

Round one survey

Examples of questions used (full survey is available upon request from lead author)

Ref	Question	Options
Q1	Based on our literature search we have identified general HIS roles required for optimal functioning across the health system in developing countries. Do you agree or disagree with the four levels of general HIS roles identified in this list? <ol style="list-style-type: none"> 1. Level 4 - Senior strategic decision-maker 2. Level 3 - Provincial/District level managers 3. Level 2 - Facility based supervisors/managers 4. Level 1 - Service providers 	<input type="radio"/> Agree (1) <input type="radio"/> Disagree (2)
Q2	Provide comments as to why you agree/disagree with the four levels of general HIS roles identified, please provide a brief description why	Open text
Q3	Applying the same framework, we now attempt to outline specialized HIS roles across the health system in developing countries. Do you agree or disagree with the levels of specialized HIS roles identified in this list? <ol style="list-style-type: none"> 1. Level 4 - HIS Innovators 2. Level 3 - HIS Specialist 3. Level 2 - Experienced HIS 4. Level 1 - Basic HIS 	<input type="radio"/> Agree (1) <input type="radio"/> Disagree (2)
Q4	Provide comments as to why you agree/disagree with the four levels of specialized HIS roles identified, please provide a brief description why	Open text
Q11	These questions describe each of the four levels of general HIS roles in detail. There will be space for you to respond after each role description. Level 1 – Service providers: <ul style="list-style-type: none"> • Has basic information management and computer technology skills • Use existing information systems and available information to manage their practice 	<input type="radio"/> Agree (1) <input type="radio"/> Disagree (2)
Q12	If a characteristic is missing or if you agree/disagree with this list, please list your ideas below and provide a brief explanation	Open text
Q13	If you believe we have missed a key general role (other than the four general roles we have listed), please list this component below and briefly explain your reasons for this inclusion (e.g., you may feel that a general role should be eliminated or added to our list, and provide an explanation based on your opinion)	Open text
Q19	These questions describe each of the specialized HIS roles in detail. There will be space for you to respond after each role description. Level 2 – Basic HIS: <ul style="list-style-type: none"> • Has fundamental information management and computer skills • Uses existing information systems and available information to manage practice • Record data based on specified indicators for data collection purposes 	<input type="radio"/> Agree (1) <input type="radio"/> Disagree (2)
Q20	If a characteristic is missing or if you agree/disagree with this list, please list your ideas below and provide a brief explanation	Open text
Q21	If you believe we have missed a key specialized role (other than the 4 specialized roles we have listed), please list this component below and briefly explain your reasons for this inclusion (e.g., you may feel that a specialized role should be eliminated or added to our list, and provide an explanation based on your opinion)	<input type="radio"/> Agree (1) <input type="radio"/> Disagree (2)

Round two survey

Q1. Please select agree or disagree for each of the general HIS competencies listed below.

Level 1 – Service provider / General HIS competencies:

	Please select	
	Agree (1)	Disagree (2)
1 uses administrative processes for practice management (e.g., searches for patient, retrieves demographics)	<input type="radio"/>	<input type="radio"/>
2 uses administrative coding/classification as per national HIS data entry standards and as appropriate at the facility level (e.g., diagnosis)	<input type="radio"/>	<input type="radio"/>
3 uses communication infrastructure available at the facility (e.g., fax, telephone, email)	<input type="radio"/>	<input type="radio"/>
4 uses data sources that relates to practice and care as per national HIS standards	<input type="radio"/>	<input type="radio"/>
5 accesses, enters, and retrieves data at facility level for patient care and health service administration (e.g., filing system)	<input type="radio"/>	<input type="radio"/>
6 uses facility level reports for decision making on facility level resource allocation (e.g., supplies, human resources, finances) at the suitable level within a defined country	<input type="radio"/>	<input type="radio"/>
7 uses forms (national and/or facility standards) to document patient	<input type="radio"/>	<input type="radio"/>
8 uses forms (national and/or facility standards) to plan care for patients (e.g. discharge planning) - facility specific	<input type="radio"/>	<input type="radio"/>
9 uses forms developed at national level to enter patient data and health indicators specific to the level and national HIS standards	<input type="radio"/>	<input type="radio"/>
10 documentation thorough and legible	<input type="radio"/>	<input type="radio"/>
11 forms are completed using a timely and proper paper documentation practice (national and/or facility standards)	<input type="radio"/>	<input type="radio"/>
12 regular reporting on facility budgets	<input type="radio"/>	<input type="radio"/>
13 regular reporting on facility supplies and commodities	<input type="radio"/>	<input type="radio"/>
14 regular reporting on facility human resources	<input type="radio"/>	<input type="radio"/>
15 regular reporting on facility equipment and physical infrastructure	<input type="radio"/>	<input type="radio"/>
16 uses facility standards for proper coding, filing and storage of confidential data	<input type="radio"/>	<input type="radio"/>
17 maintains safety and security of confidential data	<input type="radio"/>	<input type="radio"/>
18 uses patient records and/or facility health reports to monitor facility health outcomes	<input type="radio"/>	<input type="radio"/>
19 performs transcription, analysis and compilation of data files (data sources) when required by district and/or national level health office	<input type="radio"/>	<input type="radio"/>
20 submits weekly or monthly surveillance report on time to district level health office (or as per national HIS standards)	<input type="radio"/>	<input type="radio"/>
21 use of facility-retained patient medical records to support quality and continuity of care	<input type="radio"/>	<input type="radio"/>
22 uses surveillance data to respond to outbreaks according to national standards	<input type="radio"/>	<input type="radio"/>

Ref	Question	Options
Q2	Could you suggest any other general HIS competencies for Level 1, that are not defined in Question 1	Open text
Q3	Please provide any additional comments about general HIS competencies for Level 1 here	Open text
Q4	In health facilities where the supervisor role is vacant, the service provider performs both supervisory and clinical practitioner roles. Therefore, Level 2 (Facility based supervisors) have all the competencies listed in Level 1 (Service providers), including the additional competencies for Level 2	<input type="radio"/> Agree (1) <input type="radio"/> Disagree (2)

Q15. Please select agree or disagree for each of the ICT skills as part of HIS competencies listed below for all four levels of HIS (if computers are available).

	Please select	
	Agree (1)	Disagree (2)
61 demonstrates basic technology skills (e.g., load paper, change toner, print document)	<input type="radio"/>	<input type="radio"/>
62 demonstrates keyboard (i.e., typing) skills	<input type="radio"/>	<input type="radio"/>
63 simple user based preventative maintenance of computer	<input type="radio"/>	<input type="radio"/>
64 save and backup files	<input type="radio"/>	<input type="radio"/>
65 uses operating system applicable to role (e.g., copy, paste, delete, change directories)	<input type="radio"/>	<input type="radio"/>
66 uses computer technology safely	<input type="radio"/>	<input type="radio"/>
67 operates peripheral devices (e.g., hand held)	<input type="radio"/>	<input type="radio"/>
68 operates virus scanning process installed	<input type="radio"/>	<input type="radio"/>
69 uses surge protection if provided	<input type="radio"/>	<input type="radio"/>
70 uses word processing	<input type="radio"/>	<input type="radio"/>
71 uses spreadsheet	<input type="radio"/>	<input type="radio"/>
72 (If available) uses presentation graphics (e.g., Excel graphs /Power Point)	<input type="radio"/>	<input type="radio"/>
73 uses administrative applications for practice management (e.g., searches for patient, retrieves demographics)	<input type="radio"/>	<input type="radio"/>
74 uses applications for structured data entry (e.g., patient data, service data)	<input type="radio"/>	<input type="radio"/>
75 uses aids for clinical decision making or service decisions support systems	<input type="radio"/>	<input type="radio"/>
76 uses administrative application to collate data and develop reports at facility level for decision-making purposes	<input type="radio"/>	<input type="radio"/>
77 uses networks to navigate systems (e.g., world wide web) when applicable or available	<input type="radio"/>	<input type="radio"/>