Securing Clinical Knowledge:

Balancing Accessibility, Security, and Privacy in Dental Education

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Overview

- Introduction of HCO to SKM
- Clinical Knowledge characteristics
- Issues for SKM in the Dental School
- Implementation in the Dental School
- Issues for Future Research

Introduction of HCO to SKM

- Previous focus on data creation, acquisition, storage, and transmission (Alavi & Leidner, 1999)
- Protection of knowledge has received little attention in research (Bloodgood & Salisbury, 2001)
- 2073 KM practitioners - Security issues ranked 10th among KM practitioners (King, 2002)
- 307 KM - Little or no focus on security by knowledge managers (Asllani & Luthans, 2003)

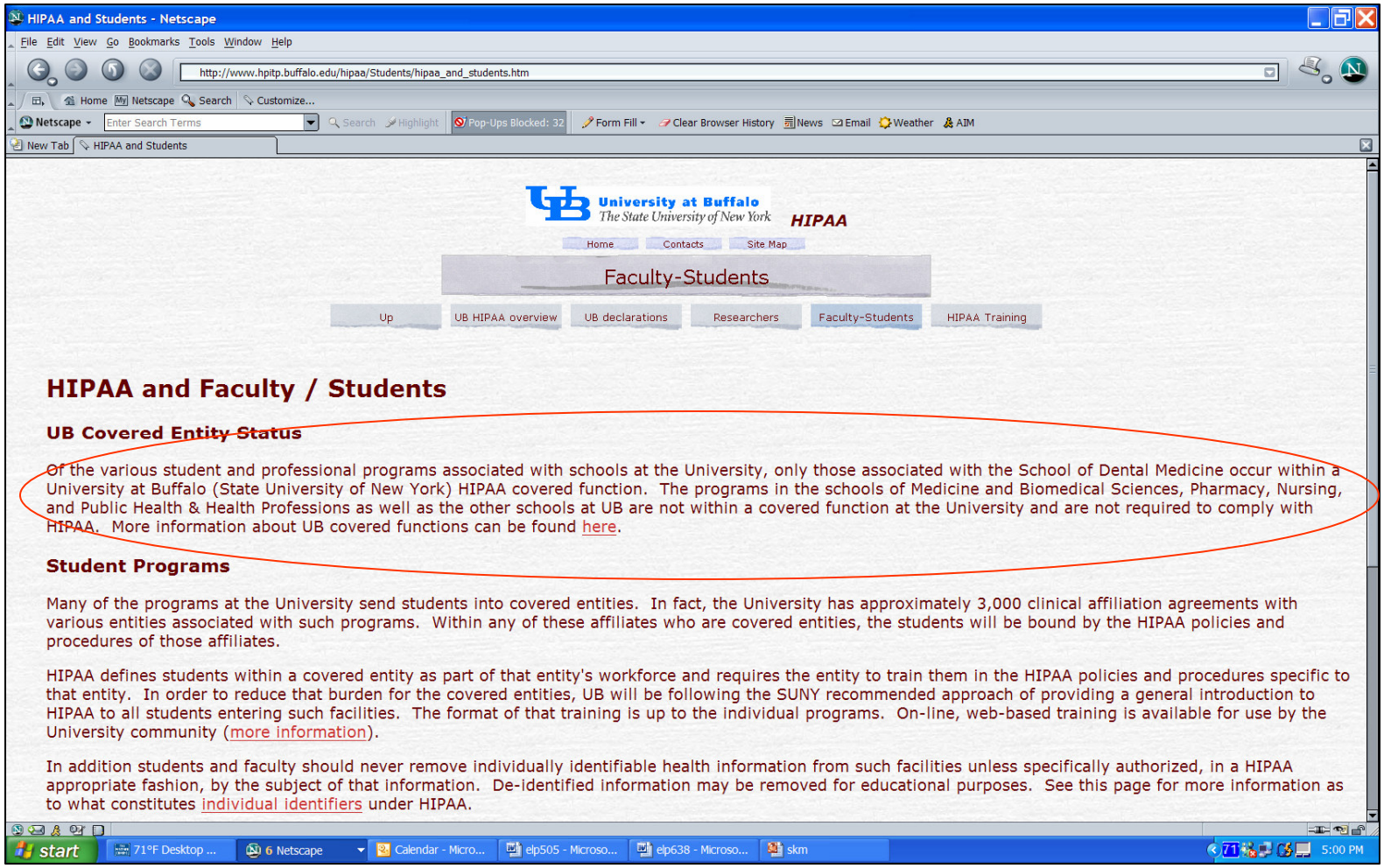
Introduction of HCO to SKM

- Limited foray into KMS
- Biggest challenges
  - sharing data across multiple systems and platforms
  - setting standards
  - Improving accessibility (Bailey, 2003)
- Along comes HIPAA (1996)
- New focus on Privacy (2003) and Security (2005)

Clinical Knowledge Characteristics

- Knowledge is different; KBV and Competitive Advantage (Grant, 1996; Salisbury, 2003)
- Competitiveness hinges on management of intellectual resources (Grover & Davenport, 2001)
- Effective knowledge management requires a knowledge infrastructure and architecture – including security (Gold, et al., 2001)
- Clinical knowledge is neither unidirectional or linear
- Various users with the demand for more access, more summaries, more audits, more analytical tools (data mining)
- Current focus is still on database and data security (Damm & Schindler, 2002)

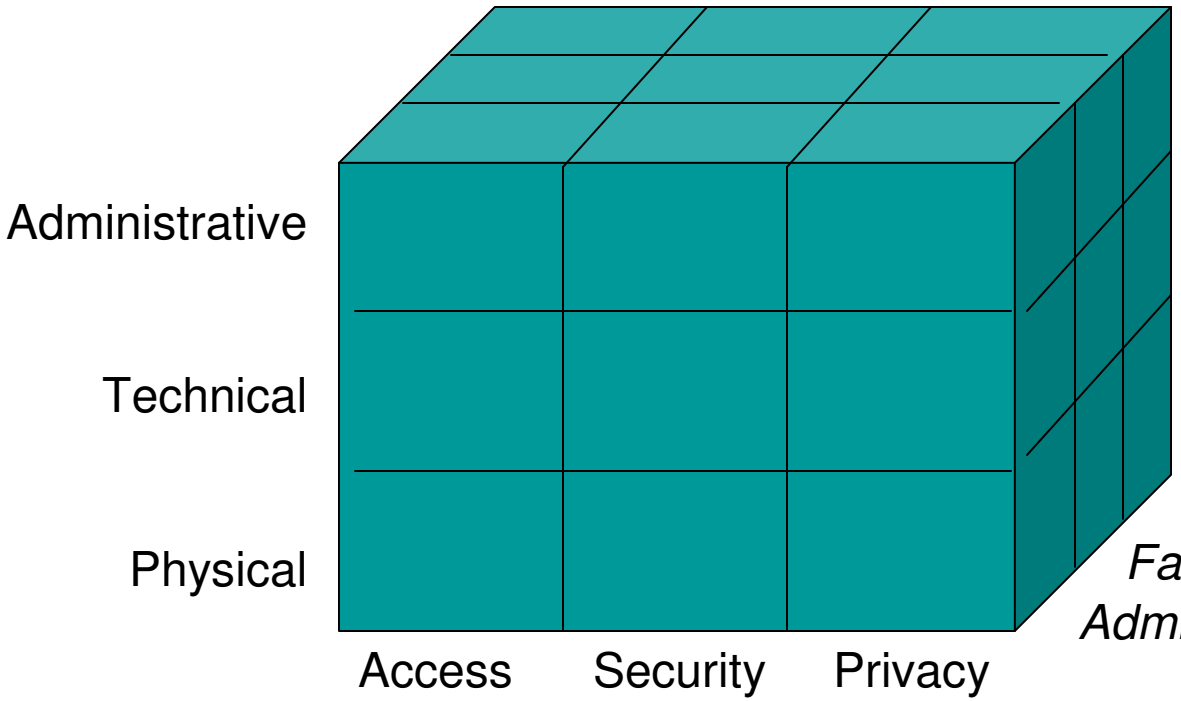
SKM Issues in the Dental School



SKM Issues in the Dental School

- Clinical Information Management System (CIMS)
- 2005 Security Deadline
- Patient record is primary vehicle – broad compilation of data and information
- Goal:
  - Quality/Effective Dental Care
  - Balancing access with security & privacy
  - Teaching School

Implementation in the Dental School



SKM Issues in the Dental School

- More on Clinical Information Management System (CIMS)
  - Central repository
  - Internal development, Client-server (since 1998)
  - Security: electronic, physical, human
  - KMS functions
    - Tracking student progress
    - Evaluating outcomes
    - Summary financial reports
    - QA Analysis
    - EMR/EHR (future)
    - Digital radiographs (future)

SKM Issues in the Dental School

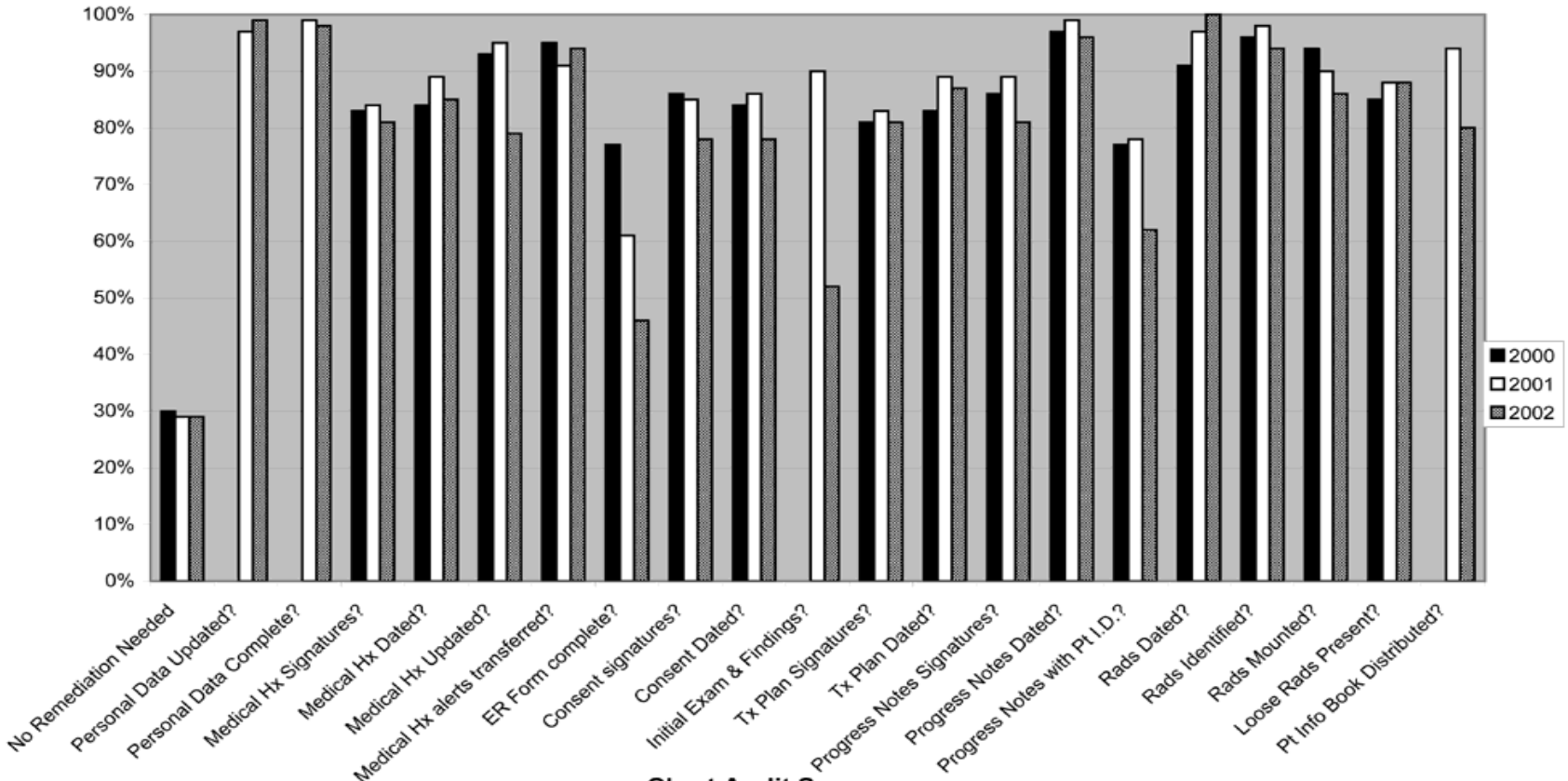
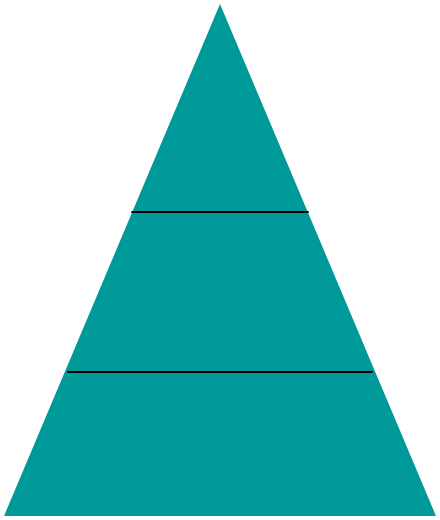


Chart Audit Summary
2001 data based on 889 (41%) remediated of 2185 total audits
2002 data based on 1180 (49%) remediated of 2388 total audits

Implementation in the Dental School



(Schou & Trimmer, 2004)

Firewalls/SSL/Citrix Remote Access

Written

Technology

Operating Policies & Procedures

User Awareness & Training

Implementation in the Dental School

- Continuous Training
- Continuous Risk assessment
- Contingency planning

Implementation in the Dental School

- Continuous Training
  - HIPAA 101 + Refreshers
  - High risk Areas
  - Weakest link (Smith, 2003) – Example!
  - Compliance through:
    - Random audits
    - Education
    - Bulletins/Monthly Clinic Newsletter
    - Online quizzes
  - Changing the CULTURE!

Implementation in the Dental School

- Continuous Risk assessment
  - Four areas
    - Physical assets
    - Networking
    - Software
    - Business/clinical processes
  - Gap analysis
  - Random audits (time consuming)

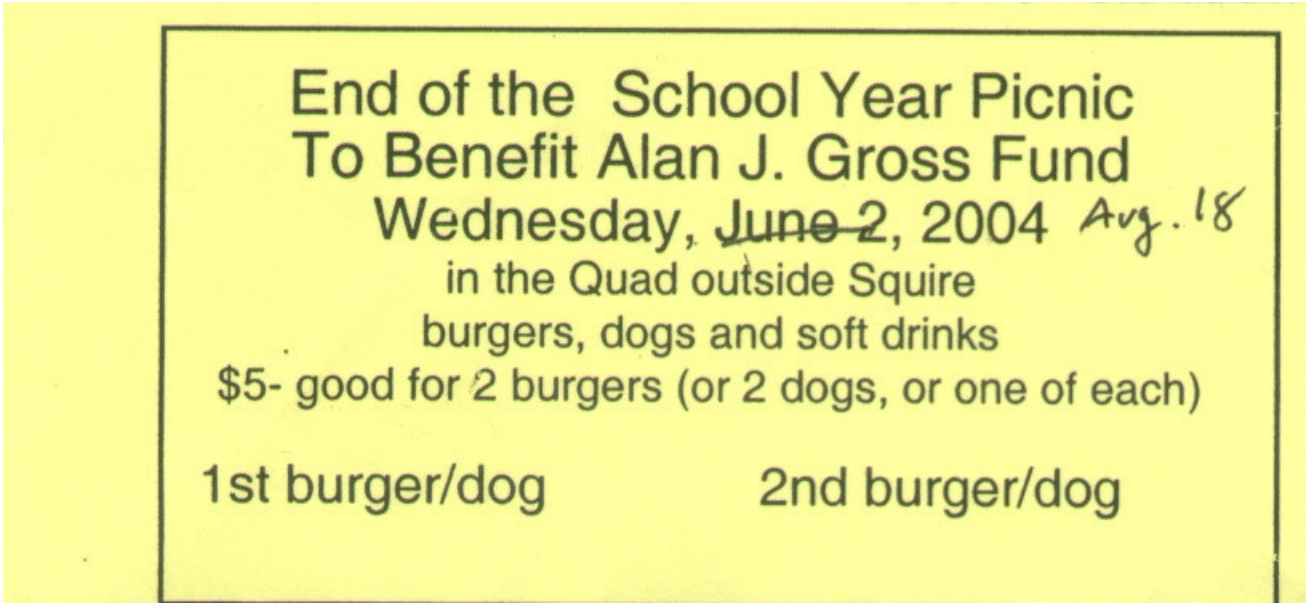
Implementation in the Dental School

- Contingency planning
  - Initial assessment
  - Linked to training
  - UB guidelines vs. state guidelines
  - On a case-by-case basis

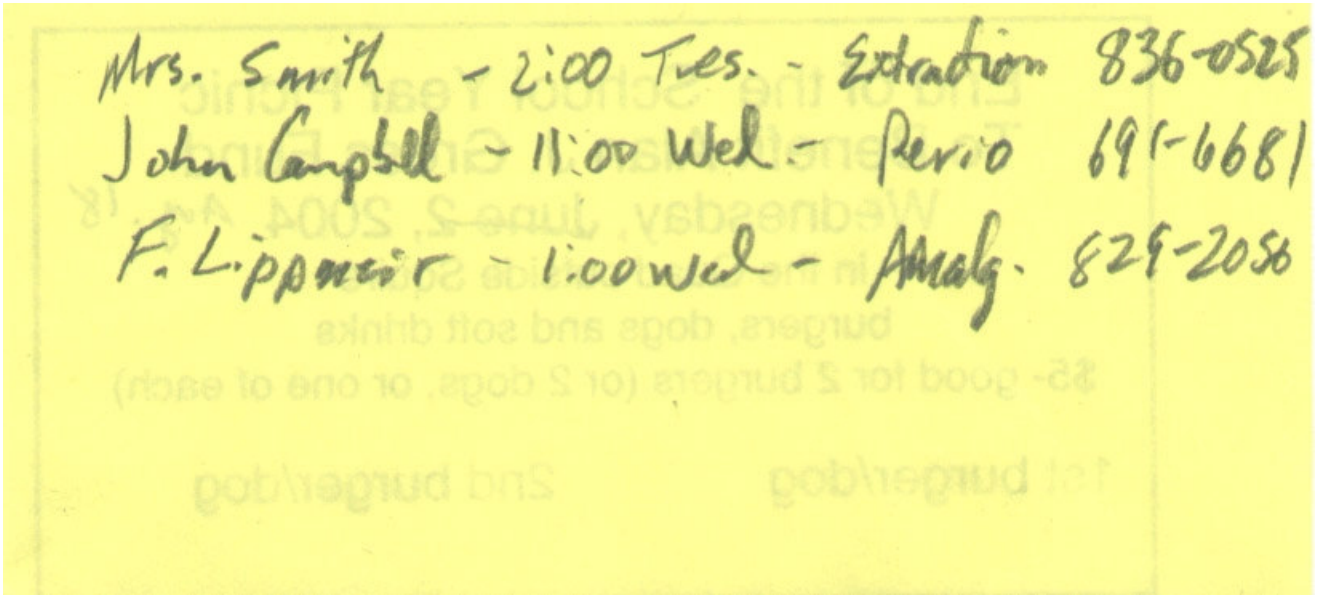
Future Research

- Culture change – “culture of security”
- External influences
- New technology (part of the solution)
  - Single-Sign-On (SSO): security vs ease of use
  - OASIS/HL7/ASTM/???

Example


End of the School Year Picnic
To Benefit Alan J. Gross Fund
Wednesday, ~~June 2~~, 2004 Aug. 18
in the Quad outside Squire
burgers, dogs and soft drinks
$5- good for 2 burgers (or 2 dogs, or one of each)
1st burger/dog
2nd burger/dog

Example


Mrs. Smith - 2:00 Tues. - Extraction 836-0525
John Campbell - 11:00 Wed. - Perio 691-6681
F. Lippincir - 1:00 Wed - Amalg. 829-2056

Questions