

# UCLA



## Strategies for Selecting a Learning Management System: An Experience at the UCLA David Geffen School of Medicine

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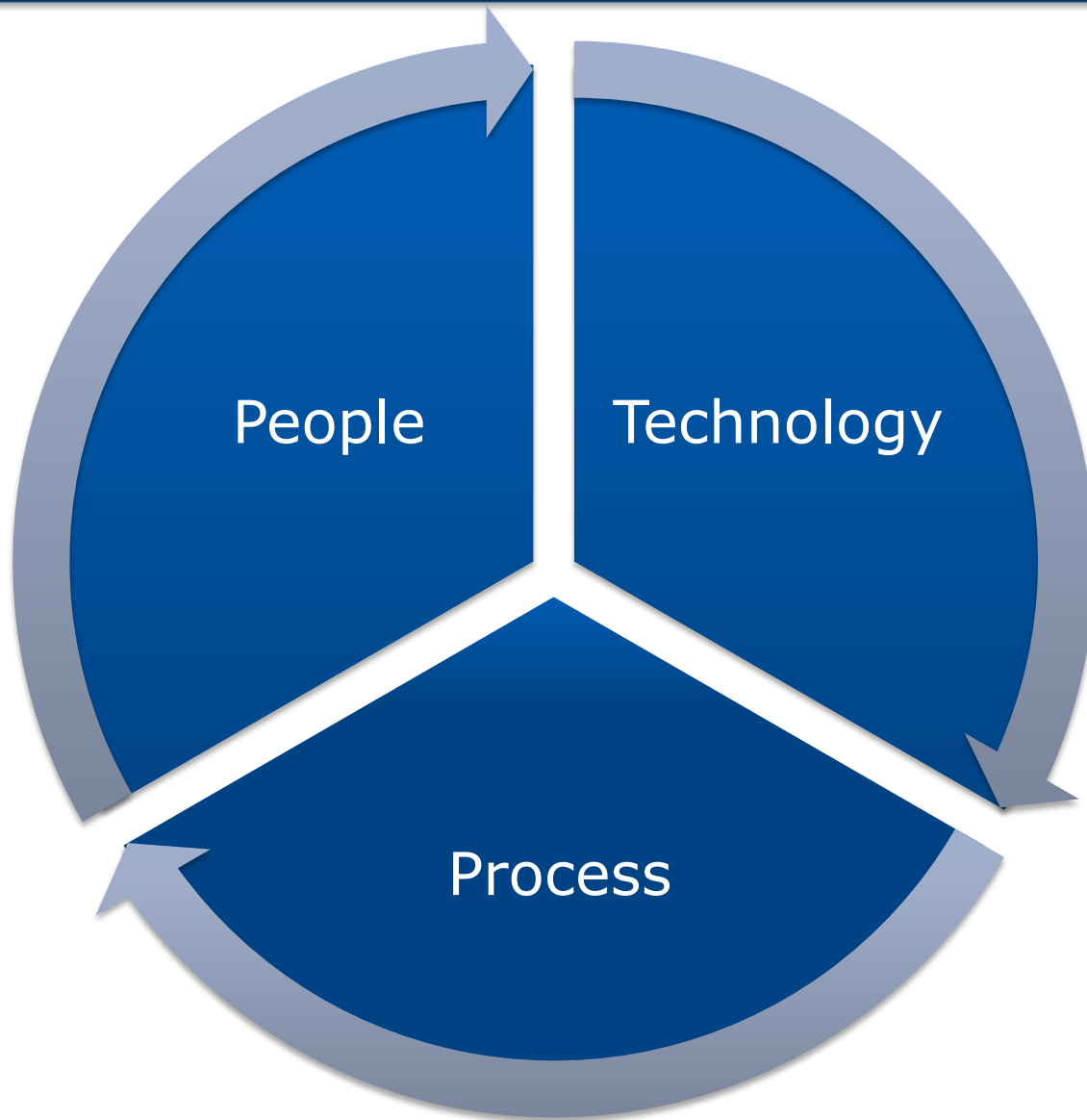
*March 6, 2012*

*International Association of Medical Science Educators*

# Introduction to Webinar Session

- Learning Management Systems (LMS) serve as a backbone in medical schools for curriculum delivery, exam administration, and accreditation requirements.
- LMS market offers 4 solutions: Commercial, Open-Source, Open-Source/Commercial, and Homegrown Products.
- Today's webinar presents the ongoing experiences at the UCLA David Geffen School of Medicine in our LMS review processes.

# Guiding Principles of LMS Selection



# Outline of Webinar Session

**1** **UCLA David Geffen School of Medicine: Curriculum Context**

**2** **Act 1: People**  
Needs Assessment, Leadership Buy In, Stakeholder Identification

**3** **Act 2: Technology**  
LMS Core Features, Available LMS Solutions for Review

**4** **Act 3: Process**  
LMS Review, Consensus Building, Follow up Activities

**5** **Wrap Up: Lessons Learned**

# UCLA David Geffen School of Medicine Curriculum Map

1 <sup>st</sup> Year	August									
	Intro to HB&D	Block 1: Foundations of Medicine I	Exam and break.	Block 2: Cardiovascular, Renal and Respiratory Medicine I	Exam and break.	Block 3: Gastrointestinal, Endocrine and Reproductive Medicine I	Exam and break.	Block 4: Musculoskeletal Medicine	Exam and break.	Block 5: Medical Neurosciences I
	Doctoring and Clinical Skills		Doctoring and Clinical Skills		Doctoring and Clinical Skills		Doctoring and Clinical Skills		Doctoring and Clinical Skills	

2 <sup>nd</sup> Year	August							
	Block 6: Foundations of Medicine II	Exam and break.	Block 7: Gastrointestinal, Endocrine, and Reproductive Medicine II	Exam and break.	Block 8: Medical Neurosciences II	Exam and break.	Block 9: Cardiovascular, Renal and Respiratory Medicine II	Assessment Week
	Doctoring and Clinical Skills		Doctoring and Clinical Skills		Doctoring and Clinical Skills		Doctoring and Clinical Skills	

3 <sup>rd</sup> Year	June										
	Clinical Foundations (Clinical Perf. Exam I)	Track A Rotations (24 weeks): Surgery (12 weeks); Pediatrics (6 weeks) and Obstetrics & Gynecology (6 weeks)			2 week winter break	Track A Rotations (24 weeks): Internal Medicine (8 weeks) Psychiatry and Neurology (8 weeks), Ambulatory and Family Medicine (8 weeks)			2 weeks spring break	Track A rotations continued	
Track B Rotations (24 weeks): Internal Medicine (8 weeks) Psychiatry and Neurology (8 weeks), and Ambulatory Medicine (8 weeks)			Track B Rotations (24 weeks): Surgery (12 weeks); Pediatrics (6 weeks) and Obstetrics & Gynecology (6 weeks)			Track B rotations continued					
Systems Based Healthcare											
Longitudinal Radiology Course											
Longitudinal Preceptorship											
Continuity Experience											

4 <sup>th</sup> Year	July										
	Medical Colleges Orientations:		<ul style="list-style-type: none"> <li>Academic Medicine</li> <li>Applied Anatomy</li> <li>Acute Care</li> <li>Primary Care</li> <li>Urban Underserved</li> </ul>								<ul style="list-style-type: none"> <li>Advanced Studies Electives Program</li> <li>Seminar Series</li> <li>College Requirements</li> <li>Mentoring</li> </ul>

# UCLA David Geffen School of Medicine Curriculum Map

## ANGEL Learning Management System

Curriculum Materials Including Daily Podcast Files

High Stakes Final Exams

Weekly Self Assessment

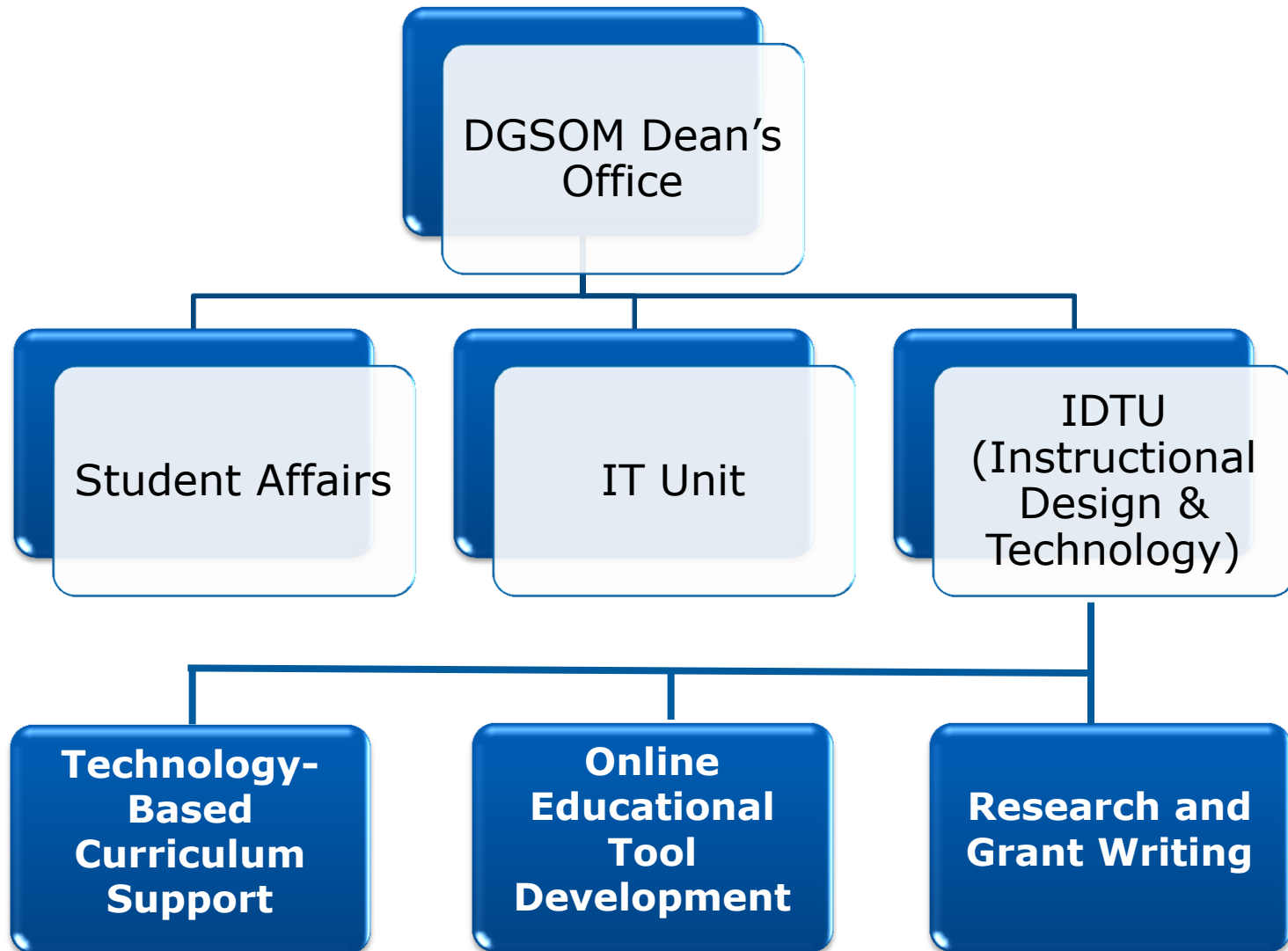
PBL Discussion Board

Ilios CMS

Homegrown Patient Log

CourseEval

# Technology Resources at David Geffen School of Medicine



# Timeline of LMS Adoption at David Geffen School of Medicine

## Adoption of ANGEL LMS

- Purchased ANGEL in 2003
- Local Hosting Option
- 2,000 Active Licenses = \$20,000 per year



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## Timeline of LMS Replacement Process

**Formed LMS  
Advisory Committee**

**March 2011**

**Last ANGEL update to  
version 8.0**

**July 2012**

**ANGEL support discontinued  
Via Blackboard**

**October 2014**

**December 2011**

**Committee meeting with  
leadership**

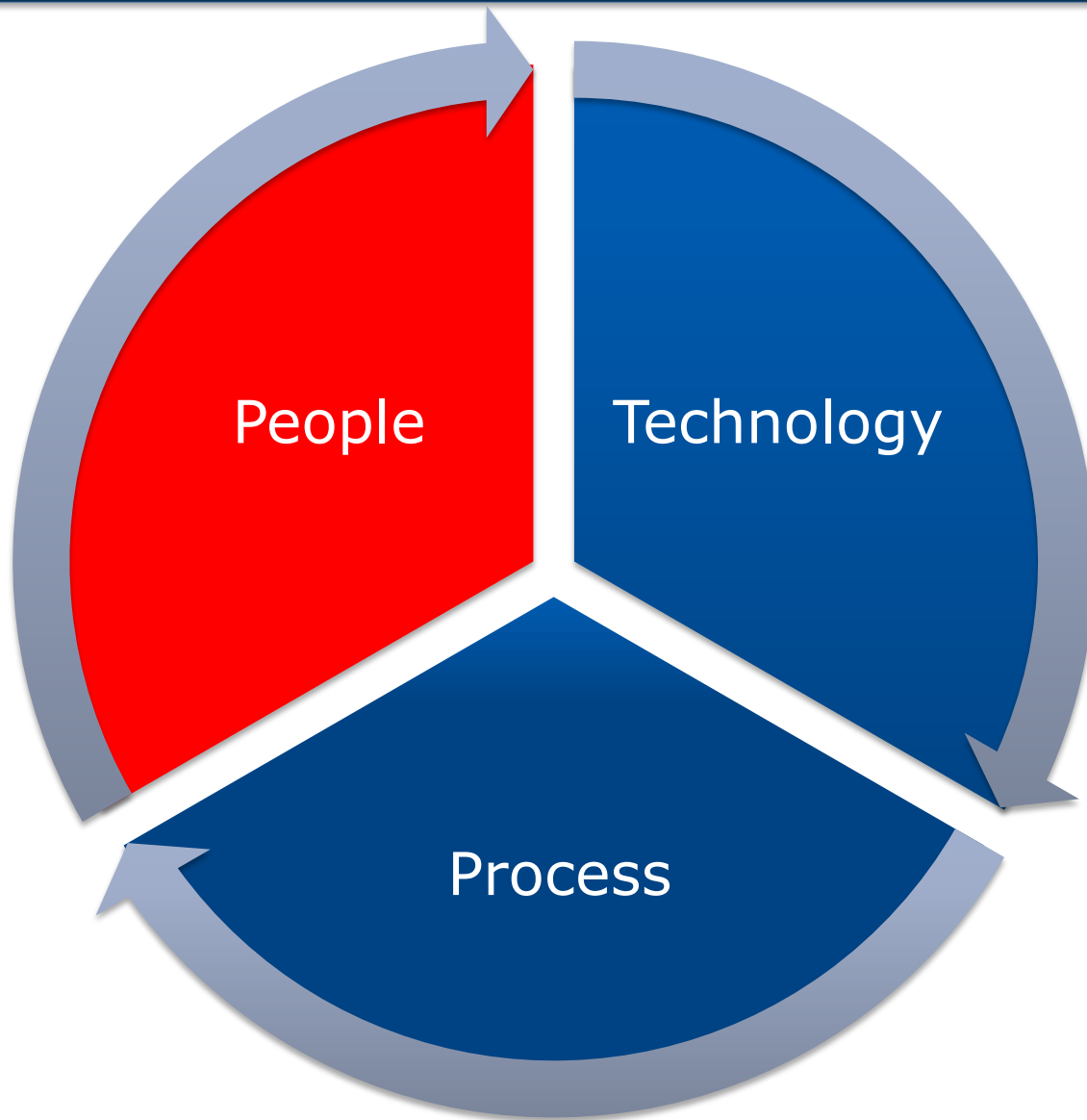
**July 2014**

**Deadline for fully  
launching the new LMS**

**April 2015**

**ANGEL no longer available  
Via Blackboard**

# Guiding Principles of LMS Selection



# LMS Review Process

## Act 1: People

**1**

**Institutional Needs  
Assessment**

**2**

**Leadership Buy In**

**3**

**Identifying Stakeholders**

# Institutional Needs Assessment

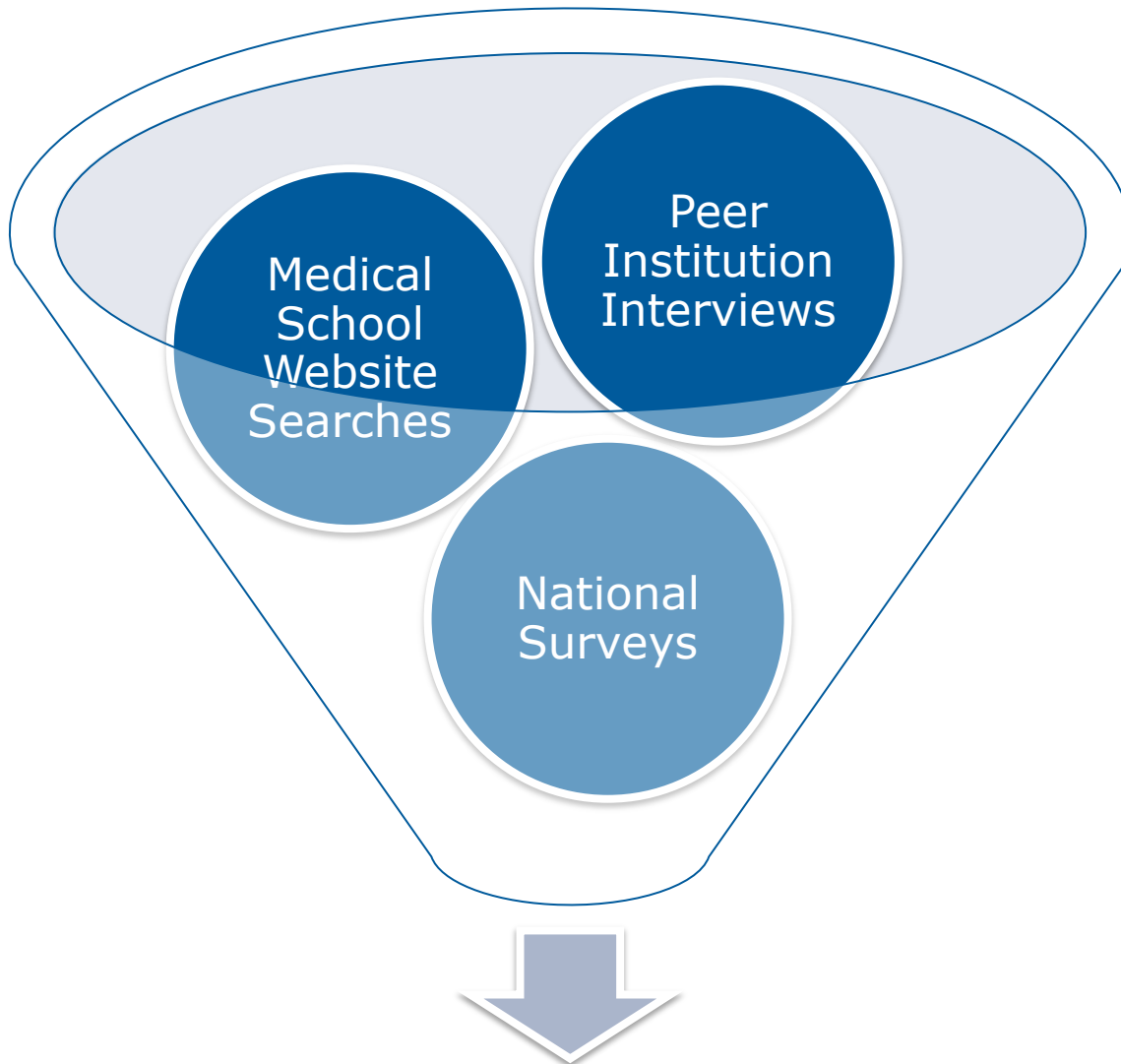
**Survey:**  
**Medical Students**

**Focus Groups:**  
**Curriculum  
Coordinators**

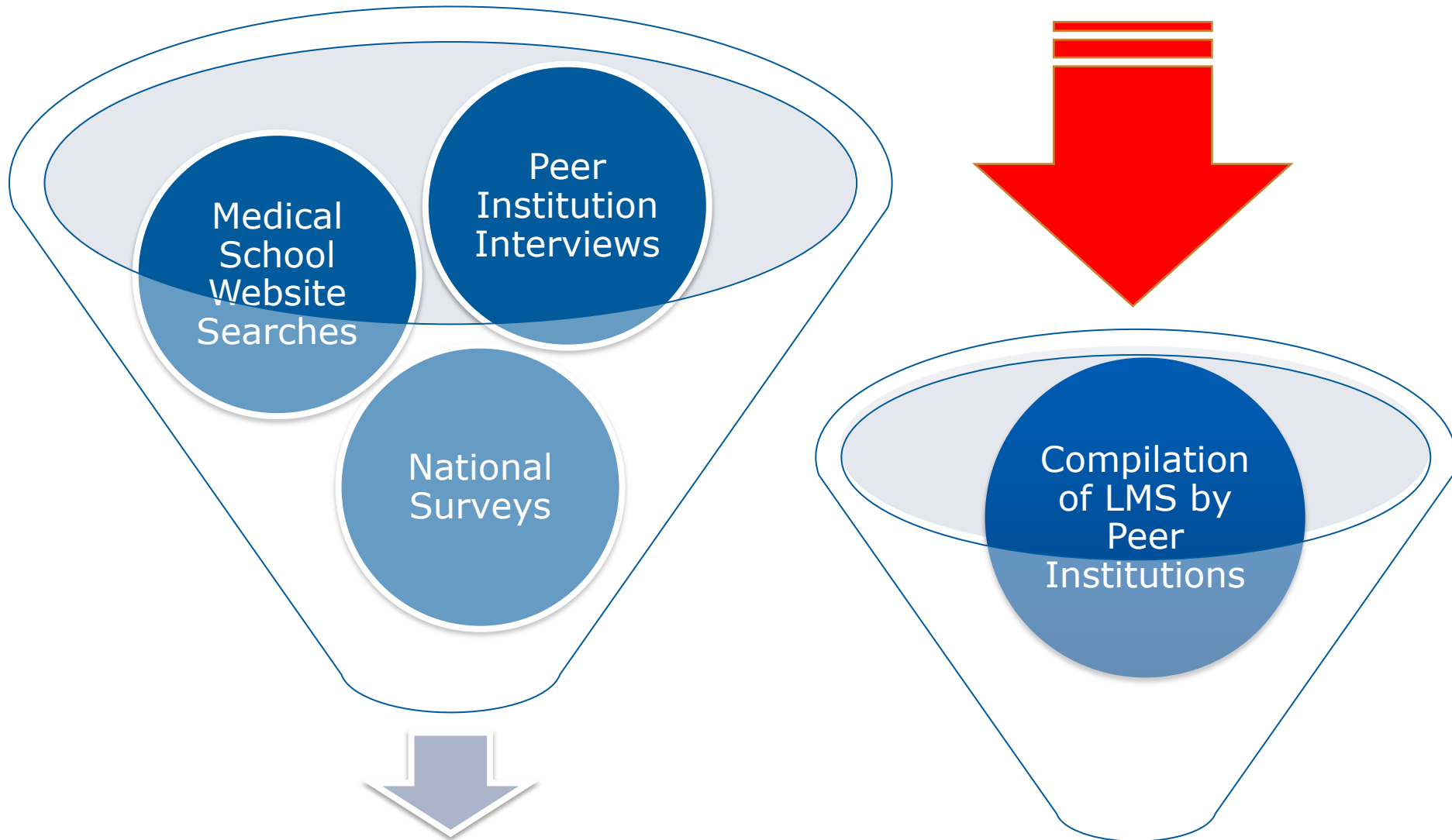
- a. Assessment of ANGEL Features
- b. Recommendations for Features in Future LMS

Determining Factors for  
Identifying Core LMS Features

# Institutional Needs Assessment

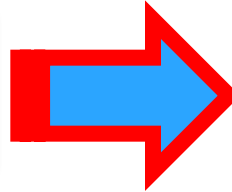


# Institutional Needs Assessment



# Leadership Buy In via Strategic Plan

Crafted Strategic  
Plan Document



Sign Off by  
Leadership

## Strategic Plan for Replacement of DGSOM Learning Management System: 2011 - 2015

### A. RATIONALE

The ANGEL learning management system that served as a backbone to the DGSOM curriculum over the past decade will no longer be available as of spring, 2015. The four-year time span provides us with an excellent opportunity to envision the 21st century LMS that will support our innovative and evolving medical school curriculum. This document describes the scope of the review and decision-making processes.

### B. PROJECT LEAD AND MANAGEMENT TEAM

Project Lead: Zhen Gu, Sara Kim, IDTU, DGSOM, Mary Tawfall, School of Dentistry  
Project Manager: Katherine Wigan, IDTU, DGSOM, OpenProj software program

# Leadership Buy In via Strategic Plan

## C. STAKEHOLDER GROUPS

The review and decision-making process will be guided by opinions and feedback from a wide group of DGSOM stakeholders including faculty, staff, and students as well as external colleagues with experiences in LMS approaches involving commercial products and open-source technologies. The following four stakeholder groups are identified:

### *a. Decision Makers:*

The decision makers will consist of DGSOM leadership team responsible for curriculum implementation and oversight.

### *b. Advisory Group to Decision Makers:*

Members will consist of faculty, staff members, and students from diverse disciplines, blocks and training years are invited to serve on the group. The group will meet on a monthly basis during March, 2011 to early 2012 for reviewing LMS options and making a recommendation to the decision makers.

### *c. External Liaisons:*

A wider group of external colleagues who share similar LMS needs will be invited to participate in the review process.

## D. CONSULTANTS

Selected individuals are invited as consultants on the review process.



# Leadership Buy In via Strategic Plan

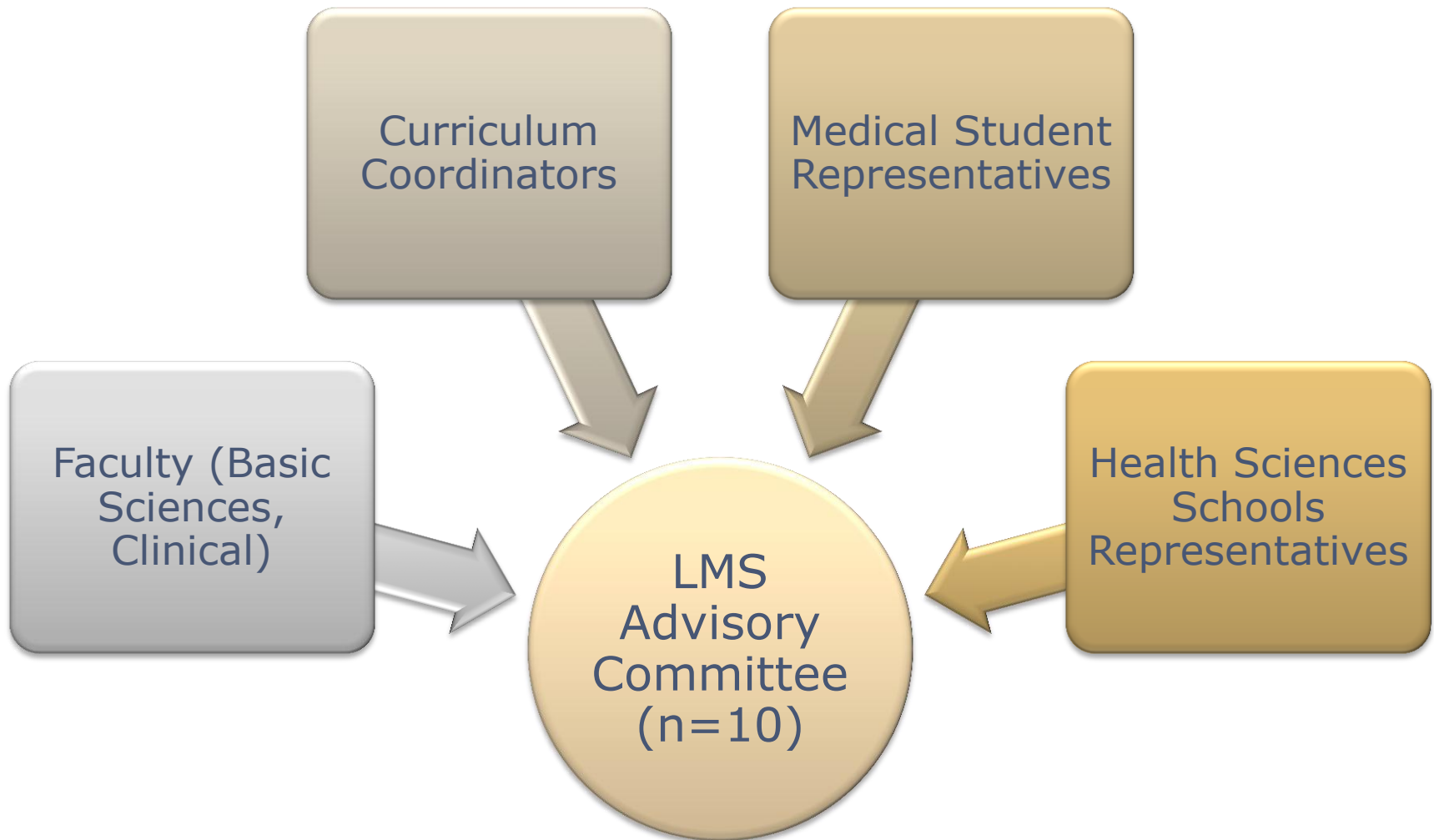
## F. REVIEW PROCESS OUTPUT

At the end of the review process, the Advisory Group will submit a report to the decision makers that include the recommended LMS solution, rationale, and required resources for implementation.

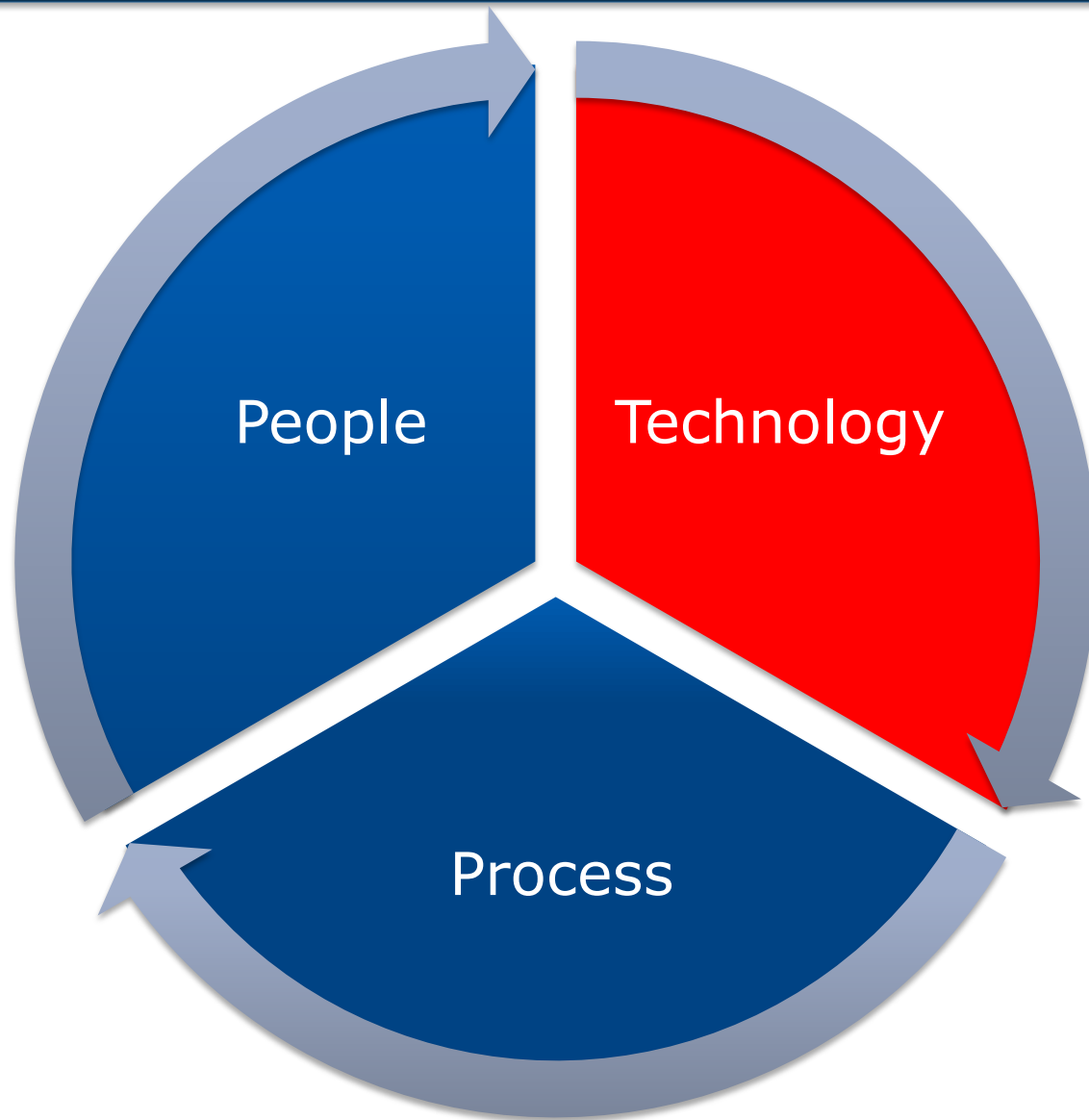
## G. PRELIMINARY TIMELINE

<b>Year</b>	<b>Main Activity</b>
2011-2012	<ol style="list-style-type: none"><li>1. Data Collection: Focus Groups, Survey of Medical and Dental School Students, Interviews with other schools using a variety of LSM technologies</li><li>2. Advisory Group: Monthly meetings beginning in March, 2011</li><li>3. Decision Recommendation: Advisory Group to make recommendations on the best LMS to decision makers by March, 2012</li></ol>
2012-2015	<ol style="list-style-type: none"><li>1. Option 1: If we decide to go with a commercial solution, this 2 year period will be devoted to developing a plan for migrating ANGEL content to the new system and customizing the system for DGSOM's needs</li><li>2. Option 2: If we choose an open-source environment, this 2 year period will be devoted to creating, testing, and implementing a customized system.</li></ol>
2014-2015	<p>The last year before ANGEL expiration is devoted to migrating ANGEL content depending on the final decision:</p> <ol style="list-style-type: none"><li>1. Migration to the new commercial platform (Option 1)</li><li>2. Additional testing and debugging for phased in implementation (Option 2)</li></ol>

# Identifying Stakeholders



# Guiding Principles of LMS Selection



# LMS Review Process

## Act 2: Technology

1

**Identifying Core LMS  
Features**

2

**Identifying LMS Options**

# Identifying Core LMS Features

Needs Assessment  
Results + LMS  
Administrators' Input

A Master List  
of 100 LMS  
Features

LMS Advisory  
Committee Voted on  
30 Core Features



# Identifying LMS Options

**LCMS+**  
(Homegrown)

**Entrada**  
(Homegrown/  
Open-Source)

**Sakai**  
(Open-Source/  
Commercial)

**TUSK**  
(Homegrown)

**Canvas**  
(Open-Source/  
Commercial)

**Desire  
2 Learn**  
(Commercial)

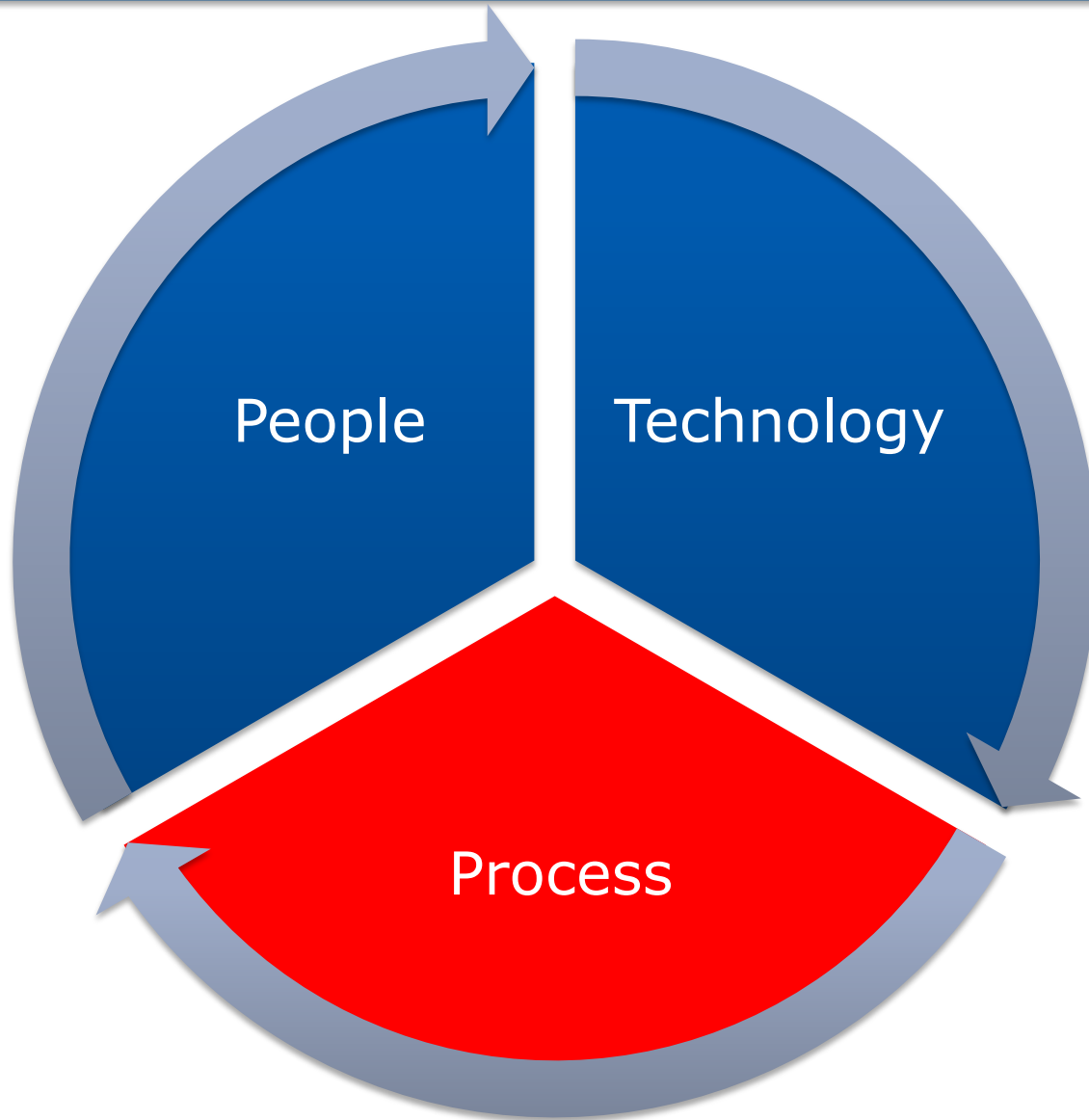
**Black-  
Board**  
(Commercial)

**Moodle**  
(Open-Source/  
Commercial)

# Identifying LMS Options

	Pros	Cons
<b>Commercial</b>	<ul style="list-style-type: none"><li>•Dedicated 3<sup>rd</sup> party support</li><li>•Requires less in-house programming resources and technical expertise</li></ul>	<ul style="list-style-type: none"><li>•Possibility of getting bought out</li><li>•Per user license fee model, with no control over fee increases</li><li>•Extra charges for system customizations/integrations</li></ul>
<b>Open Source</b>	<ul style="list-style-type: none"><li>•Unlimited free licenses</li><li>•Freedom of customization and implementation</li><li>•Availability of user community</li></ul>	<ul style="list-style-type: none"><li>•No dedicated 3<sup>rd</sup> party support</li><li>•Requires in-house programming resources and technical expertise</li></ul>

# Guiding Principles of LMS Selection





# LMS Review Process

## Act 3: Process

LMS Demo  
Sessions +  
Committee  
Discussions

Preparation  
of Reports

Committee  
Vote on Top  
3 Solutions

Usability  
Testing of  
Top 3  
Solutions

# LMS Review Process

## Act 3: Process

LMS Demo Sessions + Committee Discussions

Preparation of Reports

Committee Vote on Top 3 Solutions

Usability Testing of Top 3 Solutions

1. Between April and September, 2011, Committee Participated in a One Hour Demo and One Hour Discussion per LMS
2. Each Demo Session Podcast for Review
3. Based on Committee's Requests, Sought Follow Up Information from Vendors

# LMS Review Process

## Act 3: Process

LMS Demo Sessions + Committee Discussions

Preparation of Reports

Committee Vote on Top 3 Solutions

Usability Testing of Top 3 Solutions

1. Requested Vendors to Complete a Detailed Template of Information
2. Conducted a SWOT (Strength, Weakness, Opportunity, Threat) Analysis per System
3. Performed a 5-year Cost Analysis per System

# LMS Review Process

## Act 3: Process

### Cost Analysis - Learning Management System 1

**The following assumptions are made:**

- Only one trainer will be needed and trainer's travel and per diem expenses not to exceed \$1500
- User license fee does not include multi-year agreements discount
- Increase in fees after the first year is approximately 5%

Cost Description	2013	2014	2015	2016	2017	2018
<b>Acquisition cost</b>						
User license fee for 2000 active users	\$30,000.00	\$31,500.00	\$33,075.00	\$34,728.75	\$36,465.19	\$38,288.45
<b>Implementation cost</b>						
Installation fee	\$5,500.00					
Systems Integration with SIS	\$12,500.00					
Ilios integration (custom integration)	\$5,000.00	\$500.00	\$500.00	\$500.00	\$500.00	\$500.00
Eportfolio installation fee	\$5,500.00					
Eportfolio	\$1,500.00	\$15,000.00	\$15,000.00	\$15,000.00	\$15,000.00	\$15,000.00
<b>Training cost</b>						
User training fees (3 days)	\$7,500.00					
Trainer travel fees/expenses	\$1,500.00					
<b>Maintenance and Support</b>						
SIS Integration Maintenance	\$5,000.00	\$5,000.00	\$5,000.00	\$5,000.00	\$5,000.00	\$5,000.00
Standard user support fees	\$3,850.00	\$3,850.00	\$3,850.00	\$3,850.00	\$3,850.00	\$3,850.00
<b>Optional</b>						
Hosting fee	\$15,000.00	\$15,000.00	\$15,000.00	\$15,000.00	\$15,000.00	\$15,000.00
Test environment installation	\$2,500.00					
Test environment hosting & maintenance	\$9,500.00	\$9,500.00	\$9,500.00	\$9,500.00	\$9,500.00	\$9,500.00
Disaster Recovery (24 hours Recovery Point Obj; 72 hr Recovery Time Obj)	\$3,000.00					
<b>Total Cost (self-hosted)</b>	\$77,850.00	\$55,850.00	\$57,425.00	\$59,078.75	\$60,815.19	\$62,638.45
<b>Total Cost (self-hosted w/ options)</b>	\$92,850.00	\$65,350.00	\$66,925.00	\$68,578.75	\$70,315.19	\$72,138.45
<b>Total cost (hosted)</b>	\$92,850.00	\$70,850.00	\$72,425.00	\$74,078.75	\$75,815.19	\$77,638.45
<b>Total cost (hosted w/ options)</b>	\$107,850.00	\$80,350.00	\$81,925.00	\$83,578.75	\$85,315.19	\$87,138.45

# LMS Review Process

## Act 3: Process

LMS Demo  
Sessions +  
Committee  
Discussions

Preparation  
of Reports

Committee  
Vote on Top  
3 Solutions

Usability  
Testing of  
Top 3  
Solutions

1. In November, 2011, Committee Members voted on Top 3 LMS for Future Review
2. Three Solutions Include: Desire2Learn, Sakai/Longsight, Canvas/Instructure
3. In December, 2011, Committee Met with Medical School Leaders for Debrief

# LMS Review Process

## Act 3: Process

LMS Demo  
Sessions +  
Committee  
Discussions

Preparation  
of Reports

Committee  
Vote on Top  
3 Solutions

Usability  
Testing of  
Top 3  
Solutions

1. Completed a pilot of one LMS in a Second Year Course
2. Plan to Conduct Formal Usability Testing this Spring
3. Final Recommendation to Medical School Leadership

# Wrap Up: Lessons Learned



# The Future of LMS?



LMS is One Element of Data Warehouse System



Effective Use of LMS to Support Clinical Training



Integrated Learning Analytic Capability



Content Push to Users, Social Media Features



**THANK YOU!**  
**Any Questions?**

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