

# eHealth Services and Public Health

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# Agenda

- 1 eHealth importance for society
- 2 Evaluation of eHealth services according WHO survey
- 3 HP in eHealth reflection
- 4 Public Health
- 5 HP GIS solution for Public Health
- 6 How can eHealth change world



# eHealth – WHO definition

“eHealth is the cost-effective and secure use of information and communication technologies for health to, for example, treat patients, pursue research, educate students, track diseases and monitor public health “

# eHealth importance for society

Health is something of common concern for everyone. The delivery of high quality and affordable healthcare is at the top of the political agenda in every part of the world.

eHealth offers solutions and technologies which allows us to improve the quality of treatment and broaden access to medical care. It can help to reduce pressures on public healthcare budgets

European Commission has placed eHealth activities at the centre of the Information Society and its eEurope Action Plan. Focus on support research and development in the area of eHealth. Over the last fifteen years, EU have funded more than 500 million Euros of research and development in the eHealth area.

eHealth will be the backbone for development and in some cases - reengineering healthcare systems for the 21st century. It will allow health care professionals to place patients rather than budgets at the centre of their systems

# Global survey for eHealth tools and services

- Done by WHO, published in 2006
- First global survey on eHealth
- Summarizes the needs for eHealth tools and services of WHO member states
- Survey covered themes:
  - Enabling environment, Infrastructure , Content, Cultural and linguistic diversity, Capacity, National centers for eHealth, eHealth systems and services

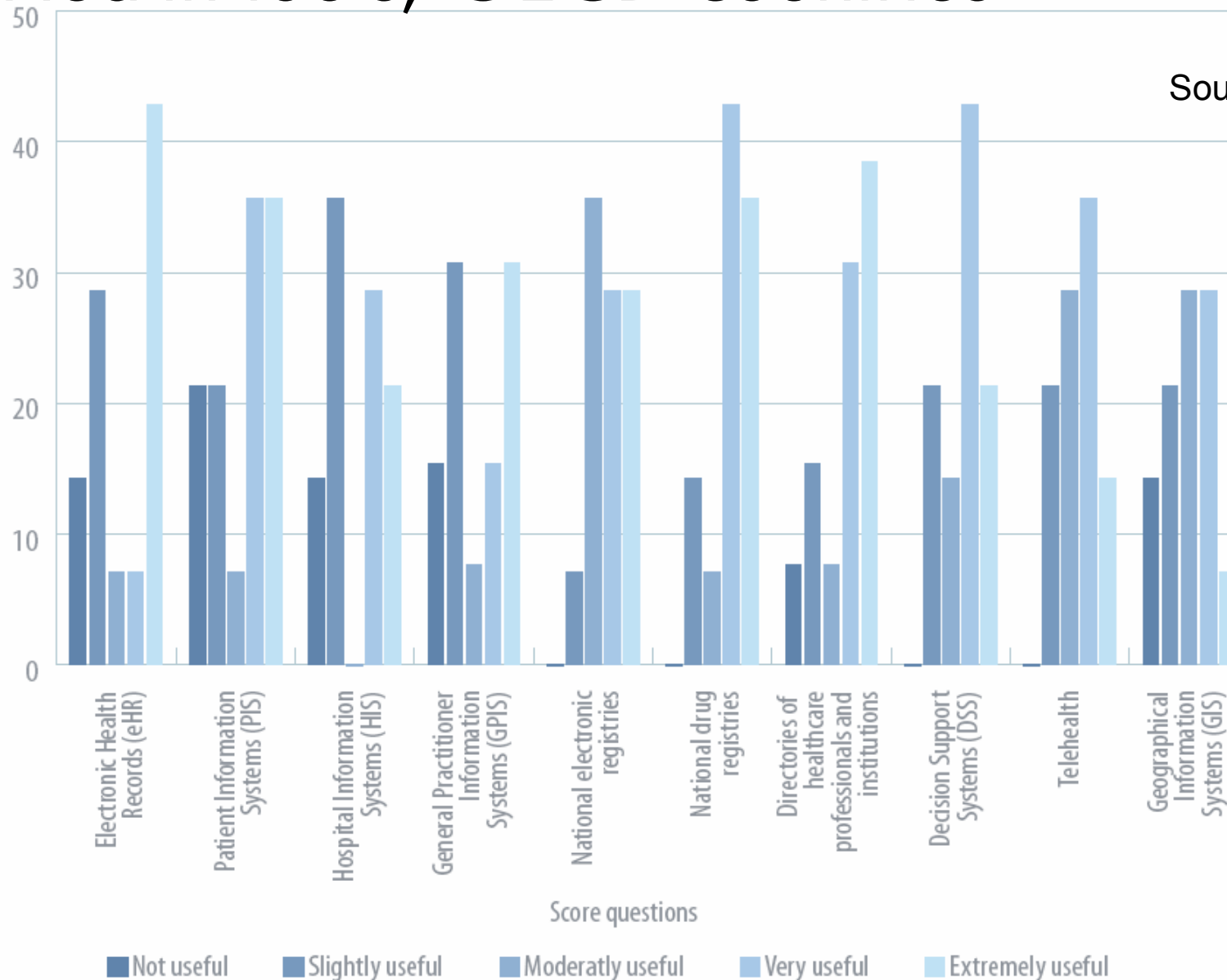
# eHealth tools & services

- Electronic Health Records (eHR)
- Patient Information Systems (PIS)
- Hospital information Systems (HIS)
- General Practitioner Information Systems (GPIS)
- National electronic registries
- National drug registries
- Directories of healthcare professionals and institutions
- Decision Support Systems (DSS)
- Telehealth
- Geographical Information Systems (GIS)



# eHealth tools, OECD countries

Source: WHO



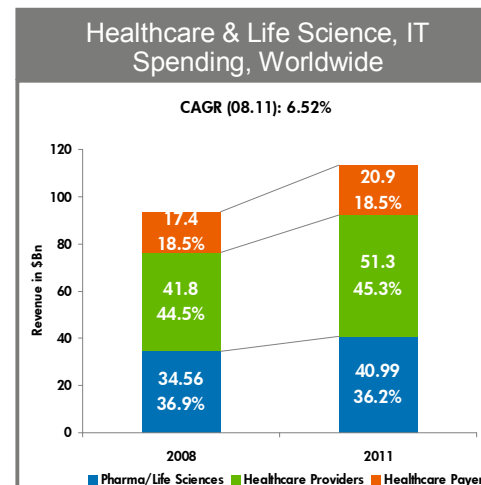
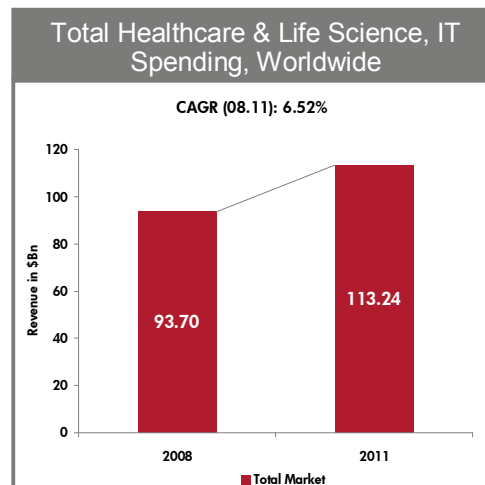
# Some WHO survey conclusion

- Countries indicated a strong desire for:
  - guidance with policy and strategy development for eHealth;
  - advice on needs assessment and evaluation of eHealth services;
  - information on best practice and trends;
  - advice on eHealth norms and standards; and
  - consultancy services to assist in all aspects of eHealth
- All respondents expressed a need for education and training in eHealth, including eLearning methods
- Generic information and communication technologies based tools are seen as a fundamental way for creating:
  - Pharmaceutical or drug registries, to control of the efficacy and cost of medicines at regional or national levels
  - Directories of health care professionals and institutions

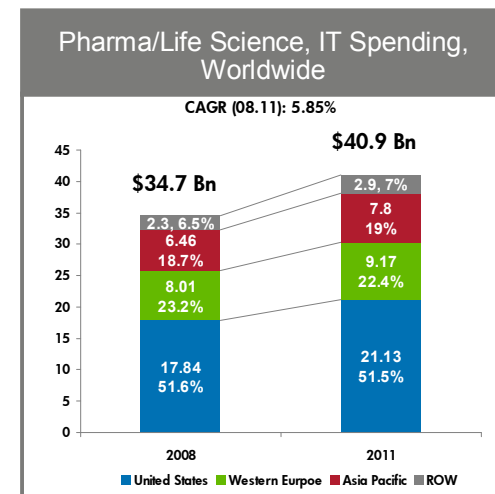
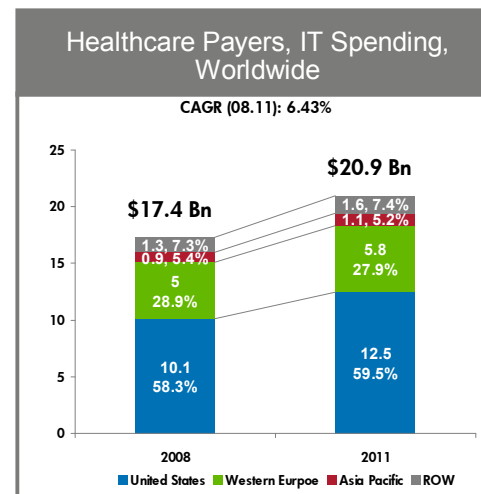
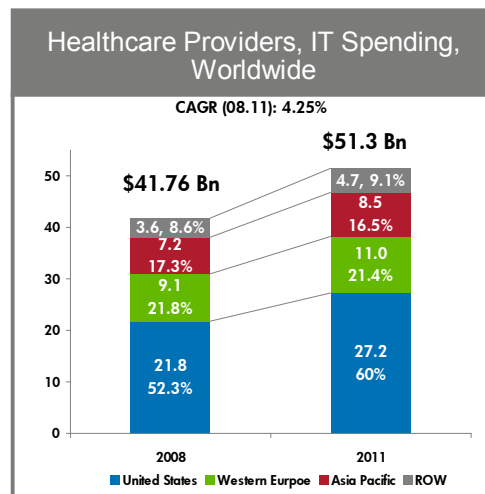


# Healthcare market outlook

"Growth is slow paced, not stopped"



- IT spending to increase across America with the implementation of strategic healthcare policies framed by Obama administration
- Asia Pac is expected to show a promising growth in IT spending within the pharma industry with an increased growth in the number of clinical trials and an increased focus on R&D initiatives
- Economic recession to slow the growth of IT spending across the already sluggish European market



# IDC Top Ten Predictions – Worldwide

- IT spending in healthcare would continue to grow
  - Providers to concentrate more on driving efficiency and improvements in quality of care through IT solutions
  - Payers to invest more on technologies that prove cost effective – business intelligence tools
  - Pharma companies to face budget constraints for new product pipelines that are slow and an increased IT and BPO outsourcing is expected
- U.S. to face cost control and quality improvements on drugs with the new administration in place
  - Increased e-prescribing initiatives
  - Increased focus on EHR
  - Provision of tax advantage for EMR adoption
- Increase in the number of uninsured patients encourages the use of self-healing technologies
  - Health 2.0 technology and other internet based health information
- Rise in the ageing population and prevalence of chronic diseases finds the adoption of remote patient monitoring and tele-medicine
- Payers to refocus on core and underlying technologies and prioritize more investment on technologies promoting better ROI
- High investments in business intelligence solutions by the payers is expected, with increased focus on integration of the solutions with best practices assessment
- Medical Home concept to gain momentum in the U.S. with the increasing challenges of chronic diseases, high costs of treatment and low quality of care
- Expected growth in the use of IT outsourcing of software/hardware maintenance and support
- Pharmaceutical companies to reevaluate the existing system capabilities with an increasing problem of revenue leakage
- Increased use of information technology at the clinical trials phase to improve analytics capabilities, improved operational effectiveness – e-clinical solutions

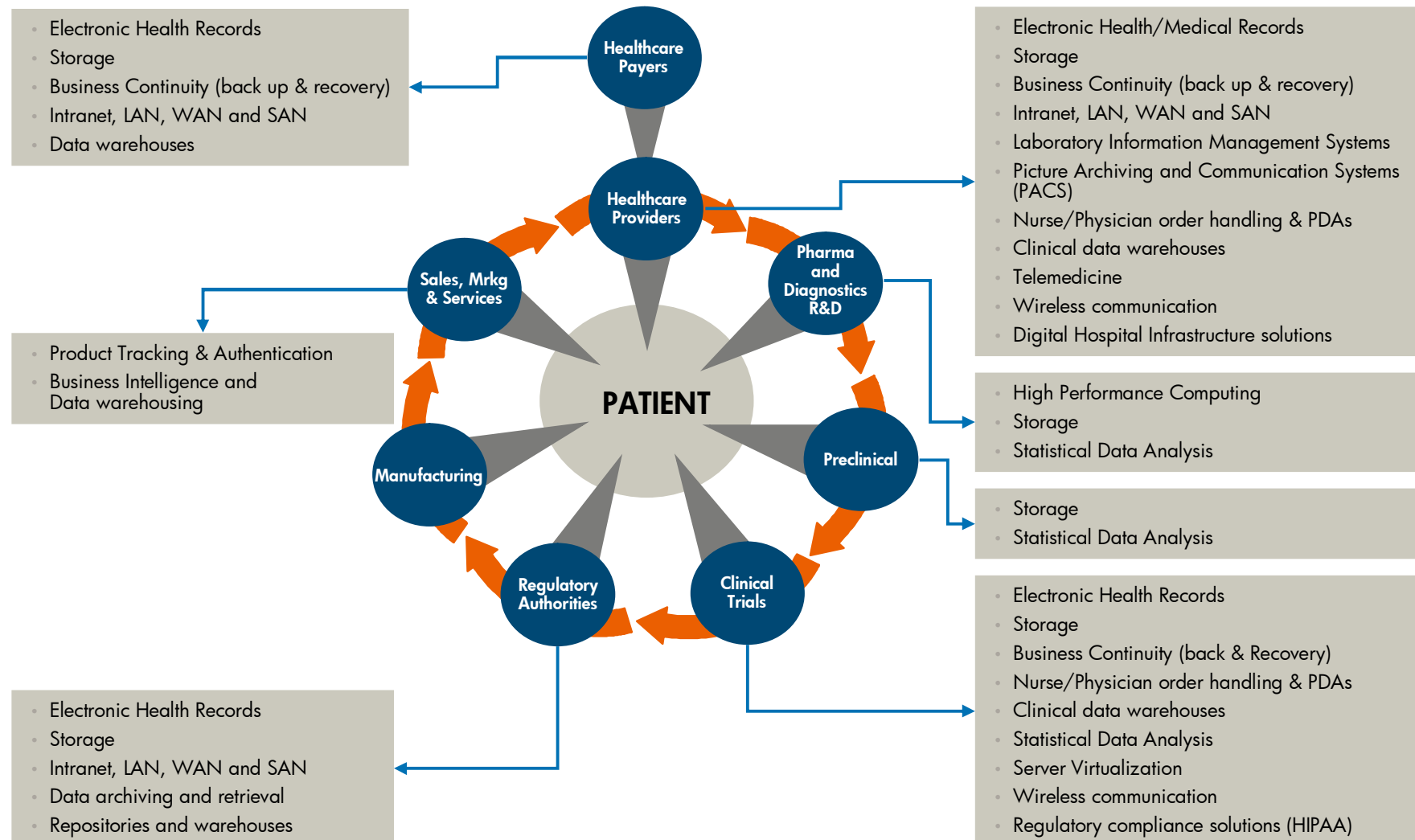
Source: IDC, 2009 Top Ten Predictions

# HP - eHealth competencies, market position and capabilities

HP offers an unmatched solution and services portfolio, market-leading innovation and a proven commitment to bringing value and quality to every healthcare client.

- **Market leader in government healthcare**, including claims, **decision support and information management**, program integrity, eligibility and enrollment, and health data exchange
- HP is the largest provider of Medicaid and Medicare process management services - touching nearly 70 million lives.
- HP solutions touches more than **200 million patient lives annually** through our services and solutions.
- HP clinical and administrative applications support 38.4 million patient visits per year.
- We perform **2.4 billion healthcare transactions annually**, including 1 billion in healthcare claims.
- HP administers \$95 billion in Medicaid benefits for more than 20 million recipients annually
- Deep vertical expertise in healthcare. Strong record of client satisfaction and performance ratings

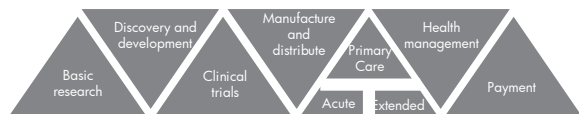
# HP Value Chain and eHealth Technology Solutions



# eHealth challenges covered by HP technology and solutions

Accelerate business growth  
Speed innovation to  
transform health

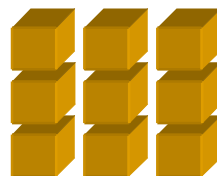
Extend Information-  
enabled Processes



- Bridge information gap between research and clinical care
- Power biosciences (genomic and proteomic) research and discovery
- Speed time to market of new pharmaceutical agents, new products and services
- Enable “personalized medicine” through value chain collaboration
- Empower individuals to manage their health

Lower costs/increase efficiency  
Improve operational  
efficiencies

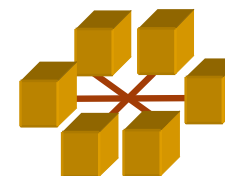
Consolidate and  
Integrate Technology



- Reduce waste - over \$1 Trillion dollars of health expenditures is waste
- Automate analog, manual processes
- Help address staffing shortage through improved information capture and sharing
- Manage growing data/images driven by eHealth initiatives
- Reduce administrative costs

Mitigate risks  
Improve  
quality of care

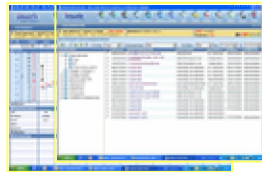
Integrate and Simplify  
the Process



- Enable right information at the right place at the right time
- Customize services and information
- Maximize collaboration across organizations
- Improve patient safety -- avoidable medical mistakes account for over 100,000 deaths per year
- Combat drug counterfeiting -- 10% of Rx drugs in marketplace is counterfeit
- Adhere to increased compliance and regulation mandates

# HP Digital Hospital Solutions

Building on a converged network and unified communications



- Integration with hospital applications
  - EPR / CIS / HIS
  - Lab IS



- Electronic whiteboard
- Medical equipment interconnect



- Hospital messaging & alerts
- Mobile nurse call
- Medical team assembly
- Hospital orderly
- Order entry & results alerts



Patient bedside interactive services & communications



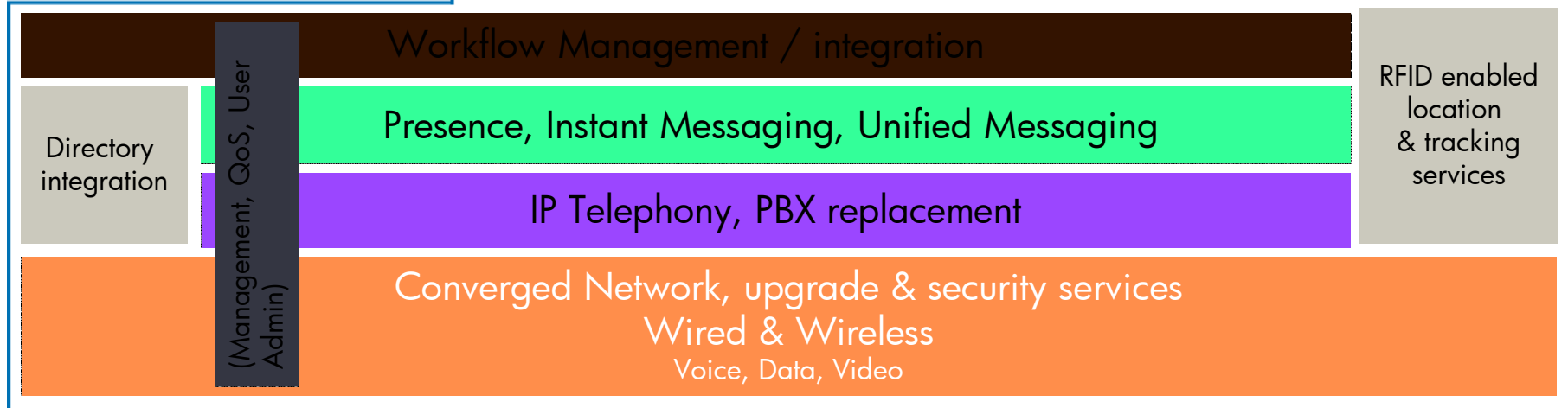
Digital signage



Collaboration  
Telehealth video & conferencing solutions (Web, audio, video, IM, presence)



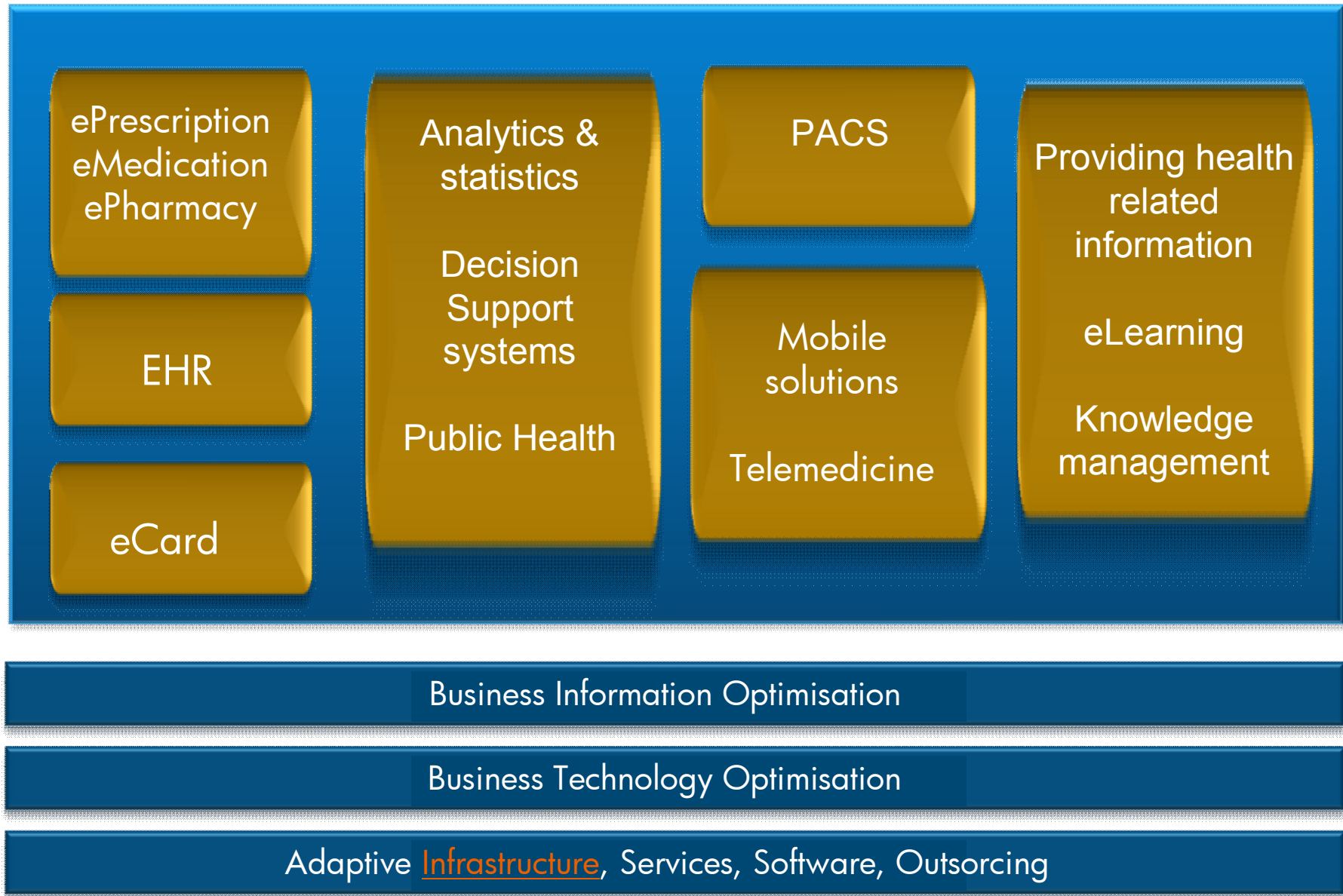
- Asset tracking
- Patient & staff safety
- Temperature monitoring



Key network partners:



# HP Business-ready eHealth Solutions & experience





# Public Health

- Main task of public health is supporting health of inhabitants promoting diseases prevention, stressing deeper involvement of whole society into health domain using health education and providing health relevant information to citizens and health institutions

# Public health services in SR - challenges

- Strengthen health of population
  - Creating and providing of health profiles
  - Implementation of health development
- Health protection
  - Monitoring and providing information about disease occurrence
  - State control, analysis of results, providing information
  - Hygiene and nutrition, hygiene of children and young's
- Disease dispersion prevention

# Public health services – priorities for SR

- Decentralization and public involvement to Health care
- Creating and providing complex information basis for public health
  - Interfacing and exploitation of existing data
  - Approach to EU indicators systems
  - Ensure availability of health related information for science, health providers, health policy makers
- Creating of Centrum of knowledge, methods
- Enabling cost effective data management

# Geospatial Health related information system – HP Vision

- Geospatial Health related information system is one of tools enabling to increase quality of
  - Health of population research using geographic oriented analysis
  - Localization of healthcare services
  - Strategic decision of providing health care services based on geographic spread of population needs and requirements to healthcare providers, state insurance and health institutions
- System will provide to public health, citizens, Ministry of health and further health institutions, EU institutions, WHO geospatial information related to public health, health of population, needs and healthcare services providing

# What functionality should public health GIS provide

- Data management of maps, metadata. Static geospatial data, demographic data, healthcare providers data
- Data capture from different sources (GPS, WEB, data digitalization, geospatial data analysis)
- Statistics to public health to identify areas of health concern and potential impact to health of population
- Analysis of health related information to predict potential exposure on local and regional levels.
- Analysis to evaluate potential environmental contamination, disease dispersion, and the social determinants of disease impact to population health
- Geographic consultations, statistics, correlation and interpolation methods and models
- Geographic database of disease occurrences both people and animals
- Ability to forecast disease dispersion and thus enable effective prevention of pandemics

# CDC geographic information system – experience from Canada

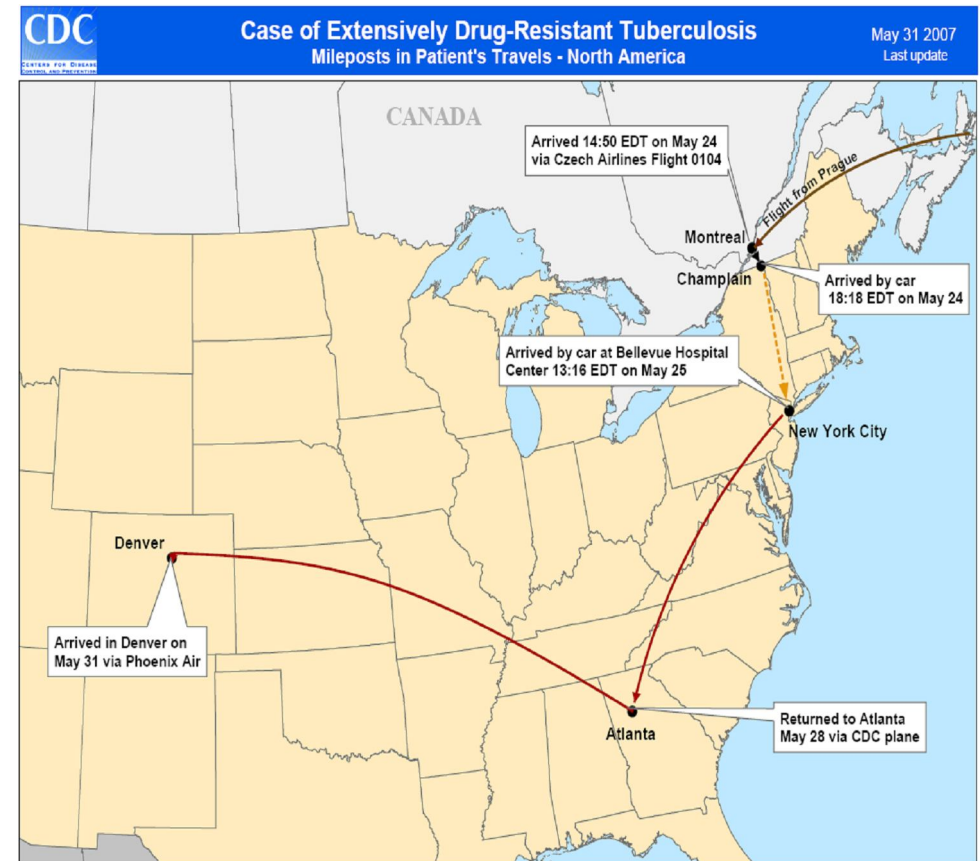
- **Contract Summary**

- The Geospatial Research, Analysis and Services Program (GRASP) team provides Geospatial Science consulting support for public health applications by initiating GIS projects that range from maps for public health consultation reports, which help health assessors identify geographic areas of particular health concern and susceptible subpopulations, to long-term application development projects. CDC also uses GIS to determine past and future exposure potential, to analyze health data, and to investigate potential exposure to hazardous substances at the local, regional, and national levels.
- The GIS is used by scientists to assess potential for exposure to toxic substances and mitigate adverse health outcomes from those exposures. HP personnel provide analytical GIS consulting and services to enhance the ability of CDC staff and researchers to apply geospatial data and methodologies to public health issues involving environmental contamination, disease dispersion, and the social determinants of disease, such as environmental hazards, West Nile Virus, SARS, hurricanes, and bioterrorism

# CDC Geographic information system

- **Program Solution**

- HP provided services include cartographic consultation, spatial statistics, data management, application development, and GIS technical services..
- HP staff have a direct hand in capturing, managing, and analyzing spatial data and understand how and where to download spatial data from the Web; employ the Global Positioning Satellite (GPS) System; and digitize, geocode, or use other appropriate technology to collect the spatial data that enables geographical analysis. HP team members have primary responsibility for database management functions. To leverage data holdings, HP has assisted in developing several map-centric applications, including browser-based applications that enable users to view public health-related information in its spatial context.





# Sci-fi: How eHealth can change world

- Moving information and knowledge – not people (Telemedicine)
  - Patient → ePatient, healthcare delivery and access will be changed using tools of telehomecare, services like telemonitoring, eprescription, ebooking, telecommunication, webcommunication, access to information
  - Nurse -> eNurse, Doctor -> eDoctor
- Health responsibility will be moved to patient, patient will become health educated
- Diagnostic centers will be changed, health kiosks

# Classic hospital will become past



# eHealth – benefit for everyone

- The benefits of eHealth are enormous for everyone. eHealth generates rapid communication channels among doctors, patients, insurance companies and health authorities.
- eHealth enables health services to provide the best treatment possible to patients while increasing efficiency in the health service which means budgets are used to maximum effect to treat the need of patients.