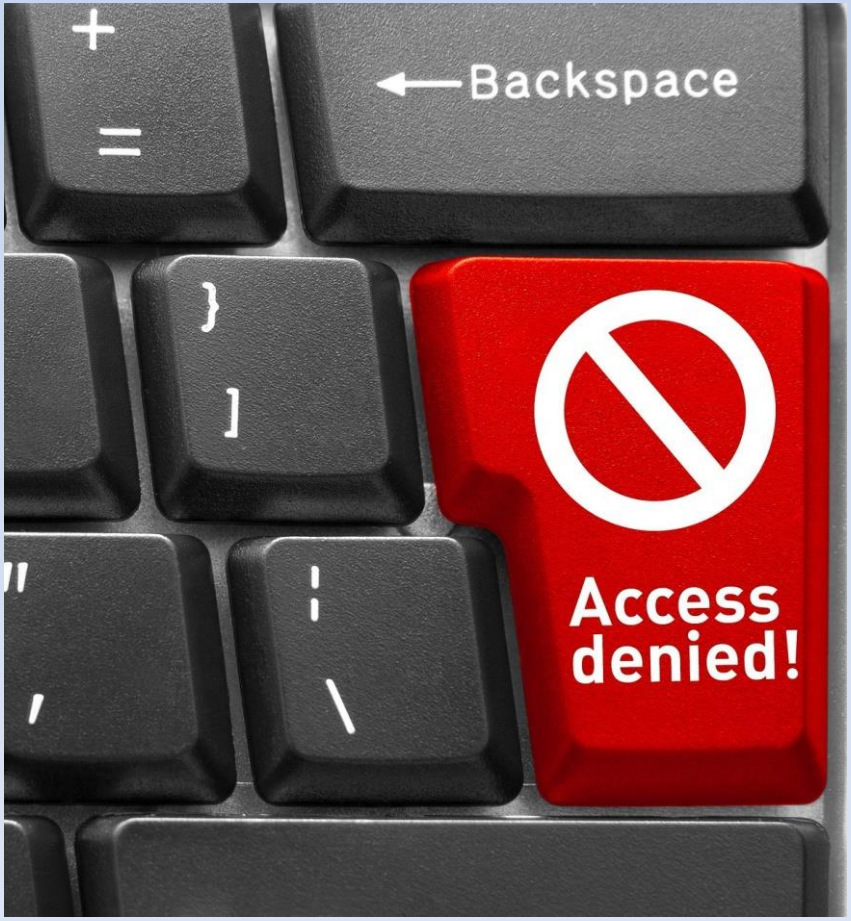
Access denied?



Barriers for staff accessing, using and sharing published information online within the National Health Service in England: technology, risk, culture, policy and practice

An overview of findings

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Overview

- Introduction and background
- Research questions and issues
- Methodology and methods
- Findings
- Conclusions
- Progress … or not?
- Questions

Introduction and background

- LIS Manager in mental health NHS FT 2008-2012
- Variety of technological barriers / hindrances to information seeking, use and sharing, and teaching and learning
  - Blocking of ‘legitimate’ websites / ‘false positives’
  - Obstacles to use of particular content types and applications
  - Social media / Web 2.0 a particular problem
- Ascribed variously to policies and practices relating to:
  - Information governance/ information security
  - IT infrastructure
  - Communications
- *Implications?*
- BORING!

Research questions / issues

- ***What?*** The nature and extent of restrictions on access to World Wide Web content and applications within NHS organisations
- ***What effects?*** Their effects on professional information seeking, use and sharing, and on working practices in general
- ***Why?*** The attitudes, presuppositions, professional norms and practices which bear on how access to web content is implemented and controlled within NHS trusts, in relation to overall organisational strategies

  - Rationales for restrictions
    - Web filtering devices and their limitations
    - Web 2.0 /social media access and use
    - DLP
  - Other reasons for non-availability (e.g. staffing, infrastructure)
  - Differing stakeholder perspectives involved
  - Attitudes to / assumptions:
    - Appropriate uses of technologies
    - Possible risks (information governance, information security, reputation, productivity)

Methodology and methods

Exploratory / explanatory case study

- Qualitative – *data triangulation*
- Nested single-case design (one case, several sites)
  - Unit of analysis
    - NHS in England
  - Sites of data collection
    - North of England
    - Three NHS trusts of different types:
      - District general hospital + community services (DGH)
      - Mental health + community services (MH)
      - Teaching hospital + community services (TH)
- Critical realist epistemology

Methodology and methods

- Data collection
  - Pilot interviews – IT managers
  - Semi-structured interviews with Trust staff (10+ per trust)
    - selected via purposive sampling
    - representing a variety of perspectives:
      - Clinician education and staff development
      - Non-clinical managers in relevant disciplines
  - Semi-structured interviews with non-Trust key informants:
    - NHS Evidence manager, medical school e-learning lead, SWG vendor product manager
  - Documentary analysis – selective / *ad hoc* – national and local
- Thematic analysis using NVivo

Findings

1. Barriers to accessing and using information
   - IT infrastructures
2. Education and training
   - E-learning
3. Organisational dynamics / professional cultures
   - Mobile device use / attitudes to use
   - Experiences of IT support
   - Inter-professional relations / mutual perceptions
4. Information governance and security
   - Policies and structures
   - Web filtering
5. Communications policy
   - Web 2.0 / social media

1.Barriers to accessing and using information

- Shortages of PCs in clinical areas in all trusts, leading particularly to problems accessing BNF
- Windows XP migration: all trusts aimed to complete by April 2015
  - Plans at TH very vague – no funding – staff not informed of t/t
- Web browsers: IE7 or IE8, but staff generally had access to alternatives where needed
- Encrypted portable media, remote access to trust networks: wide variations in availability and regulation
- Wi-Fi network coverage variable in quality and extent
  - Community staff worst affected
  - TH did not provide eduroam in all areas

1.Barriers to accessing and using information

- Cloud storage: available only to board members (DGH, TH), or 'rationed' (DGH), or not at all (MH)
  - Google Drive unofficially available in TH – but deprecated by IT
- Email: remote access via MS Outlook Web App available to staff in all trusts
  - Attachment size (10MB) a problem in TH
  - Spam filter and DLP system hindered external communications in DGH
- HDAS very prone to crashing (DGH)
  - TH had implemented an alternative
- LIS active in supporting use of mobile devices to access e-books and other online content
  - Both Android and Apple

2.Education and training

- IT infrastructure issues frequently hindered delivery of learning content – exacerbated at MH by outsourcing of IT services
  - Network bandwidth
  - Inadequate specification of PCs
  - Lack of sound cards and peripherals
  - Monitor resolutions too low

- Students had difficulty obtaining trust network logins / read-only access to trust systems – practices and policies varied
- LIS heavily involved in supporting e-learning

2.Education and training

- Mobile devices: types of device, extent of use varied widely between trusts and disciplines
  - Connecting to Trust Wi-Fi (DGH, MH) or eduroam (TH); BYOD in TH
  - Local medical school used iPads to support learning
- Use of social media / Web 2.0 highly variable
- YouTube used widely for teaching – but technical and policy obstacles
- E-learning content development using Apple platform and devices not supported

3.Organisational dynamics and professional cultures

- ***No LIS or education input into IT strategies***
- Costs of replacing IT hardware and peripherals met by local budget holders – no ring-fenced funding – inappropriate cost-cutting
- Perceptions of IT services:
  - Support processes cumbersome (DGH, MH) though quality of support generally good
  - Unresponsive (DGH, TH)
  - Negative towards end-users / ambivalent towards LIS (DGH)
  - Under-resourced, prioritising clinical systems (DGH, TH)
- Clinical staff perceived as computer-averse /-avoidant (DGH, MH community services)
- Strong sense among clinicians that “personal smartphones and tablets aren’t really acceptable for use in a patient environment” (DGH, MH, some groups in TH)

4.Information governance and security - web filtering

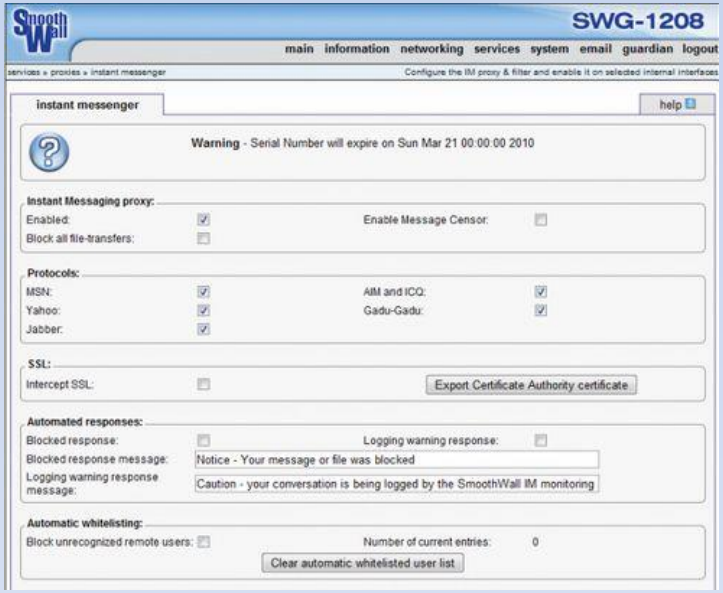
- Blocking of websites a problem frequently reported to NICE by librarians
- **DGH** and **MH** reported very few instances of website blocking
  - When a legitimate website was blocked, IT department had unblocked it promptly once reported
  - Pharmacists most affected – only member of staff at MH reporting blocking
  - Instances of website blocking at MH usually related to substance misuse, eating disorders or sexuality
- Staff at **TH** experienced greatest number of obstacles to information-seeking caused by blocking of legitimate websites
  - Reported frequencies of blocking varied from 'every two months' to 'constant' or 'daily, probably'
  - Affected the work of clinical educators in particular
- Most blocked sites not reported to IT departments

4.Information governance and security - web filtering

- Tacit nature of decision-making in relation to information security / cybersecurity issues – IT managers did not explicitly discuss risk
- ***IT security managers reported not having time to evaluate the effectiveness or impact of the SWGs they deployed***
  - Depended on reports from users (via calls logged with trust helpdesk) of false positives
- ***Likely to accept default configurations and categorisations of content offered by suppliers***
  - IT manager at TH appeared aware (via emails sent to him) of the inconvenience caused to users by false positives
- Main focus of attention and concern at TH and MH: ***potential security risks or impact on network traffic presented by 'recreational'/ non-work use*** of the web

4.Information governance and security - web filtering

- TH had explicit policy of blocking advertising
  - Claimed to mitigate potential security threat of 'malvertising' (web-borne malware spread via syndicated advertising)
  - Sometimes seemed to have effect of blocking entire site content
  - Likely factor in high number of blocked websites
  - Mechanisms?
- ***Neither librarians nor IT managers aware of national whitelist of sites not to be blocked***
- Possible relationships found between IG / IT structures and levels of blocking?
  - Communication between IT and IG in TH very poor – no consultation / feedback



5.Communications policy – Web 2.0 / social media

- Social media often perceived as high-risk – especially by nurses – privacy and confidentiality concerns
- Sometimes felt to be suitable only for personal or recreational use (*cf.* Ward *et al.,* 2009)
  Professional online forums favoured by AHPs – *e.g. iCSP, BDA forum* – sometimes blocked
- Big generational differences in use and expectations
- Gradual process of acceptance:
  - starts with corporate use – DGH
  - "gently washing in" – MH
  - tool for patient / public / staff engagement
  - external drivers *e.g.* NHS Employers, professional bodies
  - availability of policies and guidance, *e.g.* NMC, GMC, HCPC, BASW
  - training in "e-professionalism"

5.Communications policy – Web 2.0 / social media

- Bring Your Own Device (BYOD) a facilitator of mobile device use at TH
- Educational usefulness of YouTube content increasingly recognised by IT departments – trend towards acceptance
- Internally-produced podcasts planned at DGH, MH; externally-produced podcasts available at TH
- Web 2.0 applications (other than Skype) generally accessible
- Blogs / microblogs: blocked at DGH, TH
- LIS active in developing social media / Web 2.0-based services (DGH, TH)

Conclusions

- Inadequacies of IT infrastructure
  - Low levels of expenditure
  - Historically negative cultural attitudes
- Support priority given to clinical systems
- Cybersecurity ‘coping strategies’
  - Default configurations of SWGs
  - Failure to implement available functionality or monitor performance
- Side-effect of measures implemented to address information governance concerns
- Lack of priority given to pre- and post-registration training
- Authoritarian, centralist IT service culture / insufficient business alignment
- IT / culture conflicts
- Fragmentation of responsibilities for IT services / policy ‘silos’

Progress … or not?

Lack of national structures within which to address technical issues	*Should involve NICE / NHS England / NHS Digital, system vendors, HEE, HEIs*
Wide variation in health care students' access to trust systems while on placement	*Need for policies and guidance – NHS Digital / HEE*
Outdated PC hardware and peripherals Insufficient network bandwidth	Modernisation / 'paperless' agenda / HSCN implementation – *but funding?*
Lack of Wi-Fi coverage	National initiative / fund to provide free Wi-Fi – *but focused on patients and visitors? Eduroam developments? Govroam has potential.*
Lack of Mac support – e-learning development	*Need to establish national –level IT support structures?*
Problems with HDAS functionality and stability	New version – *how successful is it?*
NHS Digital web filtering good practice guidance	*Still awaited? Or abandoned?*
Lack of cloud storage	NHS Mail 2 – *but only optional? File sharing across organisational boundaries?*
Problems with McKesson NLMS	*Addressed within new IBM OLM – ???*

Questions?

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