

What can IT solutions contribute to quality health delivery in Rwanda

Emile Rwamasirabo
Consultant Urological Surgeon
King Faisal Hospital
Kigali, April 21, 2010

Outline

- Focus
- Rwanda Health Delivery
- Health Human Resources & Challenges
- E-Health in Rwanda
- IT & Health Continuing Professional Development
- Conclusion

Focus

- Capacity building for health professionals
- IT for health care quality improvement

Rwanda Health Delivery System (DHS, 2007)

- **Central Level:** Ministry of Health
- Health Posts and FOSACOM, Clinics, dispensaries
- **514 health centers** (1 for 25,000 people)/ Minimum package of services provided by Nurses/Midwives.
- **40 district hospitals** (1 for 250,000 people)/Complimentary package of services (General practitioners)
- **3 referral university hospitals** (Physician specialists); National Referral Laboratory; Research Center (TRAC+)

Situation of HRH: 2003 and 2008 (MOH, 2008)

• Categories	2003	2008
• Total all categories	4.222	10.846
• Medical doctors	220	550
• Pharmacists	13	72
• Dentists	4	14
• Dentists Technicians (A1)	54	
• Nurses (all categories)	2278	6 261
• Registered Nurses (A1)	622	
• Midwives (A1)	19	46
• Assistant Nurses (A2)	5 526	
• Public health A0	49	13
• Public Health A1	31	23
• Other qualifications	1627	3 131

Rwanda Health Human Resources

- Total population: 9,3 millions
- Per Capita GNI:US \$367.73(NISR 2007)
- Doctors: 1/18,000 inhabitants
- Nurses: 1/1690 inhabitants
- 62.8% of Nurses in rural areas(2008)
- 38.2% of Nurses in Urban areas(2008)

Health HR challenges

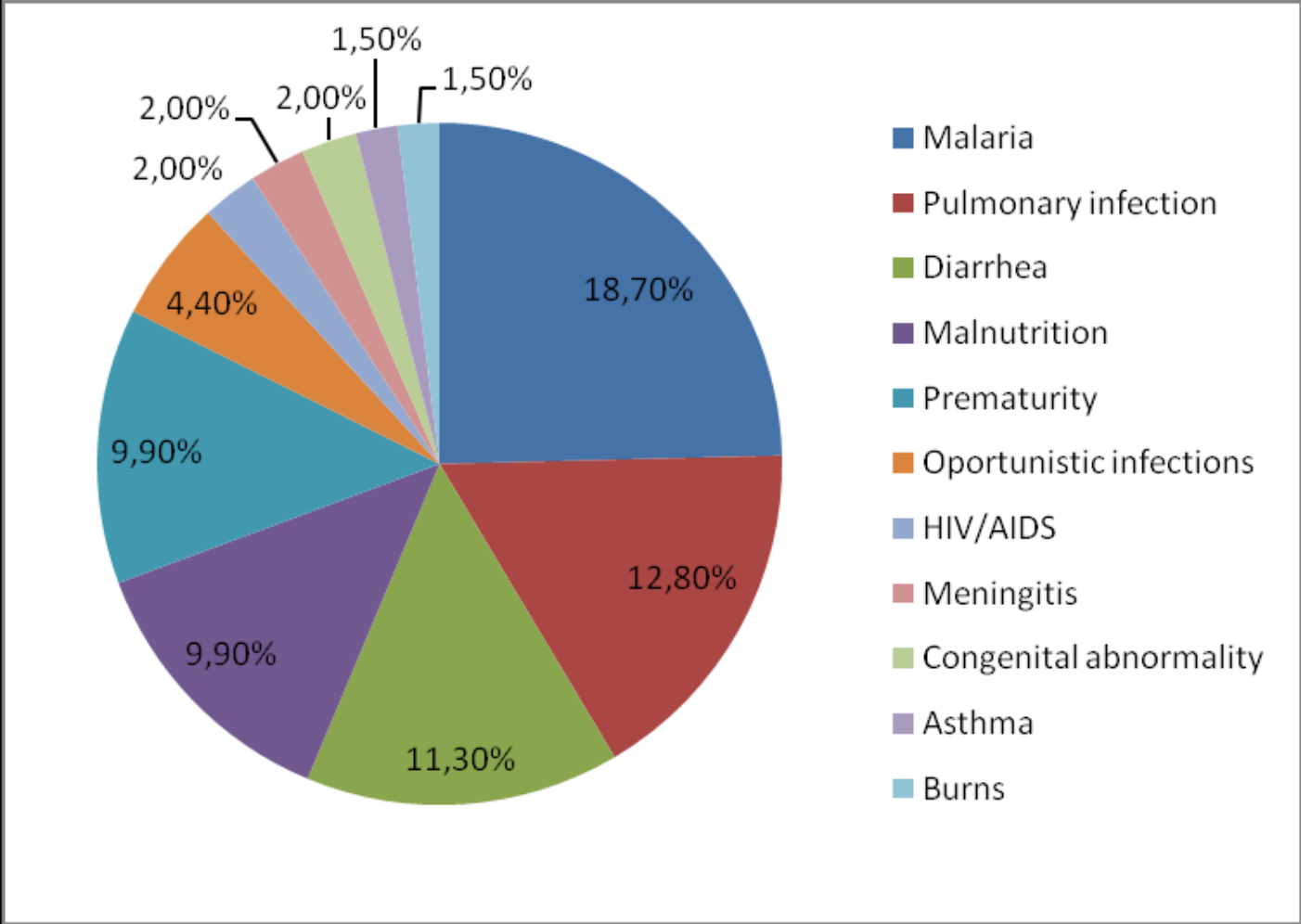
- Quantity Insufficient
- Quality (knowledge, skills and competencies)
- Access to medical information (journals and other learning materials,...)
- Limited interaction with international experts
- Updating skills
- Limited research exposure, output

E-Health in Rwanda

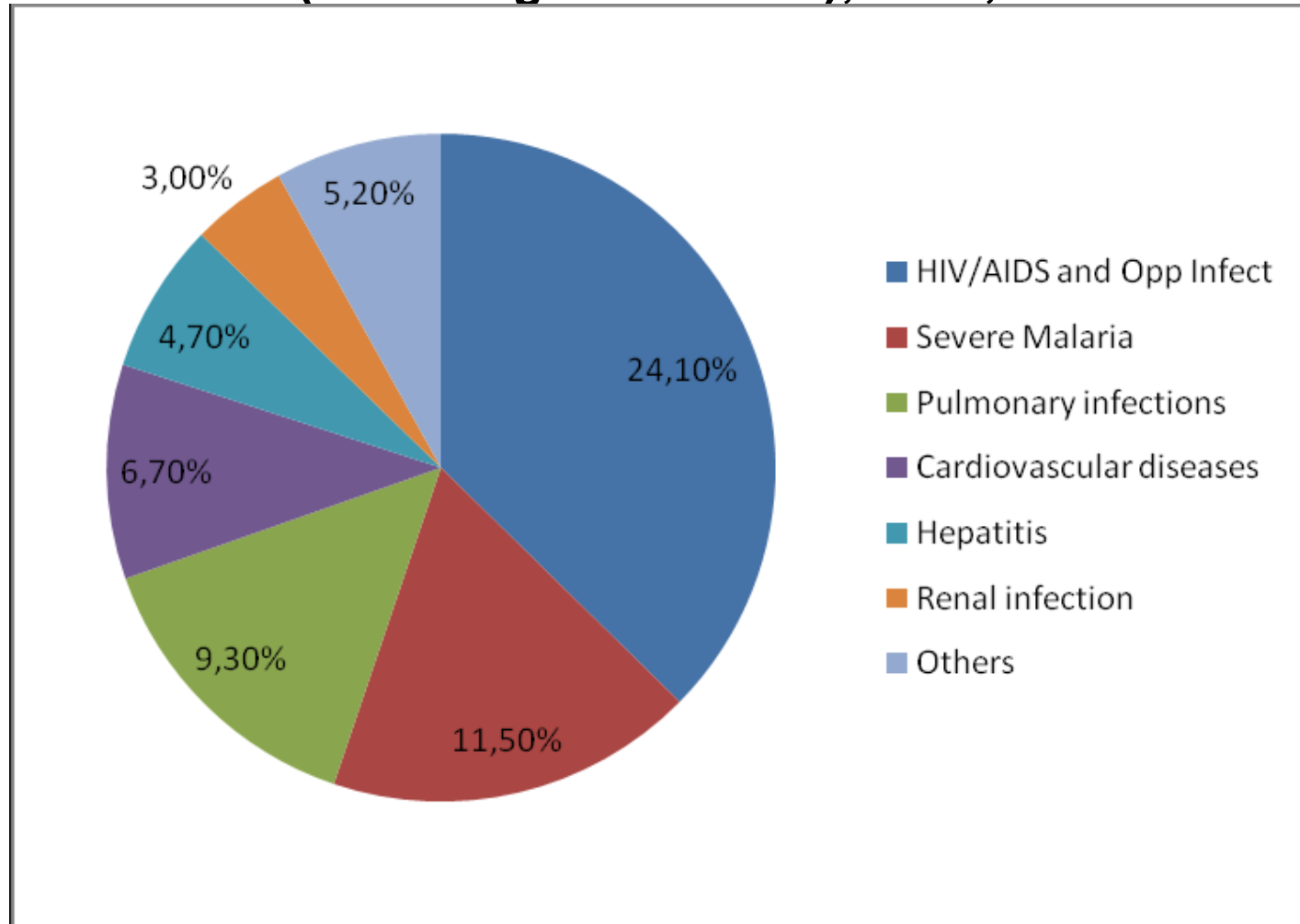
- **Health Management Information Systems** – systems that integrate data collection, processing, reporting, and use of the information for programmatic decision-making
- **Telemedicine** – ICT used to deliver health and healthcare services, information and education to geographically separate parties
- TracPlus and TRACnet – Monthly monitoring of infectious diseases including HIV/AIDS, TB, and Malaria
- **CAMERWA** – A drug and medical supply management system
- **E-Learning** – use of ICT in instruction of A2-level nurses for promotion to A1, status.

Leading causes of hospital mortality in U5 children, 2008

(MOH)



Leading causes of hospital mortality in the general population (excluding U5 children); MOH, 2008



The first 20 diagnoses, UTH Kigali (N= 7477), MOH, 2008

N°	Diagnoses	%	N°	Diagnoses	%
1	Diarrhea	10,49	11	Cardiopathy	2,19
2	Pneumopathy	9,70	12	Meningitis	1,93
3	Tuberculosis	5,44	13	Hernia	1,70
4	Fractures	13,29	14	Anemia	1,63
5	Malaria	4,36	15	Bone and joints infections	1,52
6	Malnutrition	3,99	16	Benignant tumors	1,44
7	Malignancies	3,74	17	HIV/AIDS	1,36
8	Dehydration	3,05	18	Gastritis and ulcers	1,35
9	Respiratory tract diseases	2,63	19	Peritonitis	1,34
10	Septicemia	2,33	20	Mellitus Diabetes	1,31

IT support to formal health education

- Nursing education and medical education: quality education through access to quality learning materials
- Post-graduate medical education: access to expert specialist training, development of research capacity
- IT support to fellowships development in Rwanda in various specialties

IT support to a National Continuing Professional Development (CPD)

- Soon a national program
- Mandatory for all practicing physicians, dentists, nurses and allied health professionals
- Individuals will have to earn credits per year in order to maintain license and certification
- Need to set up systems (hardware/software), develop content for large scale CPD programs across the whole health system for overall knowledge, skills and competencies upgrade

CPD and IT solutions

- CPD providers require updated knowledge, new skills and education modules design
- CPD beneficiaries will need electronic access, structured and non-structured learning programs (distance learning CME, ...)
- Strategic opportunities for international cooperation

Quality healthcare and IT telemedicine

- Remote Access to specialized services: tele-radiology, tele-pathology, drug information
- Video-conferencing and clinical discussion forums
- Patients electronic managements systems
- Research production enhancement

Conclusion

- Rwanda has set up a conducive IT environment including infrastructure, systems that can facilitate quality health delivery
- MOH, health professionals, international partners together can quickly impact on quality health care through IT venture
- Need to be innovative and promote behavior change