From Bench to Bedside and Beyond: Potential Uses of VIVO in an Academic Medical Center

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What is VIVO?

An interdisciplinary national network
Enabling collaboration and discovery between scientists across all disciplines.

The national network of scientists will facilitate the discovery of researchers and collaborators across the country. Institutions will participate in the network by installing VIVO, or by providing semantic web-compliant data to the network.
Academic Medical Centers (AMC’s)

• Highly complex organizations
• Data sources fragmented
• Research efforts varied
• Wide variety of personnel
• Many needs are the same, but…
• Needs of clinicians are different than basic scientists
  – Other measures besides publications and grants
  – Additional licensing and accreditation requirements
  – Direct interaction with public
At this meeting, I’m encouraged by...

- Focus on assessing faculty’s needs
- Measurement of clinical interests
  - SNOMED
  - ICD-9
- CV management (although a “moderate” priority)
- Identity management
- Import/export of data across wide range of sources
- Commercial vendor interest
Other efforts to link researchers

- COS Enterprise
- COS Profiles
- COS Scholar Universe
- Profiles (Harvard)
- Collexis
- ScienceWire
- Expertise @ Maryland (UMD)
- CI KNOW (NW)
- Lattice Grid (NW)

- Loki (U of IA)
- Research Accelerator (Yale)
- Epernicus Solutions
- INDURE - Indiana Database of University Research Expertise
- Collaborative Partnership/Profile System

Courtesy of: Holly Falk-Krzesinski, PhD, Pamela L. Shaw, MS, MSLIS, and Laura Wimbiscus-Yoon, MS
Other efforts to link researchers (cont’d)

- MizzouLinks
- LinkedIn
- Yaffle (Memorial University, Newfoundland, Canada)
- SciVal Spotlight (Elsevier)
- InCites (Thomson Reuters)
- Research gateway - FRIP, Digital Vita (UPMC)
- Share - Confluence (CHOP)

- FEDS Database (UPenn)
- SoNIA - Social Network Image Animator (Stanford)
- Faculty Interest Database (TJU)
- Stanford Community Academic Profiles-CAP
- GENIUS (InfoEd)
Other efforts to link researchers (cont’d)

• 2Collab (Elsevier)
• BioMed Experts (Collexis)
• CT SciNet
• PLoS ONE
• The Scientist Network
Barriers to success

• “Local” solutions only
• Too focused on one “group”
• Not embraced by national organizations
• Limited data available on site
• Lack of sound ontology
• Information not updated regularly
Barriers to success

- Not user-friendly
  - Manual data entry
  - Redundant data entry
  - Insufficient interfaces with internal/external systems
- Concerns of faculty
  - Lack of privacy
  - Lack of control
- No added “added value” for faculty or administrators
- Use is not mandatory
Barriers to success

• Faculty are in many “silos”
  – Different departments / schools
  – Different educational background / training
  – Lack of respect / trust / understanding
  – “But they are ______’s. What do they know?”
  – You don’t know who you don’t know
  – “Town vs. gown “syndrome
Breaking down barriers

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National VIVO Conference 2010

The New York Hall of Science
Come discover a new way to network and collaborate!
August 12-13

Register! >

Join us on Facebook | Follow us on Twitter
Breaking down barriers - a suggestion

An interdisciplinary national network

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The national network of scientists will facilitate the discovery of researchers and collaborators across the country. Institutions will participate in the network by installing VIVO, or by providing semantic web-compliant data to the network.
Silos - Who knows who?
Basic Science Researcher
Translational Researcher
Translational Researcher (better)

+ Clinicians at University Hospital
Translational Researcher (better yet)

+ Clinicians at Affiliated Hospitals
Affiliated Faculty (limited “network”?)
Identifying clinical collaborators

• Publications, research activity, and grants: not sufficient
• Measurement of clinical activity is needed
  – Faculty clinical / practice profiles
  – SNOMED
  – ICD-9
• Clinical trials databases
  – Who has participated before?
  – Types and numbers of patients treated?
Who benefits from this collaboration?

• Researchers → enhanced accrual for clinical trials
• Clinical faculty → enhanced scholarship / promotion
• Affiliated institutions → increased prestige
• Primary institution → strengthened affiliate network
• Faculty affairs office → improves faculty scholarship
• GME programs → meet accreditation requirements
• GME/UME learners → better education
• Patients → better care

Everyone!!
Drivers for VIVO adoption

• Soliciting research collaborations alone is not sufficient
• Must be useful for other purposes
• One KEY driver: Curriculum Vitae
  – Common need for all faculty
Current issues with CV data

• Duplicated in many different databases
• Synchronization is poor
  – For any one change, multiple data sources must be updated
  – Leads to inconsistent state of data
• Personal CV is best chance of being “authoritative data source”
  – But, it is not networked or available to others!
Where is my “CV” data stored?

- Word processing document (primary source)
- University - Faculty Interest Database
- University - Faculty Affairs Office
- Hospital - Medical Staff Office
- Hospital / Practice Group website
- University website
- Cancer Center website
- Alumni website
- Several professional sites
The VIVO model

- “Ingest” data from multiple different sources
- Use ontology to organize and relate data
- Pass information out to other sites
- Share with other institutions
Opportunities to export faculty data

• Professional organization (application)
• Faculty Affairs Office (appointment, promotion)
• University / hospital / practice / personal website
• NIH biosketch
• Annual department report
• Annual performance review
  – Require use of CV / custom report?
Opportunities to export faculty data

- ACGME (accreditation site visit, q 2-5 yr)
- State licensing board (application, renewal q 2 yr)
- Hospital Medical Staff Office (appointment, re-credentialing q 2 yr)
- CME reports (yearly)
Updating data

• VIVO is not the definitive “source” of data
• Must be ingested from other sources
• How does this data get updated?
My “concern” for a VIVO website …

John C. Kairys, MD, FACS

Associate Dean for GME and Affiliations
Assistant Professor of Surgery
Vice Chair for Education, Department of Surgery

Clinical Office:

1100 Walnut Street, 5th floor
Philadelphia, PA 19107
Tel: 215-955-5528

To edit this info, go to the:
Faculty Affairs website

Administrative Office:

1025 Walnut Street, Room 108
Philadelphia, PA 19107
215-955-0293

To edit this info, go to the:
Practice Group website

Clinical Interests:

Dr. Kairys is a Board certified General Surgeon with a practice limited to endocrine surgery. He specializes…

To edit this info, go to the:
Faculty Interest website
Can there be bidirectional sharing of data?

“Non-updatable” data source

If data is updated here...
Digital Vita - Brilliant!
Commercial options

• Activity Insight (Digital Measures)
• Data360
• Collexis (product in development?)
File storage is highly desirable

• Upload files related to CV
  – Certificates, diplomas, licenses
  – Journal articles, presentations, handouts
  – Teaching evaluations
• Privacy/security concerns
  – Accessible only to user, but could be downloaded, emailed, or shared with a collaborator, if desired
• Access to your documents from anywhere
• Provide documentation for your educational “portfolio”
<table>
<thead>
<tr>
<th>Personal Info</th>
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<tbody>
<tr>
<td>Education</td>
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<tr>
<td>Residency / Fellowship Training</td>
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<td>Board Certification</td>
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<td>Licensure</td>
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<td>Faculty Appointments</td>
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<td>Administrative / Hospital Appointments</td>
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<td>Honors / Awards</td>
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<td>Committees - TJUH / JMC / Affiliated Hospitals</td>
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<td>Organizing Roles in Scientific Meetings</td>
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# My Jefferson Portfolio

## Personal Info

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<tr>
<th>Field</th>
<th>Details</th>
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<tbody>
<tr>
<td>Name</td>
<td>John C. Kairys</td>
</tr>
<tr>
<td>Home Address</td>
<td>700 S. Park Dr.</td>
</tr>
<tr>
<td></td>
<td>Westmont, NJ 08109</td>
</tr>
<tr>
<td>Work Address 1</td>
<td>1025 Walnut St.</td>
</tr>
<tr>
<td></td>
<td>Room 108, College Building</td>
</tr>
<tr>
<td></td>
<td>Philadelphia, PA 19107</td>
</tr>
<tr>
<td>Work Address 2</td>
<td>1100 Walnut St.</td>
</tr>
<tr>
<td></td>
<td>5th Floor</td>
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<tr>
<td></td>
<td>Philadelphia, PA 19107</td>
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## Education

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<th>Start/End Year</th>
<th>Degree/Program</th>
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<td>08/1984 - 06/1988</td>
<td>M.D., Medicine, Jefferson Medical College, Philadelphia, PA</td>
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## Residency / Fellowship Training

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<th>Start/End Year</th>
<th>Position/Duty</th>
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<td>1989 - 1993</td>
<td>Resident, General Surgery, Thomas Jefferson University Hospital, Philadelphia, PA</td>
</tr>
<tr>
<td>1988 - 1989</td>
<td>Intern, General Surgery, Thomas Jefferson University Hospital, Philadelphia, PA</td>
</tr>
</tbody>
</table>
Documentation of life-long learning

• Maintain a life-long record of all academic accomplishments
  – No time limits for data retention
• ACGME: “Learning Portfolio”
  – Learning experiences
  – Clinical activities
  – Personal reflection
• ABMS: Record for “Maintenance of Certification”
  – Clinical activities
  – CME activities and scanned documents
Documentation of life-long learning

- Create VIVO accounts as graduate/medical students
  - Basic CV
  - Use as counseling / mentoring tool
  - Pull data for structured applications (i.e. AMCAS, ERAS)
- Graduate training (basic science or residency/fellowship)
  - Learning portfolio
  - Use as a counseling / mentoring tool
- Faculty
  - Annual performance review, etc.
Documentation of life-long learning

• ACGME outcomes project
  – Measure of how good a training program is
  – Requires longitudinal tracking of graduates’ performance
    • Clinical activities
    • Board certification
    • Academic success (promotions, positions held)
    • Participation in national organizations
    • Publications
    • Grants
  – VIVO could enable this across institutions
Documentation of life-long learning

• For alumni of educational programs or faculty at AMC’s
  – Transfer VIVO record to next place of employment (portability)
  – If no VIVO installation available, offer to maintain their CV as a free service
    • Sign of good will
    • Keep them part of your community
Continued relationship with alumni

- When searching for collaborators, highlight alumni of university / post-graduate programs / hospital
  - May be more likely to get a reply to inquiry from alumnus than from a “cold call”
  - Engage alumni in multi-institutional studies
  - Opportunity for professional development and scholarship
- Keep alumni informed of current research
- Potential for increasing directed giving
Enabling Social Networking

• Bill Gates - The Road Ahead (1995)
  - “The [information] highway will not only make it easier to keep up with distant friends, it will also enable us to find new companions. Friendships formed across the network will lead naturally to getting together in person.”

• Partially true
• Many interactions are limited to a few messages with little follow-up
• Could VIVO enable face-to-face interactions?
Enabling Social Networking

• Need to leverage what we do as professionals
  – What’s different about us?
  – We attend regional / national meetings…

• If VIVO can track conferences we attended, why not track conferences that we plan to attend?
Educational Portfolio

Meetings / Faculty Development / CME

Upcoming Meetings / Faculty Development / CME / Reunions

- **10/12/2010 - 10/16/2010**
  - **CME Info**
  - **Meeting Details**
  - **My Colleagues**
    - **JMC 1984-1988**
      - Steve O'Drazic, MD
        - Attending meeting
      - Laurie Karl, MD
        - Cupertino, CA
    - **General Surgery Residency 1988-1993**
      - Thomas Bauer, MD
        - Attending meeting
      - W. Bradford Carter, MD
        - Attending meeting, Presenting
      - Robert Tripp, MD
        - Tentatively attending meeting
    - **TJU Faculty 1993-present**
      - Herbert Cohn, MD
        - Attending meeting

Send a message
10/12/2010 - 10/16/2010

American College of Surgeons
San Francisco, CA

CME Info
Meeting Details
My Colleagues

- JMC 1984-1988
  - Steve D'Orazio, MD: Attending meeting
  - Laurie Karl, MD: Cupertino, CA

- General Surgery Residency 1988-1993
  - Thomas Bauer, MD: Attending meeting
  - W. Bradford Carter, MD: Attending meeting, Presenting
  - Robert Tripp, MD: Tentatively attending meeting

- TJU Faculty 1993-present
  - Herbert Cohn, MD: Attending meeting

Send a message
Thank you

Questions or comments:

John C. Kairys, MD, FACS
john.kairys@jefferson.edu