

Supplementary Materials:

Supplementary Table S1: List of participating countries by ISN regions

Africa		EC Europe	Latin America	Middle East	NIS & Russia	North America	North East Asia	OSEA	South Asia	Western Europe
Benin	Cabo Verde	Moldova	El Salvador	Syrian Arab Republic	Armenia	Jamaica	Korea, Dem. People's Rep.	Cambodia	Afghanistan	Austria
Burkina Faso	Cote d'Ivoire	Albania	Guatemala	Iran, Islamic Rep.	Georgia	Canada	China	Kiribati	Bangladesh	Belgium
Burundi	Ghana	Bosnia and Herzegovina	Honduras	Iraq	Kyrgyz Republic	Trinidad and Tobago	Mongolia	Lao PDR	Bhutan	Denmark
Central African Republic	Kenya	Bulgaria	Colombia	Jordan	Tajikistan	United States	Japan	Philippines	Pakistan	Finland
Comoros	Lesotho	Montenegro	Costa Rica	Lebanon	Ukraine			Timor-Leste	Maldives	Greece
Ethiopia	Mauritania	Romania	Cuba	Bahrain	Uzbekistan			Vietnam		Iceland
Gambia, The	Morocco	Serbia	Dominican Republic	Oman	Azerbaijan			Malaysia		Ireland
Guinea-Bissau	Senegal	Turkey	Mexico	Qatar	Belarus			Australia		Israel
Madagascar	Sudan	Croatia	Panama		Kazakhstan			New Zealand		Italy
Malawi	Zambia	Cyprus	Paraguay		Russian Federation			Singapore		Luxembourg
Mali	Algeria	Czech Republic	Peru		Turkmenistan					Malta
Niger	Botswana	Estonia	Argentina							Netherlands
Rwanda	Equatorial Guinea	Hungary	Chile							Norway
Somalia	South Africa	Latvia	Uruguay							Portugal
South Sudan	Tunisia	Lithuania								San Marino
Uganda	Seychelles	Poland								Spain
Zimbabwe		Slovenia								Sweden
										Switzerland
										United Kingdom

Supplementary Table S2: mHealth for accessing services [n (%)]

	Toll-free emergency						Appointment reminders						Treatment adherence					
	International	Regional	National	Intermediate	Local or peripheral level	No Response	International	Regional	National	Intermediate	Local or peripheral level	No Response	International	Regional	National	Intermediate	Local or peripheral level	No Response
Overall	3(2)	9(7)	75(60)	20(16)	18(14)	31(25)	0(0)	8(6)	39(31)	22(18)	38(30)	39(31)	1(1)	7(6)	15(12)	23(18)	35(28)	65(52)
ISN regions:																		
-Africa	0(0)	1(3)	16(48)	6(18)	4(12)	13(39)	0(0)	4(12)	12(36)	5(15)	8(24)	13(39)	1(3)	4(12)	6(18)	5(15)	9(27)	19(58)
-Eastern & Central Europe	0(0)	0(0)	9(53)	1(6)	1(6)	6(35)	0(0)	0(0)	6(35)	0(0)	6(35)	5(29)	0(0)	0(0)	2(12)	3(18)	4(24)	8(47)
-Latin America & the Caribbean	0(0)	1(7)	11(79)	4(29)	4(29)	0(0)	0(0)	1(7)	7(50)	2(14)	3(21)	3(21)	0(0)	0(0)	1(7)	4(29)	3(21)	7(50)
-Middle East	0(0)	0(0)	6(75)	0(0)	1(13)	1(13)	0(0)	0(0)	4(50)	3(38)	1(13)	1(13)	0(0)	0(0)	0(0)	1(13)	0(0)	7(88)
-NIS & Russia	0(0)	3(27)	5(45)	3(27)	3(27)	2(18)	0(0)	1(9)	1(9)	1(9)	4(36)	4(36)	0(0)	1(9)	1(9)	1(9)	4(36)	5(45)
-North America	0(0)	0(0)	4(100)	1(25)	1(25)	0(0)	0(0)	0(0)	1(25)	2(50)	2(50)	2(50)	0(0)	0(0)	0(0)	2(50)	2(50)	1(25)
-North and East Asia	0(0)	0(0)	2(50)	2(50)	1(25)	1(25)	0(0)	0(0)	0(0)	0(0)	3(75)	1(25)	0(0)	0(0)	0(0)	0(0)	1(25)	3(75)
-Oceania & South East Asia	1(10)	1(10)	8(80)	1(10)	2(20)	2(20)	0(0)	0(0)	2(20)	5(50)	3(30)	4(40)	0(0)	0(0)	1(10)	3(30)	4(40)	5(50)
-South Asia	0(0)	0(0)	1(20)	1(20)	0(0)	3(60)	0(0)	0(0)	1(20)	2(40)	2(40)	2(40)	0(0)	1(20)	2(40)	2(40)	1(20)	2(40)
-Western Europe	2(11)	3(16)	13(68)	1(5)	1(5)	3(16)	0(0)	2(11)	6(32)	3(16)	6(32)	4(21)	0(0)	1(5)	2(11)	2(11)	7(37)	8(42)
World Bank Groups:																		
-Low income	0(0)	1(5)	8(42)	3(16)	2(11)	9(47)	0(0)	2(11)	5(26)	4(21)	6(32)	7(37)	0(0)	2(11)	4(21)	4(21)	4(21)	11(58)
-Lower-middle income	1(3)	3(10)	18(60)	5(17)	6(20)	6(20)	0(0)	2(7)	12(40)	6(20)	8(27)	11(37)	1(3)	2(7)	5(17)	5(17)	9(30)	17(57)
-Upper-middle income	0(0)	0(0)	17(50)	8(24)	6(18)	10(29)	0(0)	1(3)	8(24)	5(15)	8(24)	14(41)	0(0)	2(6)	3(9)	3(9)	8(24)	20(59)
-High income	2(5)	5(12)	32(76)	4(10)	4(10)	6(14)	0(0)	3(7)	14(33)	7(17)	16(38)	7(17)	0(0)	1(2)	3(7)	11(26)	14(33)	17(40)

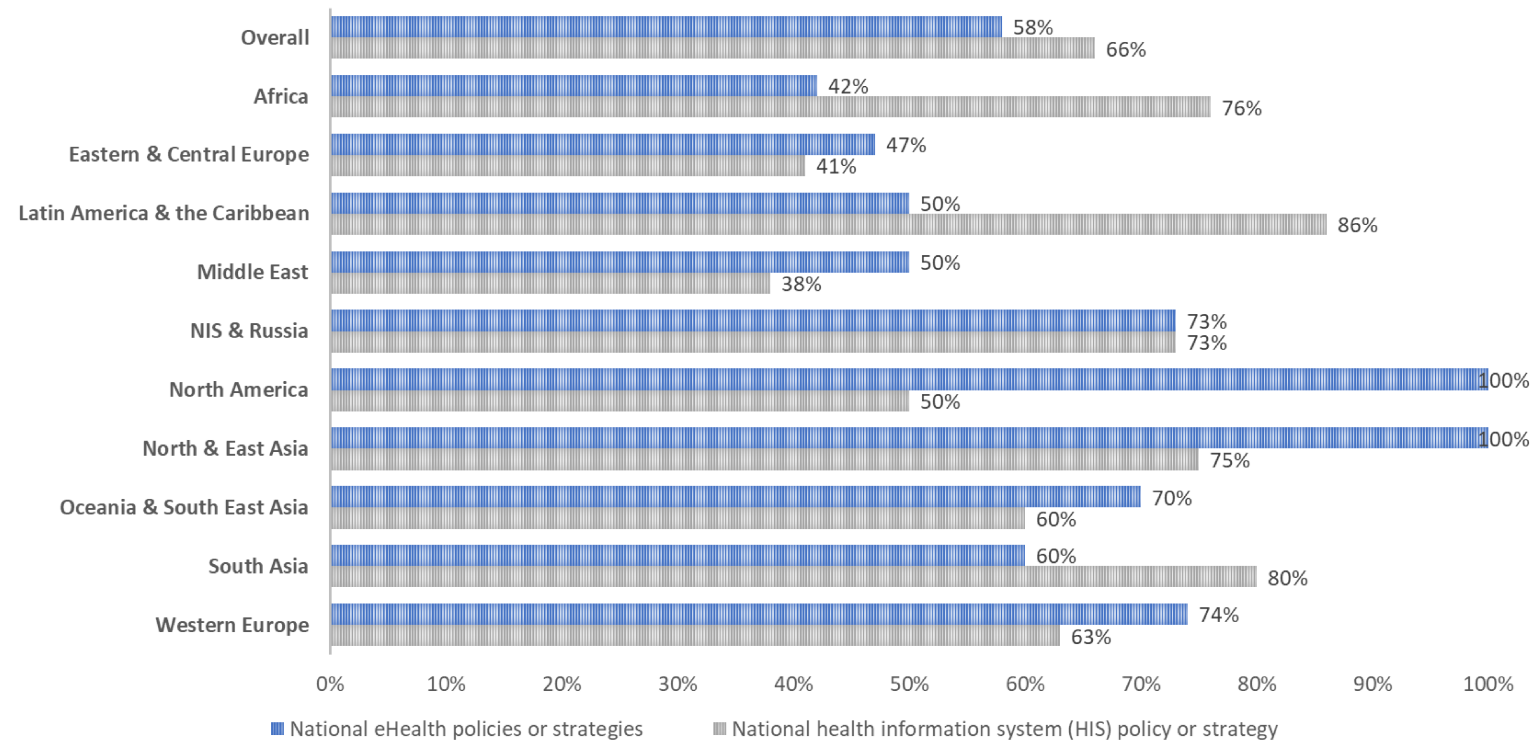
Figure S1: National eHealth policies / strategies across ISN regions

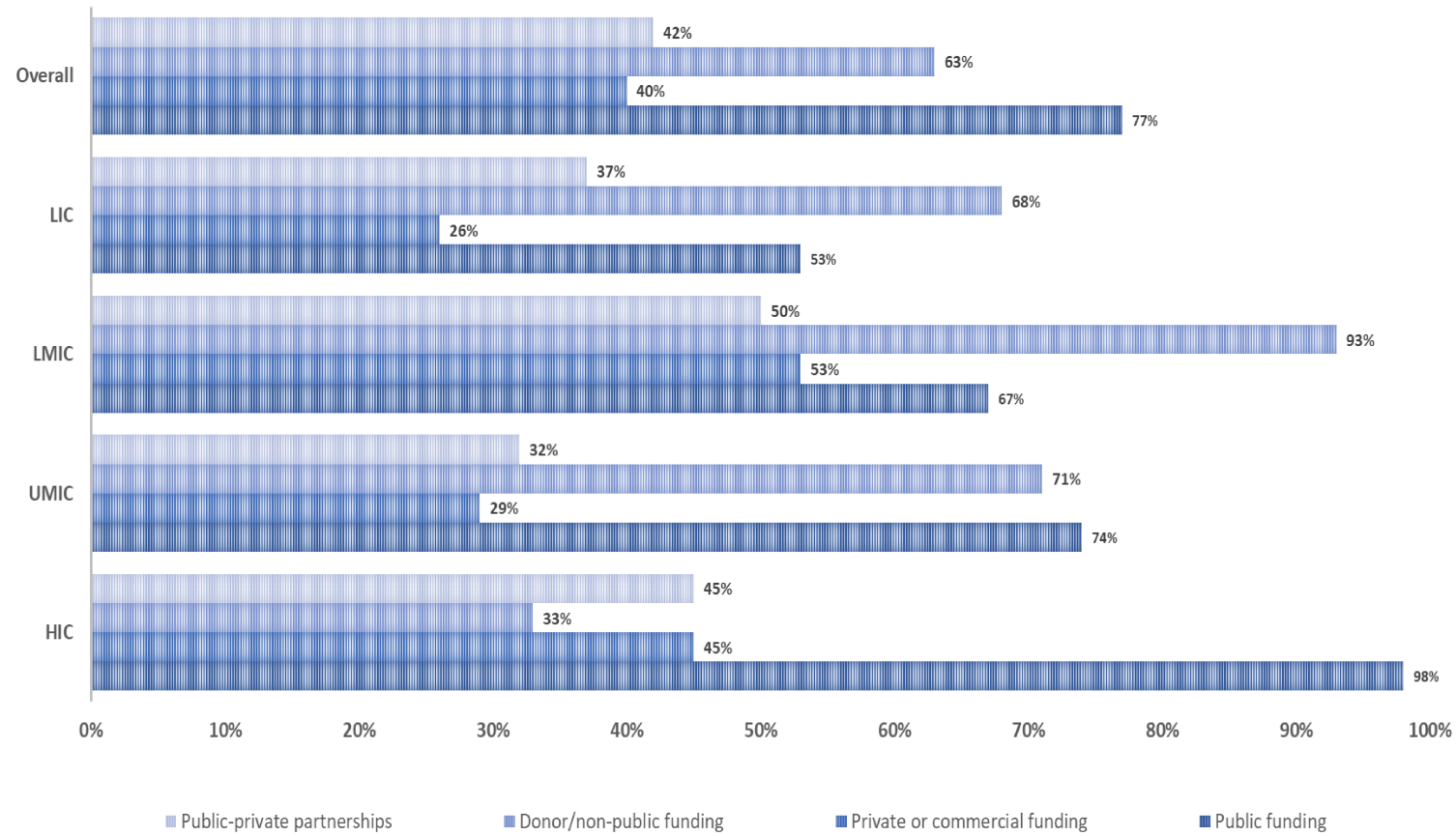
Figure S2: Funding sources for eHealth by income groups

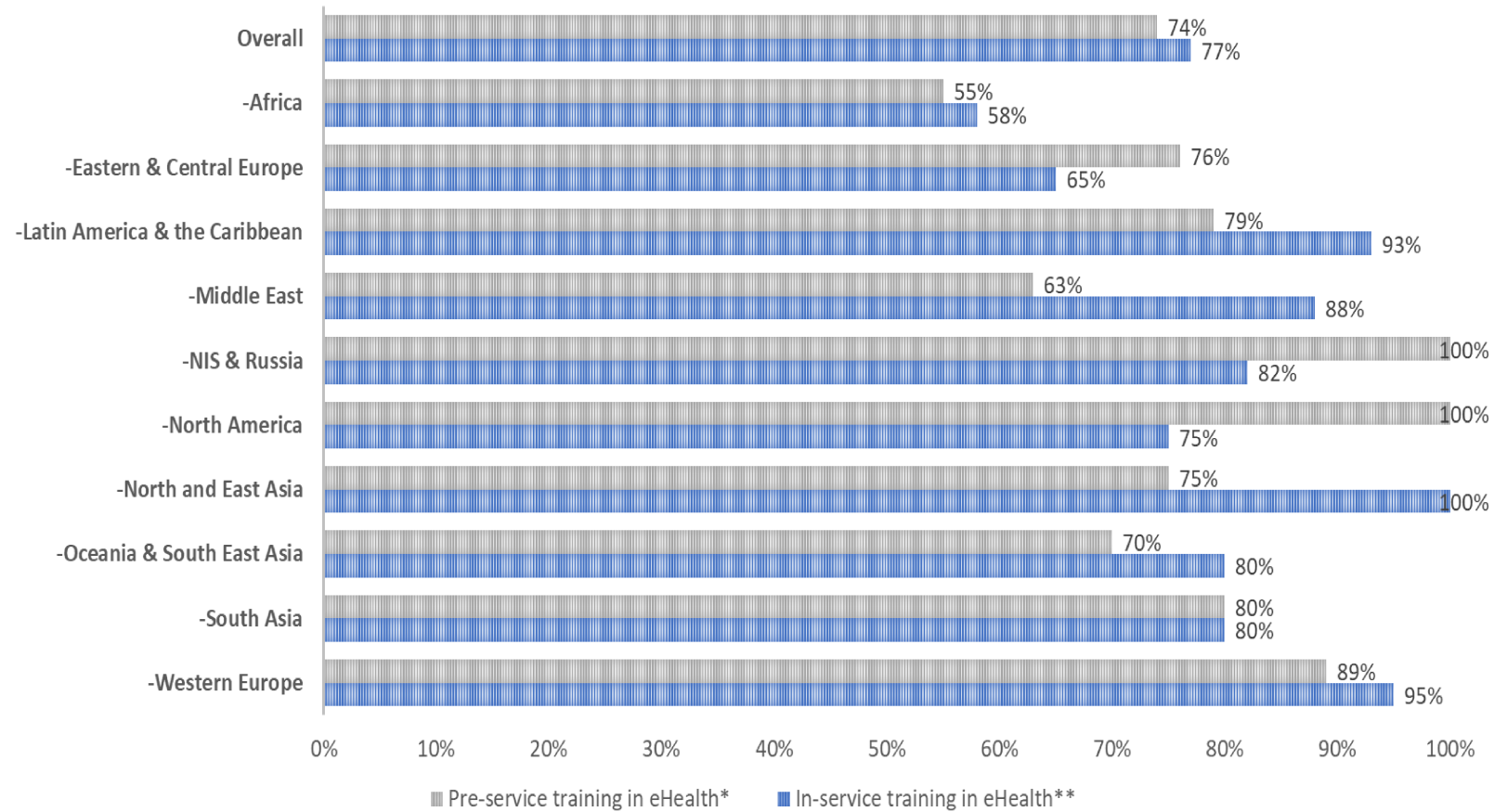
Figure S3: eHealth capacity building

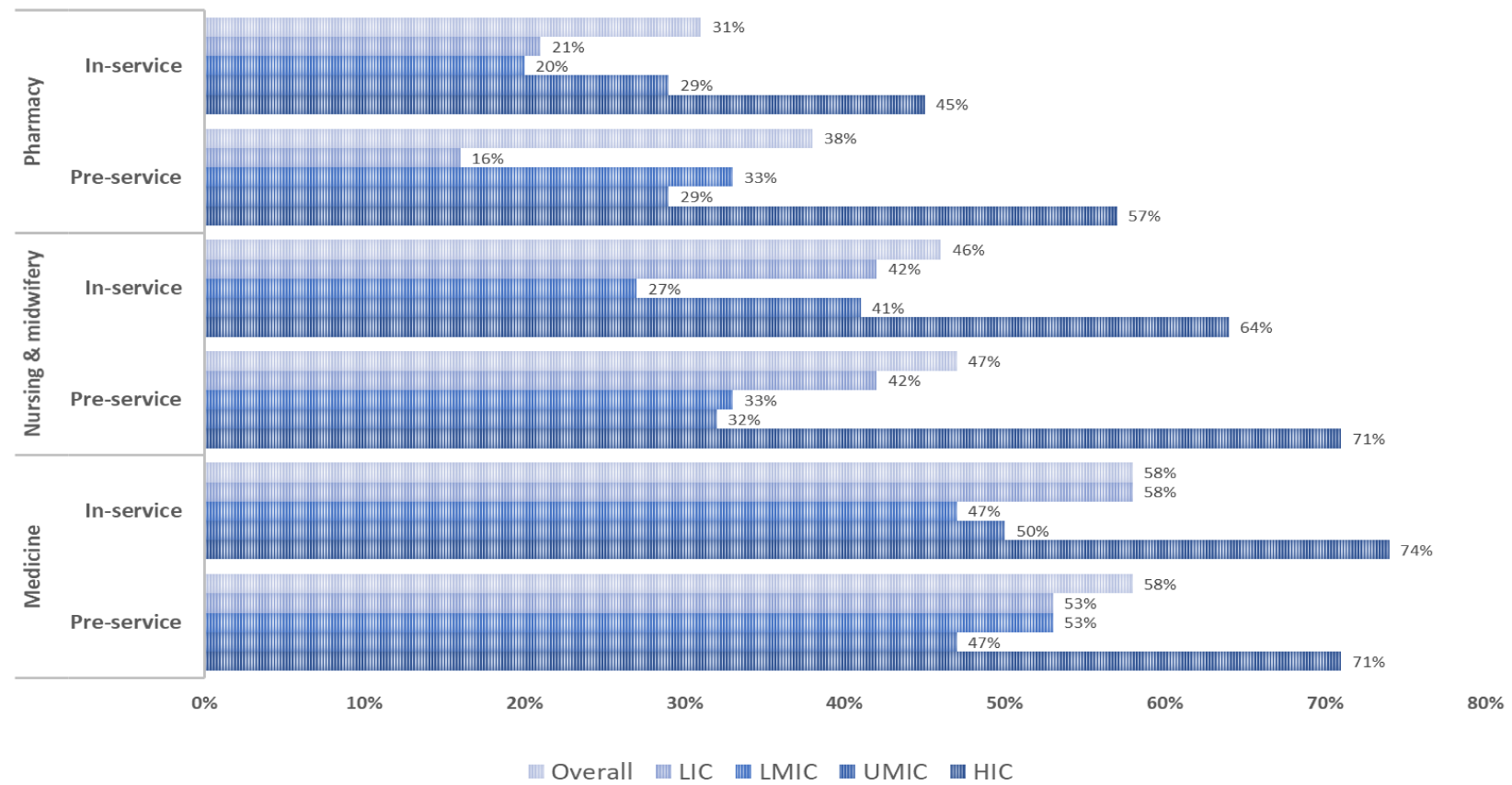
Figure S4: Use of e-learning in health sciences across ISN regions

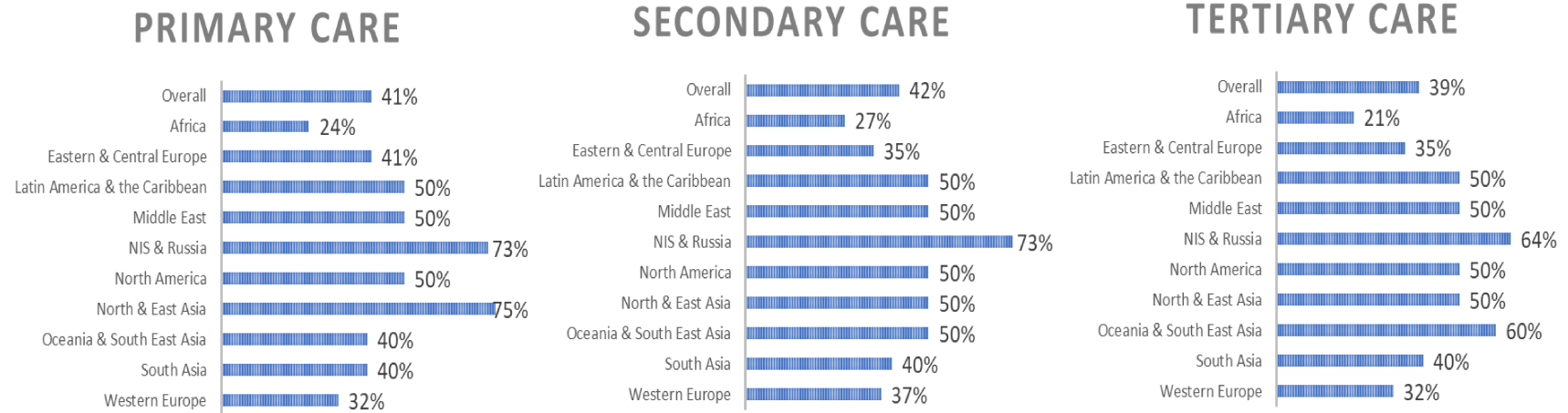
Figure S5: Health facilities with EHR in ISN regions

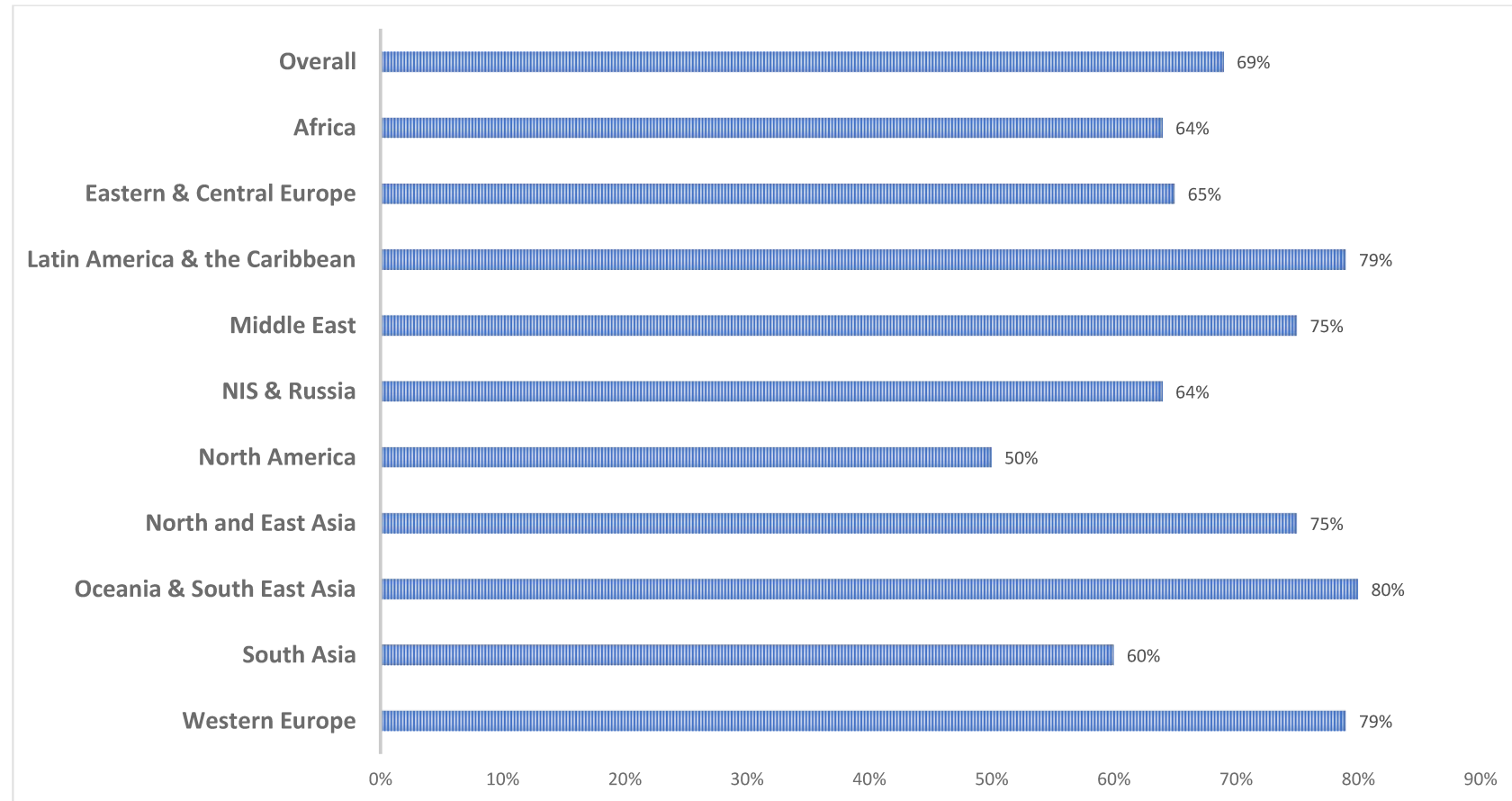
Figure S6: Availability of human resources for Health Information Systems (HIS)

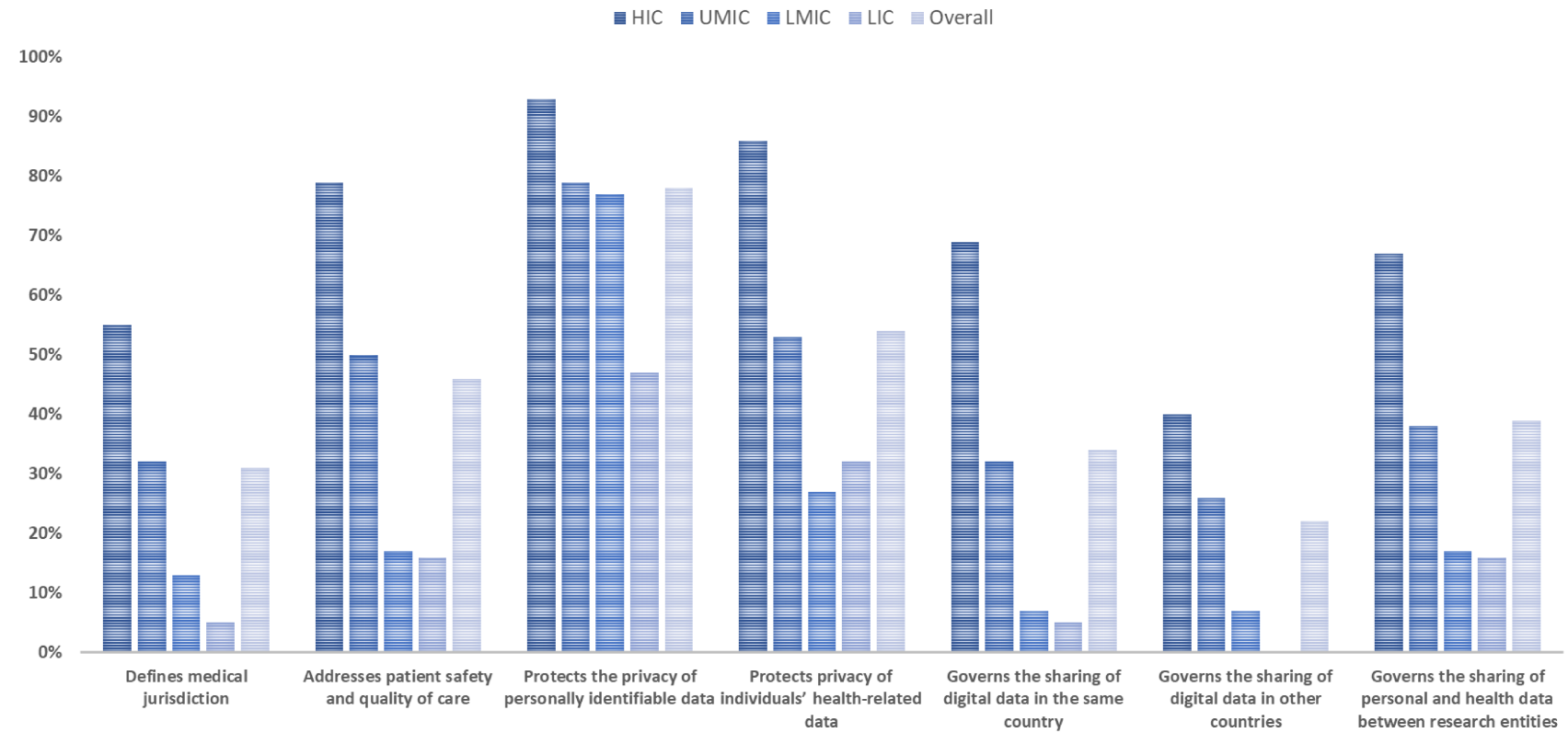
Figure S7: Legal framework for eHealth across income groups

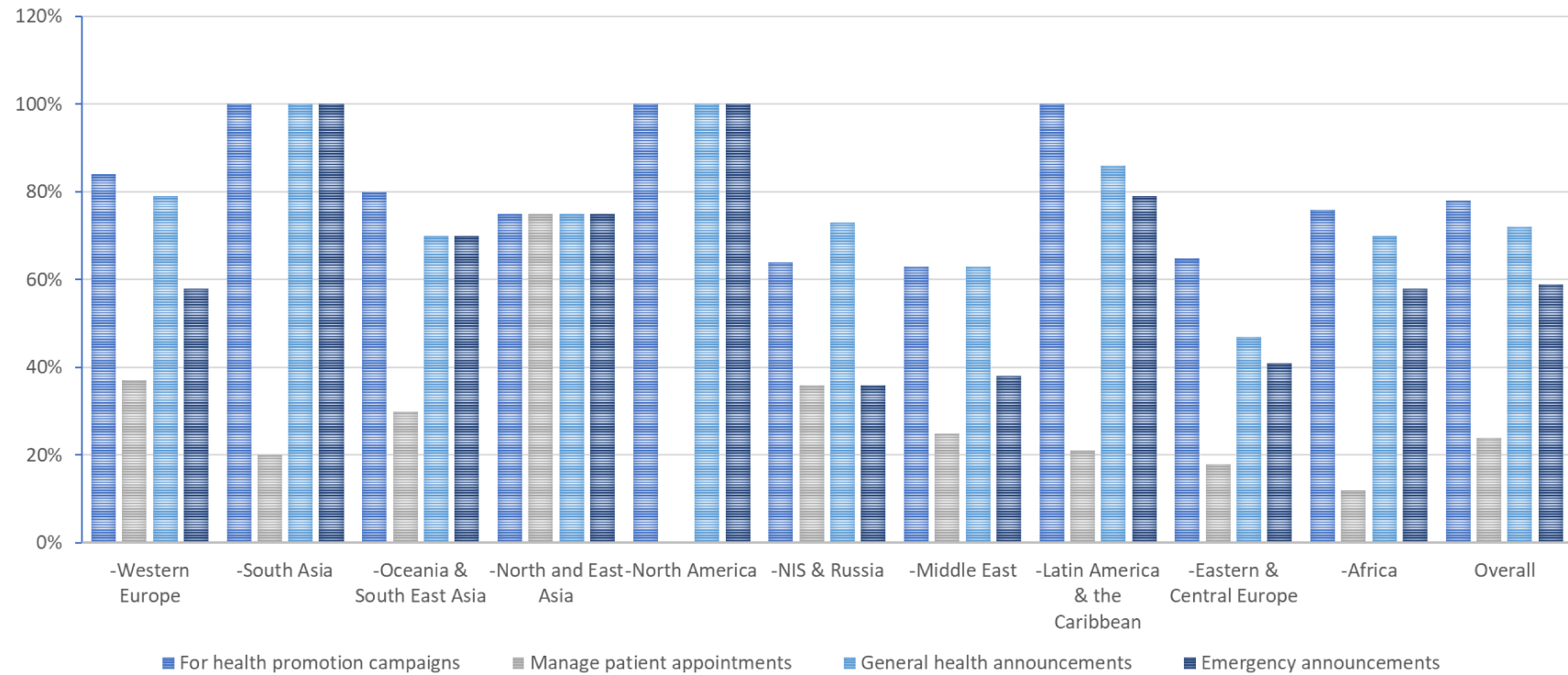
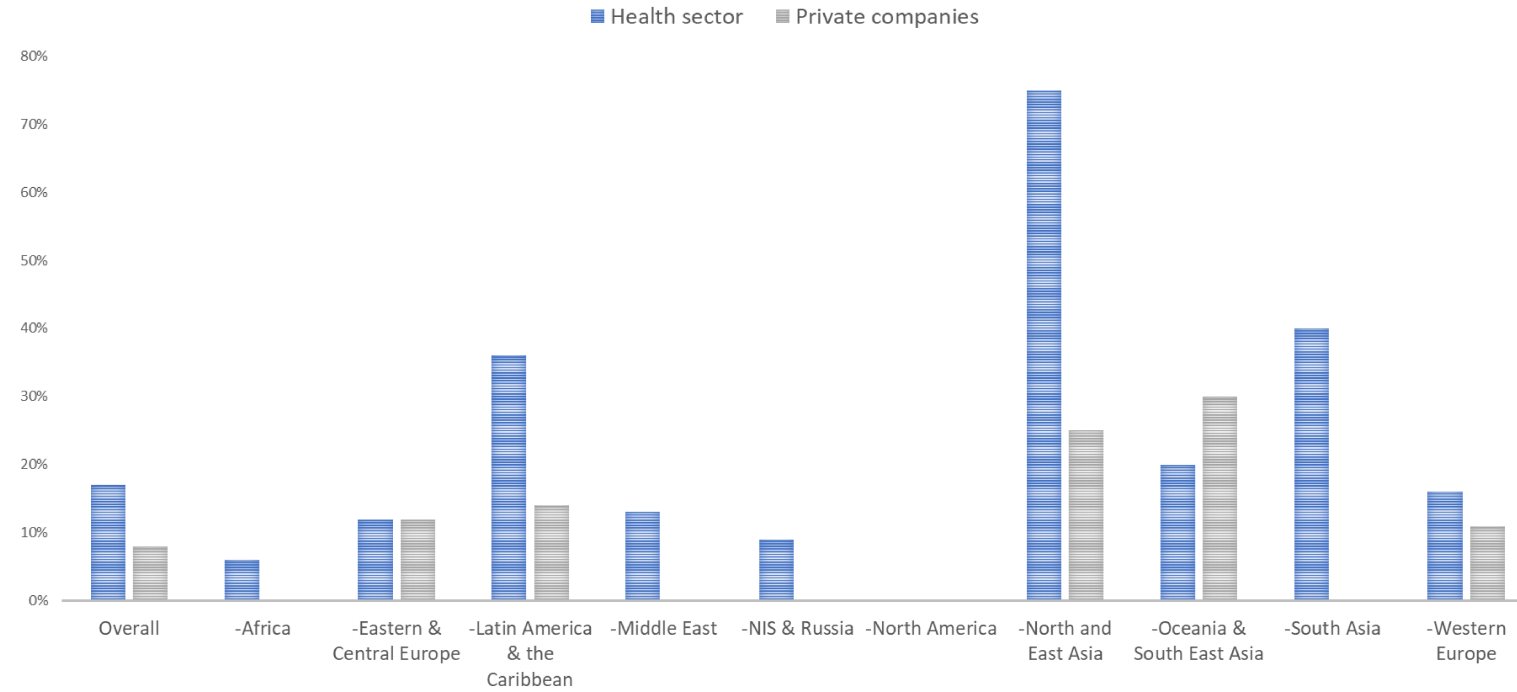
Figure S8: Health care organizations use of social media across ISN regions

Figure S9: Policy / strategy governing the use of big data

Supplementary Appendix

Checklist for Reporting Results of Internet E-Surveys (CHERRIES)

Checklist Item	Explanation	Page Number
Describe survey design	Describe target population, sample frame. Is the sample a convenience sample? (In “open” surveys this is most likely.)	6
IRB approval	Mention whether the study has been approved by an IRB.	20
Informed consent	Describe the informed consent process. Where were the participants told the length of time of the survey, which data were stored and where and for how long, who the investigator was, and the purpose of the study?	20
Data protection	If any personal information was collected or stored, describe what mechanisms were used to protect unauthorized access.	8 (LimeSurvey)
Development and testing	State how the survey was developed, including whether the usability and technical functionality of the electronic questionnaire had been tested before fielding the questionnaire.	6-8
Open survey versus closed survey	An “open survey” is a survey open for each visitor of a site, while a closed survey is only open to a sample which the investigator knows (password-protected survey).	N/A
Contact mode	Indicate whether or not the initial contact with the potential participants was made on the Internet. (Investigators may also send out questionnaires by mail and allow for Web-based data entry.)	8
Advertising the survey	How/where was the survey announced or advertised? Some examples are offline media (newspapers), or online (mailing lists – If yes, which ones?) or banner ads (Where were these banner ads posted and what did they look like?). It is important to know the wording of the announcement as it will heavily influence who chooses to participate. Ideally the survey announcement should be published as an appendix.	8
Web/E-mail	State the type of e-survey (e.g., one posted on a Web site, or one sent out through e-mail). If it is an e-mail survey, were the responses entered manually into a database, or was there an automatic method for capturing responses?	8
Context	Describe the Web site (for mailing list/newsgroup) in which the survey was posted. What is the Web site about, who is visiting it, what are visitors normally looking for? Discuss to what degree the content of the Web site could pre-select the sample or influence the results. For example, a survey about vaccination on a anti-immunization Web site will have different results from a Web survey conducted on a government Web site	8
Mandatory/voluntary	Was it a mandatory survey to be filled in by every visitor who wanted to enter the Web site, or was it a voluntary survey?	8
Incentives	Were any incentives offered (e.g., monetary, prizes, or non-monetary incentives such as an offer to provide the survey results)?	N/A

Time/Date	In what timeframe were the data collected?	8
Randomization of items or questionnaires	To prevent biases items can be randomized or alternated.	N/A
Adaptive questioning	Use adaptive questioning (certain items, or only conditionally displayed based on responses to other items) to reduce number and complexity of the questions.	N/A
Number of Items	What was the number of questionnaire items per page? The number of items is an important factor for the completion rate.	Not reported
Number of screens (pages)	Over how many pages was the questionnaire distributed? The number of items is an important factor for the completion rate.	Not reported
Completeness check	It is technically possible to do consistency or completeness checks before the questionnaire is submitted. Was this done, and if "yes", how (usually JavaScript)? An alternative is to check for completeness after the questionnaire has been submitted (and highlight mandatory items). If this has been done, it should be reported. All items should provide a non-response option such as "not applicable" or "rather not say", and selection of one response option should be enforced.	Not reported
Review step	State whether respondents were able to review and change their answers (e.g., through a Back button or a Review step which displays a summary of the responses and asks the respondents if they are correct).	Not reported
Unique site visitor	If you provide view rates or participation rates, you need to define how you determined a unique visitor. There are different techniques available, based on IP addresses or cookies or both.	Not reported
View rate (Ratio of unique survey visitors/unique site visitors)	Requires counting unique visitors to the first page of the survey, divided by the number of unique site visitors (not page views!). It is not unusual to have view rates of less than 0.1 % if the survey is voluntary.	Not reported
Participation rate (Ratio of unique visitors who agreed to participate/unique first survey page visitors)	Count the unique number of people who filled in the first survey page (or agreed to participate, for example by checking a checkbox), divided by visitors who visit the first page of the survey (or the informed consents page, if present). This can also be called "recruitment" rate.	Not reported
Completion rate (Ratio of users who finished the survey/users who	The number of people submitting the last questionnaire page, divided by the number of people who agreed to participate (or submitted the first survey page). This is only relevant if there is a separate "informed consent" page or if the survey goes over several pages. This is a measure for attrition. Note that "completion" can	10

agreed to participate)	involve leaving questionnaire items blank. This is not a measure for how completely questionnaires were filled in. (If you need a measure for this, use the word "completeness rate".)	
Cookies used	Indicate whether cookies were used to assign a unique user identifier to each client computer. If so, mention the page on which the cookie was set and read, and how long the cookie was valid. Were duplicate entries avoided by preventing users access to the survey twice; or were duplicate database entries having the same user ID eliminated before analysis? In the latter case, which entries were kept for analysis (eg, the first entry or the most recent)?	Not reported
IP check	Indicate whether the IP address of the client computer was used to identify potential duplicate entries from the same user. If so, mention the period of time for which no two entries from the same IP address were allowed (eg, 24 hours). Were duplicate entries avoided by preventing users with the same IP address access to the survey twice; or were duplicate database entries having the same IP address within a given period of time eliminated before analysis? If the latter, which entries were kept for analysis (eg, the first entry or the most recent)?	Not reported
Log file analysis	Indicate whether other techniques to analyze the log file for identification of multiple entries were used. If so, please describe.	Not reported
Registration	In "closed" (non-open) surveys, users need to login first and it is easier to prevent duplicate entries from the same user. Describe how this was done. For example, was the survey never displayed a second time once the user had filled it in, or was the username stored together with the survey results and later eliminated? If the latter, which entries were kept for analysis (e.g., the first entry or the most recent)?	Not reported
Handling of incomplete questionnaires	Were only completed questionnaires analyzed? Were questionnaires which terminated early (where, for example, users did not go through all questionnaire pages) also analyzed?	10
Questionnaires submitted with an atypical timestamp	Some investigators may measure the time people needed to fill in a questionnaire and exclude questionnaires that were submitted too soon. Specify the timeframe that was used as a cut-off point and describe how this point was determined.	Not reported
Statistical correction	Indicate whether any methods such as weighting of items or propensity scores have been used to adjust for the non-representative sample; if so, please describe the methods.	Not reported

This checklist has been modified from Eysenbach G. Improving the quality of Web surveys: the Checklist for Reporting Results of Internet E-Surveys (CHERRIES). *J Med Internet Res.* 2004 Sep 29;6(3):e34 [erratum in *J Med Internet Res.* 2012; 14(1): e8.]. Article available at <https://www.jmir.org/2004/3/e34/>; erratum available <https://www.jmir.org/2012/1/e8/>. Copyright ©Gunther Eysenbach. Originally published in the *Journal of Medical Internet Research*, 29.9.2004 and 04.01.2012.