



## Ethical Issues in Medico-legal Exposures

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## Work Package 6 Justification, Ethics and Efficacy

### Project Aims

- .....
- bring scholarship from ethics, theology and information about public reaction directly into these areas to improve ethical guidelines in radiation protection
- Protect against the perceived lack of sensitivity of the professions to some issues seen by the public as having a significant ethical component

### Work Package 6.1.6

Ethical Issues - Medico legal Procedures

## Medical Exposure Directive 97/43/Euratom Definitions

### Medical Exposures include

- Exposure of patients
- Occupational health surveillance
- Health screening
- Research
- **Medico-legal procedures**



### Medico-legal Procedures

- Procedures performed for insurance or legal purposes without a medical indication

## Scope of Medical Exposure Directive (MED)

- One of the objectives of the MED Directive was to ensure that persons presenting for medico legal procedures would be afforded at least the same level of protection as patients
- Medico legal procedures were originally envisaged to be x rays for insurance purposes and x rays arising as a result of a court case
- Definition of medico legal procedures (which includes exposures for legal purposes) such that scope may be wider than this
- For x rays that have a legal basis but differ from those envisaged, the framework of the MED may not be suitable to deal with them

## Medico-Legal Exposures?

- *Insurance*
- *Civil Litigation*



- Suspicion of Child Abuse
- Weapons or Drugs Search
- Sports medicine (Predictive/Preventative)
- Age Assessment
- Vehicle inspection
- Immigration
- Emigration
- Prisoners
- Pre-employment



## Medical Indication or Medico-Legal?

### X-ray of wrist

- X-ray to diagnose an individual who presents with symptoms of a recently fractured wrist  
**- medical indication**
- X-ray of wrist of an asylum seeker for the purpose of age determination **- medico-legal?**
- X-ray of wrist as part of skeletal survey of suspected victim of child abuse  
**- medical or medico legal?**



### Issues

- Justification
- Informed consent
- Consequence of exposure

## Medical Indication or Medico-Legal?

**Chest x-ray of immigrant:** Public health safeguard or trigger for deportation?

- If immigrant comes from country with high incidence of TB and positive identification of disease results in medical treatment - **medical indication**
- If positive identification simply results in refused entry - **medico-legal**



### Issues

- Legal framework?
- Selection criteria
- Symptomatic, asymptomatic?
- Informed consent: freely given?
- Limits of autonomy of exposed individual in connection with the preventive and public health
- Protection of public health - protection of vulnerable individuals
- Justification needs to be considered with reference to the subsequent action

## Medico-Legal Exposures

- Difficult to define - definition within MED is incomplete
- Cover a wide range of possible scenarios and exposures of very different nature
- Extend beyond those performed for insurance or purposes of legal proceedings
- Do not have a strict medical indication
- Common feature is that the main reason for performing them does not directly relate to the health of the individual being exposed

## Consent Issues (1)

### **Security Screening**

- Use of x-rays as deterrent against theft for workers in diamond mines
- Medico-legal/ occupational?
- Justified?
- Voluntary?
- Freedom of choice for employees?
- Inequity in bargaining power between employer and employee reflecting a wider social inequity



**Social concern about the compromise of health for commercial gain**

Health and bodily integrity generally regarded as worthy of legal protection from commercial contractual arrangements



## Consent Issues (2)

### **X-rays for Insurance**

- Assessment of risk requiring health assessment of individual
- Pre-requisite for insurance can be medical examination which may involve ionising radiation
- Freedom of choice may be limited as it may be requirement of mortgage
- Range of choice of insurers may be such that selection of alternative insurers restricted

**Ethical issues in relation to justification of exposures where there is**

- inhibition of freedom of choice and
- inequity in bargaining power

## European Survey



- 2001 - Medical Exposure Working Party of Art. 31 Group of Experts carried out survey
- 2006 - modified version of survey repeated for SENTINEL partners

### **Survey sought information on**

- Established practice, frequency etc
- Consent issues
- Classification - medical, medico-legal, occupational, etc
- Legal Provisions
- Procedure - justification, location, equipment, training

## Survey Results

- Medico-legal exposures carried out in all Member states
- Lack of knowledge within Member States on established practices in their own countries
- Lack of agreement between Member States on classification of exposures
- Exposures - mainly voluntary, consent obtained
- Little information on frequencies available
- Most countries had established legal provisions for these exposures
- For most exposures a radiologist and/or medical practitioner was involved; exception - weapons detection and examination (scanning) of trucks

## Further Conclusions from Survey

- Similar conclusions from both surveys
- Some inconsistencies in data noted
- Absence of data in some areas
- Difficult to access accurate data through normal channels of communication used by professionals working in radiation protection

2001 Work also concluded

- Increased communication and co-operation between various authorities involved/responsible is required
- Considerable variation between legal provisions

## Survey Design

- Quantitative approach
- Research method not well suited to variables to be measured
- Contextual detail missing from responses
- Understanding of practices incomplete
- Qualitative or combined approach might have enabled more focussed methodology for data gathering
- Alternative approach required for confirmation and completeness of data

## Classification of Exposure Types

Exposure Type	Medico-Legal	Justified
Drugs search (int)	Medico-legal	Yes
Weapons/drugs search (ext)	Medico-legal	Yes
Goods vehicle content	Industrial/Medico-legal**	Yes/?
Age determination	Medico-legal	Yes
Suspicion of Child abuse	Medical/Medico-legal?	Yes
Sportsmen, dancers	Medical/Medico-legal*	Yes/?
Insurance	Medico-legal	Yes
Civil litigation	Medico-legal	Yes
Immigration/Emigration	Medical/Medico-legal***	Yes
Pre-employment	Occ.Health Surv./Medico-legal****	Yes/?

- \* Medical (i.e. medical indication) for acute injuries  
 \*\* Medico-legal when search is for people; NB Diversity of views on this issue  
 \*\*\* Medical (i.e. medical indication) when individual is symptomatic  
 \*\*\*\* Occupational Health Surveillance when intention is to protect individual or co-workers; medico-legal when it is to protect employer

## Differences in Classification (1)

### Categorisation

- Medico legal exposure if to detect persons
- Public exposure if to detect contraband



### Issues to be Considered in Justification

- Risks of deep concealment non negligible
- Multi-lingual warnings issues
- Immigration control
- Economic benefits
- Dose per scan 2µSv
- Layered approach, used with CO<sub>2</sub> monitoring and other technologies
- Can be argued that MED does not apply and that only BSS is relevant

### Justified?

## Differences in Classification (2)

### Immigration Service Scanners

- Since October 2001, scanners have been in use by the Immigration Service at Dover to prevent cross channel illegal immigration
- One of the methods of clandestine entry is via deep concealment within vehicles
- UK - Home secretary has ruled that use of scanners is justified
  - Effective immigration controls
  - Social benefits (health and safety)
  - Economic benefits
- UK - Only BSS (96/29/EURATOM) applies
- Use of scanners for detection of clandestines not permitted on French territory



## Issues arising from Classification

### As currently framed:

- Medico legal exposures are a sub set of medical exposures
- Therefore provisions of Medical Exposure Directive, directly applicable
- In addition some specific provisions in MED for Medico legal procedures

BUT  
NO DOSE LIMITS

...even though, there is often no medical indication for the exposure

## Detection of Concealed Drugs

- Superficial body examination first
- Body examination
  - Internal examination
  - Maybe followed by x-rays (incl CT)
  - Dose - ten mSv
- Medico-legal?
- If medical (medico-legal) exposure - **NO DOSE LIMIT!**
- If this was considered to be a public exposure
  - Dose limit 1mSv applies



**Is this an appropriate framework within which to conduct such exposures?**

## Justification Issues



### Issues in Justification of Medico-legal exposures

- Justification involves the potential benefits and detriments to both the exposed individual and society
- Population being scanned may not be the population deriving the benefit
  - Crime prevention (drugs, weapons etc)
  - Immigrant chest x-rays
- Individual exposed may be disadvantaged by the consequences of the exposure
  - Asylum seekers (age determination)
- Informed consent may not be sought or given prior to exposure
- Input required from sources that extend beyond the established radiation protection community

**Justification is a key issue in medico-legal exposures**

## Issues to be Addressed

- **Need to Establish Classification of Exposures**
  - Medical Exposures i.e. with a medical indication
  - Medico-legal Exposures
  - Occupational Exposures
- **Identify factors to be considered in justification process**
  - Economic
  - Technical (efficacy, dose, efficiency)
  - Societal
- **Establish Justification of practices taking input from a wide social base**
- **National or International Approach?**
- **Review of Medical Exposure Directive?**

## Conclusions

- Existing medical techniques and technology being applied for non medical reasons; justification of these practices must take input from a wider social base
- Classification of exposures differs across member states
- Non medical exposures should be carried out within an appropriate framework of radiation protection
- Justification is seen as the key issue
- Communication between diverse range of professions and disciplines essential to develop understanding and improve practice
- Input required from sources that extend beyond the established radiation protection community