Madagascar

Country indicators				
Population (000s)	19 111	Total health expenditure (%GDP)	4.5	ICT Development Index	1.31
GNI per capita (PPP Int $)	1 050	Per capita total health expenditure (PPP Int $)	48	ICT Development Index rank	144
World Bank income group	Low	Hospital bed density (per 10 000 population)	10	Mobile cellular subscriptions (per 100 population)	32.02
OECD country	No	Physician density (per 10 000 population)	1.6	Internet users (per 100 population)	1.63
Life expectancy at birth (years)	60	Nurse density (per 10 000 population)	3.2	Disability Adjusted Life Years (DALY)	31 960

Sources: See page ix

1.   eHealth foundation actions

eHealth foundation actions build an enabling environment for the use of ICT for health. These include supportive eHealth policy, legal and ethical frameworks; adequate funding from various sources; infrastructure development; and developing the capacity of the health work force through training.

I. Policy framework

	Country response	Global response (%)[§]	Policy implemented	Year of implementation
National eGovernment policy	Yes	85[b]	Yes	2007
National eHealth policy	No	55[b]	—	—
National ICT procurement policy for health sector	No	37[b]	—	—
National multiculturalism policy for eHealth	No	30[b]	—	—
National telemedicine policy	Yes	25[c]	No	—

II. Legal and ethical frameworks for eHealth

	Country response	Global response (%)[a§]
Legislation on personal and health-related data		
To ensure privacy of personally identifiable data	No	70
To protect personally identifiable data specifically in EMR or EHR[1]	No	31
Legislation for sharing health-related data between health care staff through EMR/EHR[1]		
Within the same health care facility and its network of care providers	No	26
With different health care entities within the country	No	23
With health care entities in other countries	No	11
Internet pharmacies		
Legislation that allows/prohibits Internet pharmacy operations	No	Allows: 7, Prohibits: 19
National regulation/accreditation/certification of Internet pharmacy sites	No	7
Legislation that allows/prohibits Internet pharmacy purchases from other countries	No	Allows: 6, Prohibits: 12
Internet safety		
Government sponsored initiatives about Internet safety and literacy	No	47
Security tools required by law for facilities used by children	No	22
Quality assurance approaches to health-related Internet content		
Voluntary compliance by content providers or web site owners	No data	56
Technology through filters and controls	No data	28
Government intervention through laws or regulations	No data	26
Education programmes for consumers and professionals	No data	23
Official approval through certification, accreditation, or quality seals	No data	17

III. eHealth expenditures and their funding source

Expenditure	Public funding		Private funding		Donor/non-public funding		Public-private partnerships funding	
	Country response	Global response (%)[b§]	Country response	Global response (%)[b§]	Country response	Global response (%)[b§]	Country response	Global response (%)[b§]
ICT equipment	—	78	—	37	—	59	—	28
Software	—	76	—	35	—	56	—	29
Pilot projects	—	69	—	33	—	51	—	28
Skills training	—	61	—	26	—	43	—	20
Ongoing support	—	61	—	19	—	35	—	18
Scholarships	—	28	—	8	—	19	—	4

IV. Capacity building

	Country response	Global response (%)[b§]
ICT education		
ICT training for students in health sciences at tertiary institutions	Yes	77
Institutions offer continuing education in ICT for health professionals	Yes	75
Professional groups offered ICT continuing education		
Medical	Yes	73
Nursing	No	62
Public health	Yes	60
Dentistry	No	54
Pharmacy	No	54

§ Indicates the percentage of participating Member States responding "Yes"
[1] Electronic medical records / Electronic health records

2.   eHealth applications

eHealth applications surveyed in 2009 include telemedicine (the delivery of health care services using ICT where distance is a barrier to care); mHealth (the use of mobile devices in delivering health care services); and eLearning (use of ICT for learning).

I. Telemedicine

	Country response	Global response (%)[c§]
Telemedicine enabling actions		
National telemedicine policy	Yes	25
Implemented national telemedicine policy	No	—
Formal evaluation and/or publication of telemedicine initiatives since 2006	No	22
Barriers to implementing telemedicine solutions		
Perceived costs too high	Yes	60
Lack of legal policies/regulation	Yes	40
Organizational culture not supportive	No	39
Underdeveloped infrastructure	Yes	38
Lack of policy frameworks	No	37
Competing priorities	Yes	37
Lack of demand by health professionals	No	31
Lack of nationally adopted standards	No	26
Lack of knowledge of applications	No	25
Lack of technical expertise	No	17
Information most needed in country to support telemedicine development		
Cost and cost effectiveness	Yes	69
Clinical possibilities	No	58
Infrastructure	Yes	52
Evaluation	No	46
Legal and ethical	Yes	45
Effect on human resources	Yes	40
Patients' perception	No	30

II. mHealth

	Country response	Global response (%)[b§]
mHealth initiatives		
mHealth initiatives are conducted in country	Yes	83
Formal evaluation and/or publication of mHealth initiatives	No	12
Barriers to implementing mHealth initiatives		
Competing priorities	Yes	53
Lack of knowledge of applications	No	47
Lack of policy framework	No	44
Cost effectiveness unknown	No	40
Lack of legal policies/regulation	Yes	38
Perceived costs too high	Yes	37
Lack of demand	No	29
Underdeveloped infrastructure	Yes	26
Lack of technical expertise	No	26

IIIa. eLearning

	Country response	Global response (%)[c§]
eLearning in health sciences at the tertiary level		
Used in teaching health sciences	Yes	72
Used in training health professionals	Yes	69
Barriers to eLearning		
Underdeveloped infrastructure	Yes	64
Lack of policy framework	No	63
Lack of skilled course developers	No	55
Lack of knowledge of applications	No	46
Perceived costs too high	Yes	45
Availability of suitable courses	No	42
Lack of demand	No	21

IIIb. eLearning target groups

Profession	Students		Professionals	
	Country response	Global response (%)[c§]	Country response	Global response (%)[c§]
Medical	Yes	68	Yes	71
Public health	No	52	No	56
Nursing	No	50	No	55
Pharmacy	No	45	No	37
Dentistry	No	39	No	37

[a] n=113
[b] n=112
[c] n=114