In Finland this model includes:

- universal coverage of services
- universal social security scheme
  - health insurance inclusive
    - partial compensation for drugs and
    - private health care services
  - insurance for unemployment
- funding of services by taxation
  - 91% tax based
- equity to access
Finnish Health Care in Brief

- 5.200.000 Finns
- Public services provided by municipalities (448)
  - Primary Care
    - 200 HC stations
    - GP’s 1:1488 inhabitants
  - Secondary Care
    - ~90 public hospitals
- Health: 7 % of GNP
- Private sector 20 %
  - Pharmacy system
National Strategies & Programs

Roadmap to EHR

• ICT Utilization Strategy
  – Ministry of Social Affairs and Health (1996-98)
    • Implementation Plan (1999-2000)
    • Supporting Actions (2001-2003)

• National Health Project (2002 -2007)
  – National Health Records Infrastructure
    • standards for security, confidentiality …
    • data-interchange standards
    • national directory services
  – National EHR for Health Care
    • minimum data set

• Information Society Program
National IT Services

- **Seamless Services** in Social Affairs and Health
  - Pilot Legislation 2000-2003/5
  - Regional Wide Area IT Services from 2003
- **National Patient Record Services**
  - minimum data set by 2004
- **e-prescriptions Services**
  - pilot trial 2003 - 2004
Vision

• National EHR by 2007

  – e-health records will be readily available to staff and ‘for patients to help maintain the quality of information’
  – professionals are able to deliver effective, safe, seamless and high quality care
  – allow managers better planning of services and availability to better quality data
Reasons for Implementing EHR

• Problems with Continuity of Care
  – medical errors
  – costs due to repetition of tests and their complications

• Structural Changes in Health Care
  – new modalities
  – decentralization and networking

• Demands for Improved
  – effectivity and quality of care

• Patient Participation
Electronic Health Record

• **State of the Art**
  – presently paper based (90 %) journals in hospitals and EPR (> 90 %) in primary care
    • problem, time oriented
    • unstructured
    • unavailable or cannot be shared

• **Continuity of Care Record**
  – **Common Minimum Data Set** by 2004
    • lifetime EHR
    • shared by all practitioners in health care
    • referrals, transfers or discharges
    • outcome evaluation
Structure and Options
Minimum Data Set

• **Structured Data**
  - Patient & Provider ID
  - Episode and chain codes
  - Risk information
  - Diagnosis codes
  - Procedure codes
  - Tests (Lab&Imaging)
  - Medications
  - etc
  - Links to free text

• **Options and Features**
  – Decision support
  – Disease management
  – Vendor and technology neutral
    – working with industry partners
    – certification by Health Authority
  – Trials
National Guidelines for Safeguarding Information

• Privacy and Confidentiality Guidelines
  – eConfidentiality statement guidelines amended by 2004
    • Patient’s right to issue informed consent

• Secure digital archiving
  – ISO 2nd WD

• Identification and Authentication Guidelines
  – Proposal for ISO PKI architecture in Health Care
    • user access control (ISO/CEN) with smart cards
    • disclosure risks by logs
    • recommendation for e-Signature
IT Infrastructure Strategies

• Standards to be revised by 2005
  – National package for interoperability and data security
  – messaging (HL7 v 2.3) -> HL7 CDA/ XML and SOAP
  – medical terminology (FinMeSH, Dublin core )

• Codes, Classifications and Headers
  – Minimum Data Set - ICD-10, ICPC-2, ATC,…..
  – National Directory Service ISO-OID codes
    • for patient records, organizations and professionals
Cross Enterprise Interoperability

- **Directory System**
  - points to all of the patient’s encounter records in each of the provider’s system
  - access needed at transfers and drill downs
  - includes electronic seamless service chains by 2004

- **Decentralized Records**
  - legacy systems integrated with directory systems
  - EPR minimum data set used as advanced pointer system (to be decided)
ePrescription Service

• National pilot trial
  – Designed to start in December 2003 and due to run until mid 2004
    • 4 regions and 200 doctors
    • Access and authentication with smart cards and public-key encryption
    • Electronic signature of prescriptions
  – Central Prescription Database (National Pension Institute)
  – Nonrepudiation Service (National Authority of Medicolegal Affairs)
  – Free choice of private pharmacies
Summary

National EPR Installation Program
  – co-ordinated by the Ministry of Social Affairs and Health
  • EPR in universal use by 2007
    – minimum data set
  • Norms, rules and standards developed at national level
    – open process; requirements publicly available
    – software industry participating
  • Regional implementation supported by Ministry
    – assessment of the program