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Curricular Mapping: An Input to Curricular Change

A Case Study
Ohio State University
College of Pharmacy

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Presentation Goals

- Describe our curricular mapping processes
- Describe how we analyzed our curricular maps
- Present what we found based on these analyses
- Discuss how we changed our curriculum based on assessment and mapping data

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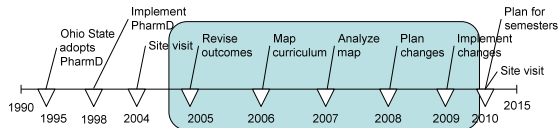
Mapping Benefits

- Use findings for curricular improvement and change
 - Capture delivery of outcomes
 - Articulate knowledge building and reinforcement of objectives
 - Identify gaps and overlaps
 - Track changes over time
 - Document teaching techniques and assessment methods
 - Meet accreditation standards



Curricular Change at OSU

Professional Pharmacy Educational Changes





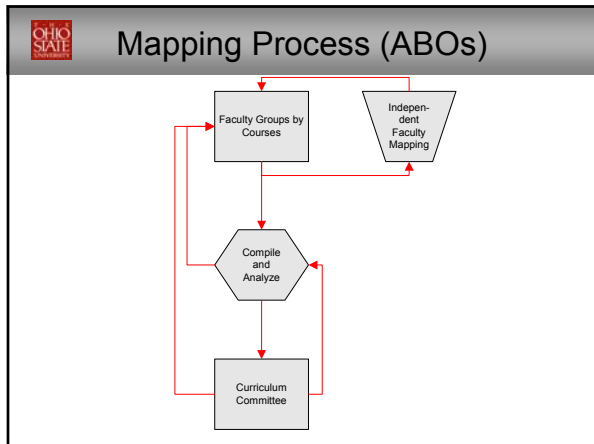
Curricular Mapping (ABOs)

- Process
 - Literature scan
 - Developed code with curriculum committee input
 - Pilot tested with curriculum committee members



Curricular Mapping (ABOs)

- What did we (OSU) want to know?
 - Location – which courses
 - Degree of connection – what level of emphasis
 - How taught – teaching methods used
 - How assessed – how do we measure what students learn



Professional Practice Lab			
L	P	A	ABO=Ability based outcome
3	LD/E	A/D	Assure safe and accurate preparation and dispensing of medications
3	LD/E	A/D	Read and interpret written prescriptions

L = level of connection; P = pedagogy; A = assessment
 LD = lecture discussion E = experiential A = application D = demonstration

-
- Appendix B ~250 items
 - Structure
 - Code
 - 0 = not at all
 - ½ = minor/minimal coverage
 - 1 = coverage appropriate to ELPD
 - Timelines



Content Mapping Process

- Survey sent out to faculty course coordinators
- Data collected and compiled by office of assessment
- Data shared with PharmD Curriculum and Assessment Committee



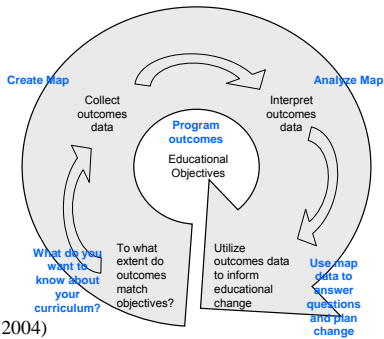
Content Map Excerpt

		CLINICAL SCIENCES
		<u>Pharmacy Practice and Pharmacist-Provided Care</u>
	0	• overview of the pharmacy profession
Ph 763	1	• issues of contemporary practice
	0	• emerging and unique roles for the pharmacist on the health care team
	0	• concepts of pharmacist-provided patient care and medication therapy management services
Ph 763	1/2	• principles of pharmacist-managed, patient-centered pharmacy services
	0	• methods of outcome monitoring and assessment techniques
	0	• role of pharmacy care plans in patient care
Ph 763	1/2	• monitoring for positive and negative drug therapy outcomes
Ph 763	1/2	• evidence-based practice and decisions



Great!
The Maps are Complete
We are done, right?

Assessment Loop (Mapping Loop)





Curricular Change: Our Goals

- Identify and plan short-term curricular improvements
- Long-term curricular improvements can be tied to self-study for re-accreditation (2009-2010) and University shift to semester system (2012)



Other Sources of Data

- Graduating student surveys
- All student satisfaction surveys
- Pre-APPE assessment
- Professionalism self-assessment
- Targeted follow-up questions (survey)
- Competency self-assessments
- Student members of committee



Methods

- Office of assessment review of data sources for themes or areas of curricular improvement
- List of top themes presented to PharmD Curriculum and Assessment Committee
- Committee selected the short term projects areas based on these themes



Short-Term Projects

- Identification of gaps in required content
- Investigation of content compression
- Continuity of common threads or themes across the curriculum (communication, drug info, professionalism/ethics, problem-solving)
- Evaluation of current state of elective structure



Identification of Gaps in
Required Content
Working Group -1



Identification of Gaps

Focus on:

- No coverage (as reported by course director)
- Topics that were covered and apparently not reinforced throughout the curriculum



Identification of Gaps

- Conclusions of analysis (Wi 2008)
 - No serious deficiencies in content
 - Most of the gaps in content overlap with the 'Common Threads' working group
 - Mostly an issue of reinforcing material throughout the curriculum



Identification of Gaps

- Short term plan
 - Issues
 - Limited space in current curriculum for new courses
 - Reinforcement of 'missing' content would probably be best accomplished in Therapeutics sequence
 - Better coordination of topics in Pharmacology and Therapeutics sequences was identified as a goal in our previous self-study



Identification of Gaps

- ‘Solution’
 - Collaborative teaching of the Pharmacology and Therapeutics sequences (6 quarters: P2 and P3)
 - Course directors to work closely to align presentation of material
 - Eliminate redundant material
 - Reinforce ‘missing’ content
 - Divisions of Pharmacology and Pharmacy Practice support the concept
 - Pilot study align content of P&T1 for AU08



Content Compression *Working Group - 2*



Objectives of Proposed Changes

- Make room for needed content
- Address faculty/resource changes
- Address compaction in curriculum (pressure points for students where there are a lot of credit hours/content in a given quarter)



Content Compression

Content Map Total Coverage	P1	P2	P3	P4
Minor	119	260	211	0
Sufficient	105	217	352	129



Additional Data Collected


- Student surveys to assess
 - Perceived content compression
 - Where
 - Suggested remedies




Content Compression


Credit Hours by Quarter and Year


	Au	Wi	Sp
P1	18	18	12
P2	18	17	13
P3	14	11	15

 **Credit Hours by Quarter and Year**
Black font = 2008-2009
Red Font = 2009-2010

	Au	Wi	Sp
P1	18	18	12 (14)
P2	18 (17)	17 (14)	13 (15)
P3	14	11	15

-  **3 Course Changes**
- Process
 - Analysis of curricular maps for PHR 710 and 711
 - Review of missing content that is required by ACPE
 - Contact with existing course directors to check for overlap and coordination of new content
 - Surveys and meetings
 - Med Chem division review and discussion
 - PHR 607 gains 2 credit hours by picking up content that aligns with Med Chem 3 primarily from 711
 - PHR 710 revised to cover missing content (area Applied Immunology)
 - PHR 711 revised to cover more thoroughly from a scientific point of view (area Supplements and Natural Products)

 **Common Threads Across the Curriculum**
Working Group - 3


 **Common Threads**

1. Identify Threads


- Drug Information
- Communication
- Professionalism/Ethics
- Problem-Solving

2. Look at Current State


- Content Map
- ABO Map
- Student Data
 - P2/P3 Student Professionalism Survey
 - Student Survey

 **Data Available**


Thread	Content Map	ABO Map
Drug Information	8	2
Communication	11	21
Professionalism/Ethics	1	13
Problem-solving	1	10
Total	27	46
<i>Note</i>	<i>26 of 27 sufficient at some point in curriculum</i>	<i>All 46 received Level 3 by P4 year</i>

 **Common Threads**

- Evaluate distribution across curriculum
 - Example -Drug Information Skills
 - (P1) → P2 → P3 → (P4)
- Meetings held with course directors to discuss how to align/reinforce these threads across the curriculum


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Elective Structure
Working Group - 4

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Elective Structure

- Electives drifted from original intent
- Too little guidance or control

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Elective Structure

- Define the program electives as professional electives, not as free electives
- Professional electives - courses that could be reasonably seen to connect with and reinforce the achievement of our 100 ability-based outcomes



Elective Structure

- Written plan for electives approved by the student's faculty adviser during the P1 year or resulting from part of a P1 course
- Approved written plan submitted to the Office of Student Affairs Winter Quarter of the P1 year
- The plan is reviewed and updated by the student and faculty adviser at least annually



Take Away Points

- Mapping is required, but it can be useful to inform curricular change
- Focus on issues of local interest and importance
- To overcome being overwhelmed, use the data to answer questions rather than simply "analyzing" the data
- Small working groups with achievable goals can be productive
- Keep the rest of the faculty informed throughout



Questions?