CEMAS –
Design, Implementation, Demonstration

Peter Ritchie

Institute of Occupational Medicine
Edinburgh

INSTITUTE OF OCCUPATIONAL MEDICINE
Edinburgh, EH14 4AP, UK

www.iom-world.org

INSTITUTE OF RISK ASSESSMENT SCIENCES
IRAS, P.O. Box 80.176,
NL-3508 TD Utrecht.
www.iras.uu.nl/index

Design Aims for Implementation...

Seek to provide guidance tool for SME users of chemicals to:

- Gather exposure data (inh & derm) and contextual information for structured decision-making on exposure
- Provide practical assessment of the suitability of exposure controls and advice on monitoring
- Analyse and report exposure data – IRAS's SPEED & to other apps
- Be consistent with prevailing regulatory expectations and EDB standards
- Provide opportunities to target Product Stewardship & demonstrate Responsible Care
- Assist CEFIC or other sectors/groups measure performance
- Exploit available methods and technology
- Be easy to use and available free

Design and implementation approach

- Previous knowledge, literature and experience of EDB, OH consulting, epidemiological research
- Existing EDB and ongoing efforts towards data standards – EU and US
- Involve OH/IH & Stakeholder consultation – chem ind via CEFIC sectors
- Initial design prototype and testing – PC/Access
- Limited initial pilot via stakeholders
- Revision and updating
- Potential Audience? SMEs ; LE's; Epi; OH Cons.
- → User trials

Design and implementation technology

- Accommodate complex model and functions
- Relational database – employ solid design
- Exploit current familiar technology & skills
- Access / Office with free Runtime
- Adaptable, customisable dev't environment
- Adaptable for future upsizing / upgrading
- From prototype to full C/S, Web-based etc
- Simple html help & for all screens & Tooltips
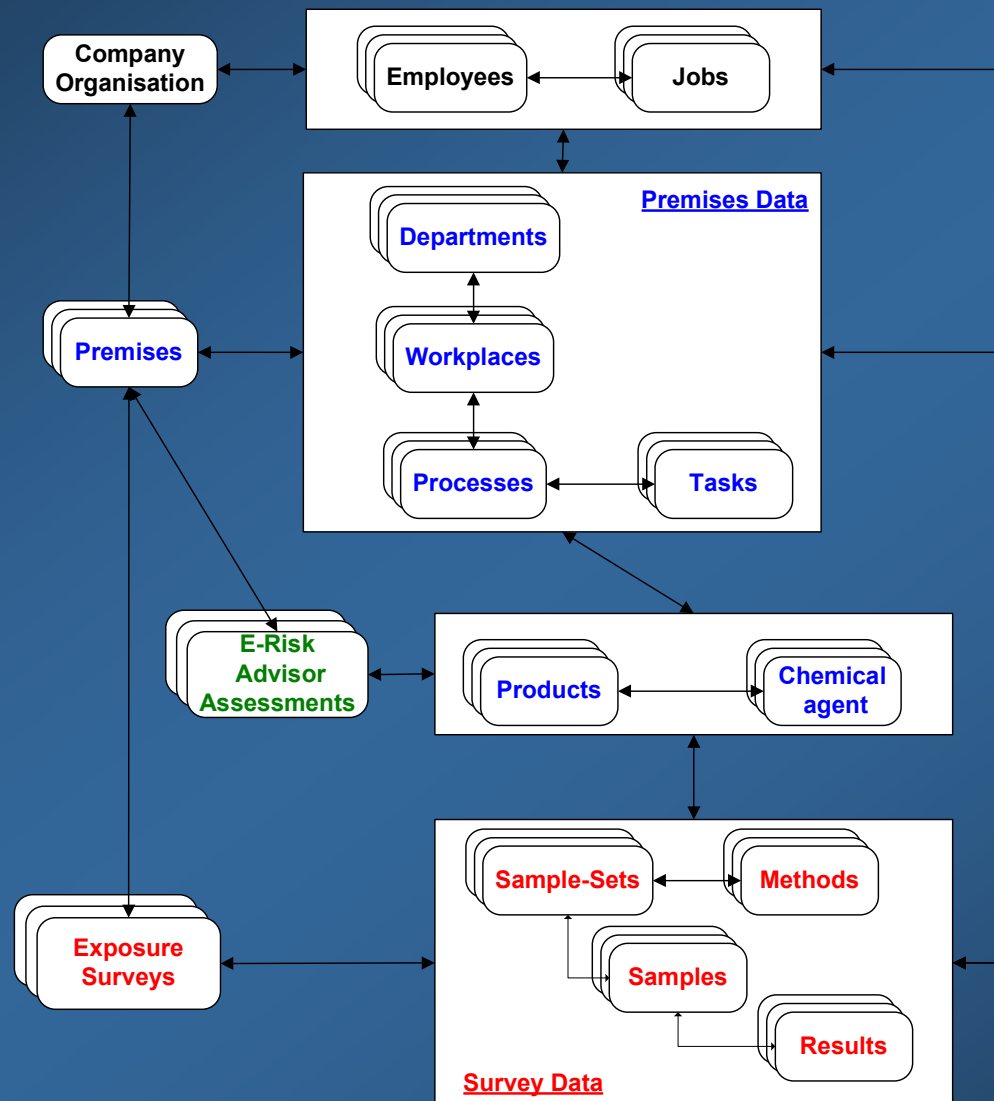- Standalone local & remote www.cemas.info

Areas for data collection

Build a bank of related data for long term analysis and reporting - with context -

By collecting and linking information about:

- Company and Premises
- Workplaces and Departments
- Processes and Products
- Tasks
- Jobs and Employees (standardised and local names)
- Controls
- Risk assessments (eRisk)
- Exposure surveys, methods, data and context

Key elements and linkage

Company and premises level

- One (parent) Company, several Premises
- Industry (inc standardised coding)
- Workplaces and departments
- Processes and product
- Tasks
- Jobs
- Employees
- Workplace Controls

- Link to demo database for C&P for *live* demo*
- Link to CEMAS website for Company and Premises

* Installation of CEMAS required to run demo

eRISK...

- Risk assessment based on COSHH essentials
- Uses information about:
  - Physical and chemical properties of substance
  - Risk phrases assigned to product
  - Quantity used.
- We ask about control measures and feedback if better controls needed
- Suggest monitoring
- All data stored in database for continuing use

- Link to demo database for eRisk for *live* demo
- Link to CEMAS Website for eRisk info

Exposure survey data

- Survey - planning and design
- Sampling strategy and methods
- Analytical methods
- Survey events recording
- Sample details
- Results data

- Link to database for Exposure Surveys for *live* demo
- Link to CEMAS Website for Exposure Surveys info

Reporting on data

- Detailed exposure analysis module not incorporated

- Summary reports for eRisk and survey data

- Export to formats & Excel, IRAS SPEED for analysis

- Link to other sources/reports for survey

- Link to demo database for reporting for *live* demo

- Link to CEMAS Website for Reporting info

Assessing the prototype - User trials in UK and NI

- Diverse potential users & requirements
- Limits on scope of prototype development
- A prototype with solid foundation that can be modified and built upon
- "open for inspection" – users trials
- Over to Daan Huizer for user trial report

Note on some of the suggested updates for next version

- Implementation possibilities
  - Back end to Client Server database
  - .net C/S or Web version of database
  - Better installation etc
  - Exploit best of new technology
- Improve and simplify for more user-focused interface
- REACH and ES facilities
- Import/export & data interchange (up and down stream)
- Additional reporting and summary stats
- Advancing EDB standards for OH, and xml formats & interchange
- Security features
- More advanced Help, training and example data & scenarios
- System admin and list maintenance facilities etc