




*eMarketplace in radiology:
borderless communication
and co-operation*

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Sharing of data, 'make it available'

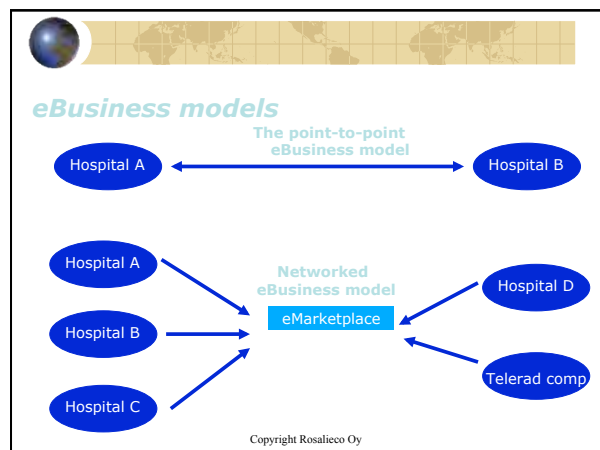

- ❖ point to point -> many to many
- ❖ IHE XDS (XDS-I) profile
 - ❑ for document and image sharing
 - ❑ IT systems like PACS act as sources and consumers for information
 - ❑ registry publishes data which are stored in repositories
 - ❑ XCA for cross community access
 - ❑ Future repositories store any type of fixed content data; national data exchange platforms
 - ❑ epSOS for cross-country exchange

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*the next step:
sharing of data → shared
workflow*

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What is an eMarketplace in radiology?

- ❖ eBay -> R-Bay, shared workflow portal
- ❖ to connect 1) healthcare delivery entities having **the need** to get reporting services and 2) reporting companies or healthcare delivery entities having **the capacity to deliver**.
- ❖ **a brokering function**; gets paid according to transactions via the eMarketplace

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eMarketplace: anything between

- ❖ a local/regional workflow grid
 - ❑ to balance the workload between sites with different RIS/PACS
 - ❑ **sharing one global worklist**
 - ❑ dynamic sharing rules (groups of sites, type of data)
 - ❑ workflow actions (like pre-fetching) according to the rules
 - ❑ business reports (who has reported and what)
 - ❑ not necessarily money transfer involved
- ❖ and a cross-border pan-European marketplace

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eMarketplace

- ✦ a CONTROLLED way to do teleradiology
 - ▣ transparent quality assurance
 - ▣ uniform data privacy and security policy
 - ▣ guaranteed service levels

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Added value - customer view?

- ✦ opens up the whole market with more choices (but with one integration only): 24/7 cover through multiple providers
- ✦ makes it possible to compare prices and take the best price available
- ✦ makes it possible to compare availabilities and response times for the reports
- ✦ makes it possible to select sub-specialists from a wider pool

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Added value - customer view (2)?

- ✦ takes care of the security and privacy issues
- ✦ takes care of the eContracts, payments, etc.
- ✦ takes care of the quality assurance and certifications
- ✦ can provide access to low-cost short or long time storage
- ✦ 'pay as you go' service particularly good for smaller volume end-users

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Added value – teleradiology provider view?

- ✦ opens up the whole customer market
- ✦ makes it possible to compete with lower prices
- ✦ makes it possible to build other competitive advantages like sub-expertise, availability, correctness of the reports etc.
- ✦ you can show proven quality via the established quality assurance scheme (transparency of the results)

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Added value – teleradiology provider view (2)?

- ✦ makes it easier to integrate the customer and provider systems
- ✦ the eMarketplace is taking care of the security and privacy issues
- ✦ the eMarketplace is taking care of the contracts, payments, etc.
- ✦ back-up in case of illness, vacation etc

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Need for automatic capacity management

- ✦ Global worklist is not enough
 - ▣ cherry picking
 - ▣ avoiding certain customers/clinicians
 - ▣ avoiding complex or less paid cases
- ✦ How about individual worklists?
 - ▣ restricted availability, like 2 hours
 - ▣ complexity varies; hard to predict
 - ▣ ad hoc availability; ad hoc sickness etc
 - ▣ how to guarantee **service levels - by matching resources and need**

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Need for automatic quality assurance

- ✦ A built-in function
- ✦ E.g. every 10th examination will be double-read
- ✦ Feedback, discussion, consensus, learning
- ✦ A quality assurance board

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Teleradiology is not only reporting; we also need

- ✦ To decide the best diagnostic approach
- ✦ To optimise study protocols
- ✦ To discuss the results in clinical conferences
- ✦ This has to be supported through the eMarketplace.

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Challenges to overcome:

- 1) *interoperability*
semantic & technical
- 2) *legal clarity*

note: common to all eHealth (telemedicine) services incl. teleradiology

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Levels for legal challenges

- ✦ national setting (x 27)
 - ∴ examples of differences:
 - centralised remote archiving illegal in CZ, but as an aim in France
 - various practicalities in patient's informed consent to share data
 - teleradiology almost forbidden in Germany and Austria
 - usually the patient can make a claim against the hospital, in Holland also against the teleradiology provider
- ✦ cross-country setting
- ✦ EU – third country setting

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EU actions to facilitate

- ✦ Interoperability paper (July 2008)
- ✦ eHealth communication paper (November 2008)
- ✦ Funding: 163 million euros 2009-2011
- ✦ Special focus on teleradiology and home monitoring

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Interoperability

- ✦ EU recommendations to gain cross-border interoperability
- ✦ certification: testing procedures valid throughout EU
- ✦ monitoring on semantic and technical interoperability in the eHealth projects
- ✦ reporting to EU on a yearly basis
- ✦ funding epSOS

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Bringing legal clarity

- ✦ eHealth (telemedicine) is a SERVICE.
- ✦ Many existing laws apply.
- ✦ The member states should have assessed and adapted national regulations to allow telemedicine to be used (end 2011)
- ✦ Issues to be addressed include
 - ▣ Accreditation
 - ▣ Liability
 - ▣ Reimbursement
 - ▣ Data protection

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Directive on cross-border healthcare

- ✦ Under review
- ✦ After accepting it has to be implemented in the national laws
- ✦ Deals mainly with the regulation of patients visiting doctors in another EU member state

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Directive on cross-border healthcare

- ✦ Main points:
 - ▣ when healthcare is provided in a member state other than that where the patient is an insured person, such healthcare is provided in accordance with the legislation of the member state of treatment
 - ▣ the above mentioned healthcare is provided in accordance with standards and guidelines on quality defined by the member state of treatment
- ✦ Question: is teleradiology a medical act?

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Teleradiology issue: European Journal of Radiology 73(1), 2010

- Topics:
 - ▣ Benjamin: From shared data to sharing workflow: merging PACS and teleradiology
 - ▣ Lundberg: The future progress of teleradiology – an empirical study in Sweden
 - ▣ Ross: Cross-border teleradiology – experience from two international teleradiology projects
 - ▣ Pattynama: Legal aspects of cross-border teleradiology
 - ▣ Ruotsalainen: Privacy and security in teleradiology
 - ▣ Pechet: The value teleradiology represents for Europe: a study of lessons learned in the US

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Thank you for your attention

