months, did you receive any medical care or treatment from a dentist or other oral health specialist for this problem with your mouth and/or teeth?	1=Yes 5=No (→q6757)

Health care need (derived variable name: unmet_health)

0 = Met need ([q7000=(1 to 6) and q7001=1 and q7004=1] or [q6750=1 and q6751=1])

1 = Unmet need ([q7000=(1 to 6) and q7001=1 and q7004=5] or [q6750=1 and q6751=5])

2 = Did not need care(q7000==7 and q6750==5)

Types of unmet health care need

- Medical visit (derived variable name: unmet_visit)
1 = Unmet need ([q7003=1 or q7003=(7,8,9)] and unmet_health=1)
- Dentist care (derived variable name: unmet_dentist)
1 = Unmet need ([q7003=6 or (q6750=1 and q6751=5)] and unmet_health=1)
- Prescription (derived variable name: unmet_medication)
1 = Unmet need (q7003=(3,4) and unmet_health=1)
- Surgical care (derived variable name: unmet_surgical)
1 = Unmet need (q7003=11 and unmet_health=1)

18. World Values Survey (WVS)

Wave 6

Questions	Original response Categories:
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V190. In the last <u>12 months</u> , how often have you or your family gone without medicine or medical treatment that you needed?	1=Often 2=Sometimes 3=Rarely 4=Never
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Health care need (derived variable name: unmet_health)

1 = Met need (V190=4 or V190=3)
2 = Unmet need (V190=1 or V190=2)
"Did not need care" is not applicable.

Wave 7

Questions	Original response Categories:
Q53. In the last <u>12 months</u> , how often have your or your family...gone without medicine or medical treatment that you needed?	1=Often 2=Sometimes 3=Rarely 4=Never

Health care need (derived variable name: unmet_health)

1 = Met need (Q53=3 or Q53=4)
2 = Unmet need (Q53=1 or Q53=2)
"Did not need care" is not applicable.

B. Sex, age, and residency

1. Brazilian Longitudinal Study of Aging (ELSI-Brazil)

Questions	Original response categories	Derived variable	
		Name	Categories
sex. Sex	0=Female 1=Male	sex	1=Male (sex=1) 2=Female (sex=0)
age. Age at interview	age in years (50 to 101 years)	age_recoded	3=50–59 years* 4=60–69 years 5=70+
area. Area	1=Urban 2=Rural	urbanrural	0=Urban (area=1) 1=Rural (area=2)

* ELSI-Brazil study sample included adults aged 50 years and older

2. Cambodia Elderly Survey (CES)

Questions	Original response categories	Derived variable	
		Name	Categories
a1. Sex	1=Male 2=Female	sex	0=Women (a1=2) 1=Men (a1=1)
a2 Age at interview	age in years (60 to 98 years)	age_recoded	0=60–69 years* 1=70+
rural. Area	0=Urban 1=Rural	urbanrural	0=Urban (rural=0) 1=Rural (rural=1)

* CES study sample included adults aged 60 years and older

3. Commonwealth Fund International Health Policy Study (CMWF)

Questions	Original response categories	Derived variable	
		Name	Categories
qn725. Respondent sex	1=Male	sex	1=Male (qn725=1)

	2=Female 3=Something else 4=Decline to answer		2=Female (qn725=2) 9=Others/don't know/decline (qn725=3,4)
qn720. Age categories	age in years (65 to 101 years)	age_recoded	4=60–69 years* 5=70+
qn2200. Which of the following describes where you live? (Norway, Germany, UK)	qn220 1=City/large town 2=Suburbs of a city 3=Small town 4=Village or rural location 8=Not sure 9=Decline to answer	urbanrural	0=Urban/intermediate (qn2200=1,2,3 or qn615a=1,2) 1=Rural (qn2200=4 or qn615a=3)
q615a. urban/rural (France)	qn615a 1=Predominant urban 2=Intermediate 3=Predominant rural		

*CMWF sample included adults aged 65 years and older

4. Integrated Household Survey (IHS) – Gambia

Questions	Original response categories	Derived variable	
		Name	Categories
s1q5. Sex	1=Men 2=Women	sex	1=Male (sex=1) 2=Female (sex=2)
s1q4a. How old is [NAME]?	age in years (60 to 106 years)	age_recoded	3=50–59 years* 4=60–69 years 5=70+
area. Urban rural	1=Urban 2=Rural	urbanrural	0=Urban (area=1) 1=Rural (area=2)

5. Mexico Health and Aging Study (MHAS)

Questions	Original response categories	Derived variable	
		Name	Categories
SEX. 2001 sexo; 2003 a1; 2012 sex_12; 2015 sex_15; 2018 sex_18. Respondent's sex	1=Male 2=Female	sex	1=Male 2=Female
AGE.2001 edad; 2003 a2; 2012 age_12; 2015 age_15; 2018 age_18. Respondent's age	age in years (2001: 50 to 105 years) (2003: 50 to 110 years) (2012: 50 to 115 years) (2015: 50 to 113 years) (2018: 50 to 107 years)	agecat	50=50–59 years* 60=60–69 years 70=70+
AREA.2001 murb; 2003 NA; 2012 tam_loc_12; 2015 tam_loc_15; 2018 tam_loc_18. Locality size	1=Urban 0=Rural	urban	1=Urban (murb=1) 0=Rural (murb=0) 1=Urban (tam_loc_1X=1)** 0=Rural (tam_loc_1X=1 or =2 or =3)

Questions	Original response categories	Derived variable	
		Name	Categories
* MHAS study sample included respondent adults aged 50 years and older, but spouses of any age. Data presented on tables were restricted to those 50+.			
** MHAS study definition of urban concept in 2001 was based on whether respondents resided in cities with more than 100,000 who were defined as more urban. There was no information available for 2003. In 2012, 2015, and 2018 the concept was based on the size of the locality 1= population equal or larger than 100,000 people, 2=population between 15,000 and 99,999, 3=population between 2,500 and 14,999 and 4=population less than 2,500.			

6. Myanmar Aging Study (MAS)(2012)

Questions	Original response categories	Derived variable	
		Name	Categories
sex. Sex	1=Men 2=Women	sex	1=Male (sex=1) 2=Female (sex=2)
age. Age of respondent in single years	age in years (60 to 106 years)	age_recoded	4=60–69 years* 5=70+
AREA. Urban rural	1=Urban 2=Rural	urbanrural	0=Urban (area=1) 1=Rural (area=2)
*MAS 2012 sample included adults aged 60 years and older			

7. Myanmar Survey on Accessing Healthcare to Older Persons (2016)

Questions	Original response categories	Derived variable	
		Name	Categories
S23. Sex	1=Men 2=Women	sex	1=Male (S23=1) 2=Female (S24=2)
S24. Age of respondent in single years	age in years (60 to 106 years)	age_recoded	4=60–69 years* 5=70+
ID2. Urban rural	1=Urban 2=Rural	urbanrural	0=Urban (ID2=1) 1=Rural (ID2=2)
*Myanmar 2016 sample included adults aged 60 years and older			

8. Mongolia Mini SAGE (2017)

Questions	Original response categories	Derived variable	
		Name	Categories
q1009. Sex	1=Male 2=Female	sex	1=Male (q1009=1) 2=Female (q1009=2)
q1011. Age at interview	age in years (60 to 99 years)	age_recoded	4=60–69 years 5=70+
Urban_rural. Location	1=Urban 2=Rural	urbanrural	0=Urban (Urban_rural=1) 1=Rural (Urban_rural=2)

9. New Zealand Health Survey (NZHS)

Questions	Original response categories	Derived variable	
		Name	Categories
AD.01. You are male/female...?	1=Male 2=Female	sex	1=Male (AD.01=1) 2=Female (AD.01=2)

A5.01. Firstly, what is your date of birth?	____ Day (range 1-31) ____ Month (range Jan-Dec) ____ Year (range: 1890 – 2001) .R=Refused	age_recoded	1=<29 years 2=30+
Ask if refused date of birth (5.01=.R). A5.02 Would you mind telling me your age? ____ years (range 15-120) .R Refused			
UrbanArea2015Class. Statistics New Zealand Urban Area 2015 Classification of location	1=Main Urban Area, 2=Minor Urban Area, 3=Secondary Urban Area, 4=Other, 5=Rural,	urbanruralshort	1=Urban (UrbanArea2015Class=<4) 2=Rural (UrbanArea2015Class=5)
*NZHS total sample aged 15+; current analysis restricted to population aged 30+			

10. Puerto Rican Elderly: Health Conditions (PREHCO)

Wave 1

Questions	Original response categories	Derived variable	
		Name	Categories
sex. Sex	1=Masculino 2=Feminino	sex	0=Women (SEXO=2) 1=Men (SEXO=1)
age. Age at interview	age in years (60 to 107 years)	age_recoded	0=60–69 years* 1=70+
area. Unavailable			

* PREHCO study sample included adults aged 60 years and older

Wave 2

Questions	Original response categories	Derived variable	
		Name	Categories
sex. Sex	1=Masculino 2=Feminino	sex	0=Women (WSEX=2) 1=Men (WSEX=1)
age. Age at interview	age in years (63 to 106 years)	age_recoded	0=60–69 years* (WAGE) 1=70+
area. Unavailable			

* PREHCO study sample included adults aged 60 years and older in 2002/03 but 8 respondents in the sample were 63 at wave 2 indicating they were 59 at wave 1. There was no refreshment sample.

11. Study of global AGEing and adult health (SAGE) (Wave 1 and 2)

Questions	Original response categories	Derived variable	
		Name	Categories
q1009. Sex	1=Male 2=Female	sex	1=Male (q1009=1) 2=Female (q1009=2)
q1011. Age at interview	age in years (18 to 114 years)	age_recoded	1=18–29 years 2=30–49 years 3=50–59 years 4=60–69 years 5=70+
q0104. Location	1=Urban 2=Rural	urbanrural	0=Urban (q0104=1) 1=Rural (q0104=2)

12. Survey on Health, Well-Being, and Aging (SABE) (Colombia and Ecuador)

Ecuador

Questions	Original response categories	Derived variable	
		Name	Categories
SEX. C18. Sex	1=Men 2=Women	sex	1=Female (c18=1) 2=Male (c18=2)
AGE. a1c_d Age of respondent in single years	age in years (60 to 102 years)	agecat	60=60–69 years* 70=70+
AREA. Dominio	1=Mountain Urban 2=Coast Urban 3=Mountain Rural 4=Coast Rural	urban	0=Urban (dominio=1 or =2) 1=Rural (dominio=3 or =4)

*SABE Ecuador sample included adults aged 60 years and older

Colombia

Questions	Original response categories	Derived variable	
		Name	Categories
sex. Sex	1= Hombre 2=Mujer	sex	0=Women (P121=2) 1=Men (P121=1)
age. Age at interview	age in years (60 to 99 years)	age_recoded	0=60–69 years* 1=70+ (P122EDAD)
area. Área	1=Cabecera Municipal 2=Centro poblado 3=Rural disperso	urbanrural	0=Urban (P104=1) 1=Rural (P104 =2 or =3)

* SABE Colombia study sample included adults aged 60 years and older

13. Sustainable Health Financing (SHIFT) (Timor-Leste)

Questions	Original response categories	Derived variable	
		Name	Categories
Q39. What gender is Person 1, Person 2.....?	1=Male 2=Female	sex	1=Male (Q39=1) 2=Female (Q39=2)
Q38. How old is Person 1, Person 2.....at their next birthday?	age in years (1 to 100 years) 97=Don't know	age_recoded	1=18–29 years 2=30–49 years 3=50–59 years 4=60–69 years

			5=70+ 9=Don't know
Q10. What type of area is the house in?	1=Urban 2=Peri-urban 3=Rural	urbanrural	0=Urban (Q10=1) 1=Rural (Q10=3) 2= Peri-urban (Q10=2)

14. Thai Health and Welfare Survey (HWS)

Wave 17 (2011) & Wave18 (2013) & Wave 19 (2015) & Wave 20 (2017)

Questions	Original response categories	Derived variable	
		Name	Categories
a4. Sex	1=Male 2=Female	sex	1=Male (a5=1) 2=Female (a5=2)
a5. Age at interview	age in years (0 to 98 years)	age_recoded	1=0-29 years 2=30-49 years 3=50-59 years 4=60-69 years 5=70+
area. Location	1=Urban 2=Rural	urbanrural	0=Urban (area=1) 1=Rural (area=2)

15. Tunisian Health Examination Survey (THES) (2016)

Questions	Original response categories	Derived variable	
		Name	Categories
q1009. Sex	1=Male 2=Female	sex	1=Male (q1009=1) 2=Female (q1009=2)
q1011. Age at interview	age in years (18 to 114 years)	age_recoded	1=18-29 years 2=30-49 years 3=50-59 years 4=60-69 years 5=70+
q0104. Location	1=Urban 2=Rural	urbanrural	0=Urban (q0104=1) 1=Rural (q0104=2)

16. Vietnam Ageing Survey (VNAS) (2011)

Questions	Original response categories	Derived variable	
		Name	Categories
b2. Sex	1=Male 2=Female	sex	1=Male (b2=1) 2=Female (b2=2)
b4. Year of birth	Year	age_recoded	4=60-69 years 5=70+
rural. Location	1=Urban 2=Rural	urbanrural	0=Urban (rural=1) 1=Rural (rural=2)

Vietnam Ageing Survey (VNAS) (2019)

Questions	Original response categories	Derived variable	
		Name	Categories
q0102. Sex	1=Male	sex	1=Male (q0102=1)

	2=Female		2=Female (q0102=2)
q0101. Year of birth	Year	age_recoded	4=60–69 years 5=70+
q0008. Area	1=Urban 2=Rural	urbanrural	0=Urban (q0008=1) 1=Rural (q0008=2)

17. World Health Survey (WHS) (Tunisia) (2003/2004)

Questions	Original response categories	Derived variable	
		Name	Categories
q1001. Sex	1= Female 2= Male	sex	1=Male (q1001=2) 2=Female (q1001=1)
q1002. Age at interview	age in years (18 to 100 years)	age_recoded	1=18–29 years 2=30–49 years 3=50–59 years 4=60–69 years 5=70+
q0104. Settings	1=Urban 3=Rural	urbanrural	0=Urban (q0104=1) 1=Rural (q0104=3)

18. World Values Survey (WVS)

Wave 6

Questions	Original response categories	Derived variable	
		Name	Categories
V240. Respondent's sex	1=Male 2=Female	sex	1=Male (qn725=1) 2=Female (qn725=2) 9=Others/don't know/decline (qn725=3,4)
V242. This means you are years old	age in years (16 to 102 years)	recoded	1=16–29 years 2=30–49 years 3=50–59 years 4=60–69 years 5=70+
Type of residence is not available			

Wave 7

Questions	Original response categories	Derived variable	
		Name	Categories
Q260. Respondent's sex	1=Male 2=Female	sex	1=Male (Q260=1) 2=Female (Q262=2)
Q262. This means you are years old	age in years (16 to 102 years)	age_recoded	1=16–29 years 2=30–49 years 3=50–59 years 4=60–69 years 5=70+
H_URBRURAL	1=Urban 2=Rural	urbanrural	0=Urban (H_URBANRURAL=1)

1=Rural
(H_URBANRURAL=2)

C. Survey weighting

No	Study	Weighting
1	Brazilian Longitudinal Study of Aging (ELSI-Brazil)	weight=peso_calibrado_n, strata=estrato, cluster=UPA
2	Cambodia Elderly Survey (CES)	weight=newwt
3	Commonwealth Fund survey (CMWF)	weight=weight
4	Integrated Household survey (IHS)	No weighting
5	Mexico Health and Aging Study (MHAS)	XXX
6	Myanmar Aging Study (MAS)	weight=weight_respondent
7	Myanmar Survey on Accessing Healthcare to Older Persons (2016)	No weighting
8	Mongolia Mini SAGE	No weighting
9	New Zealand Health Survey (NZHS)	Finalwgt_Final sample weight
10	Puerto Rican Elderly: Health Conditions (PREHCO)	Wave 1: weight=FAC_T, strata=ESTRATO, cluster=SECCION Wave 2: weight=FACTORT, strata=ESTRATO, cluster=SECCION
11	Study of global AGEing and adult health (SAGE)	weight=pweight, strata=strata, cluster=q0101b
12	Survey on Health, Well-Being, and Aging (SABE) Ecuador	No weighting
	Survey on Health, Well-Being, and Aging (SABE) Colombia	weight=ffinal_AJUSTAF, strata=ESTRATODISEÑO, cluster=upm
13	Sustainable Health Financing (SHIFT)(Timor-Leste)	No weighting
14	Thai Health and Welfare Survey (HWS)	weight=newwt
15	Tunisian Health Examination Survey (THES)	weight=weight_final, cluster=QICLUSTER
16	Vietnam Ageing Survey (VNAS)	2011 No weighting 2019 No weighting
17	Tunisia World Health Survey	weight=pweight, strata=strata, cluster=PSU
18	World Values Survey (WVS)	Wave 6: weight=V258 Wave 7: weight=W_WEIGHT

Handling missing values

We only consider affirmative answers. "Don't know", "not sure", "decline to answer" are assigned to 9 or 88 or 99. Respondents with missing value must be excluded/ignored from the analysis.

Notes and considerations

Respondents who fall under "didn't need care" (coded 2) category are excluded from the denominator when estimating the percentage of met/unmet health care need.

Appendix 4. Construction of Table A, Table B, and Table C in the report

i. Table A: No need, met and unmet need, by country/study.

Coverage: All respondents (irrespective of age – 16+)

- Prevalence (%) who did not need health care represents respondents who indicated they did not need any health care service (including medical visit, dental care, mental health care, prescription/medication, examination, and surgical care).

Coverage: Respondents with health care need (irrespective of age – 16+)

- Prevalence (%) with health care needs refers to respondents who met all the needed health care service(s).
- Prevalence (%) with unmet health care needs those who indicated they needed health care services(s), but did not receive one or more services.

ii. Table B: Unmet need by selected respondent characteristics, by country.

Coverage: Respondents aged ≥ 30 years with health care need.

- Prevalence (%) of unmet health care need among respondents with specific characteristics (sex (male, female); age groups (30–49 years, 50–59 years, 60–69 years, 70+ years); residence (urban, rural)).

iii. Table C: Overall unmet need and type of need, by country.

iv. Coverage: Respondents aged ≥ 30 years with at least one unmet health care need.

- Overall prevalence (%) of unmet health care need refers to **adult respondents aged 30 years and older (≥ 30)** with an unmet need for at least one type of services (Table A, column H). The overall prevalence of unmet need is broken down into the type of services, including medical visit, dental care, mental health care, prescription/medication, examination (or laboratory test), and surgical care. The lower age limit will improve alignment with results in **Table B**, and with our objectives to look at unmet need in adult and ageing populations.