qwertyuiopasdfghjklzxcvbnmqwertyuiopasdfghjklzxcvbnmqwertyuiopasdfgh jklzxcvbnmqwertyuiopasdfghj

jklzxcvbnmqwer dfghjklzxcvbnmo dfghjklzxcvbnmo wertyuiopasdfgh klzxcvbnmrtyuio asdfghjklzxcvbnm qwertyuiopasdfg jklzxcvbnmqwer yuiopasdfghjklzx vbnmrtyuiopasd ghjklzxcvbnmqwer tyuiopasdfghjkl

HKSC FIELD GUIDE FOR DEVELOPING A HEALTHCARE KNOWLEDGE SERVICES CENTER

Prepared by

Lynda Moulton, DBA LWM Technology Services

in collaboration with

Margaret H. Coletti, Beth Israel Deaconess Medical Center and

H. Mark Goldstein, NN/LM NER

October, 2011

cvbnmrtyulopas nmqwertyulopas ighjklzxcvbnmq ertyulopasdfghj bnmqwertyulop sdfghjklzxcvbnm wertyulopasdfgh lzxcvbnmqwert ulopasdfghjklzxc qwertyulopasdf njklzxcvbnmqwe yulopasdfghjklz cvbnmqwertyulo

pasdfghjklzxcvbnmqwertyuiopasdfghjklzxcvbnmqwertyuiopasdfghjklzxcvbnmqwertyuiopasdfghjklzxcvbnmqwertyuiopasdfghjklzxcvbnmqwertyuiopasdfghjklzxcvbnmqwertyuiopasdfghjklzxcvbnmqwertyuiopasdfghjklzxcvbnmqwertyuiopasdfghjklzxcvbnmqwertyuiopasdfghjklzxcvbnmqwertyuiopasdfghjklzxcvbnmqwertyuiopasdfghjklzxcvbnmqwertyuiopasdfghjklzxcvbnmqwertyuiopasdfghjklzxcvbnmrt yuiopasdfghjklzxcvbnmqwertyuiopasdfghjklzxcvbnmqwe

Library of Medicine, National Institutes of Health, Department of Health and Human Services.

ACKNOWLEDGMENTS AND INTRODUCTION

The HKSC Field Guide is for you: the medical librarian, knowledge manager, or information services provider. Whatever your professional label, or the role you have carved out for yourself in your medical institution, we want this guide: to help you develop professionally; improve your operation; and bring your practices into alignment with the best medical libraries and knowledge service operations.

The guide was developed with the intent of fulfilling three principal functions:

- 1. Provide checklists for the primary steps to auditing, enhancing and growing your operation, in a workbook style format.
- 2. Provide short anecdotal notes of inspiration with examples of practices already in evidence with the intent of sparking an idea to spur a new initiative or make a course correction.
- 3. Provide links to other resources for making changes and improvements, and learning about what others are doing, have done or explanations about "how to do it."

The concept for this guide originated with two members of the New England health sciences library community: Margo Coletti of Beth Israel Deaconess Medical Center and Mark Goldstein of the National Network of Libraries of Medicine, New England Region. They have spearheaded an effort to inspire change for medical libraries, to help libraries transition from a focus on "place and content" to "service and content management".

Throughout this guide you will find "call-out" boxes with examples and short vignettes illustrating ideas shared by health sciences librarians. Some are explicit examples of what they have achieved, changed or implemented, while other examples are composites inspired by what these librarians have been working on or their visions.

The consultant, Lynda Moulton, would like to thank and acknowledge the input and insights gained from the participants at the *Knowledge Management Day* event, sponsored by the NN/LM NER at Shrewsbury, MA on March 4, 2011 where she was present. The discussions, presentations, and roundtables were a great source of ideas for how people are currently experiencing their work environments and the day-to-day issues they face.

In addition, librarians from three hospitals were extremely generous with their time, each spending several hours telling me about their operations, sharing stories about their paths to improving operations and answering my questions. It was with pleasure that I met with each of you and learned about your professional histories and current work. You provided a good representation of the target audience for the final product. To each of you, a special thanks and recognition for your pioneering spirit:

- Southwestern Vermont Medical Center, Gary Strubel
- Maine Medical Center, Janet Cowen and Dina McKelvy
- Women and Infants Hospital in Providence, RI, Nancy Ross

HKSC Field Guide: Concept Coverage, Format and How to Use

Knowledge is the foundation of our work as librarians. However, because it is intangible, we work directly with the assets that result from knowledge. Content, people, and technology are the core knowledge assets. Knowledge assets are referenced throughout this guide where we define a path to delivering knowledge services. Delivering the best content is achieved through the innovation and competencies of library professionals who leverage technologies to benefit their constituents. The result is excellent knowledge services.

The most striking difference between traditional library services and knowledge services is the shift in emphasis from managing "content packages" (e.g., books journals, CD-ROMs) to exposing and enhancing what is inside the "packages." In doing so, we make the content more accessible and relevant to the work of the medical staff.

This field guide is organized in chapters aligned with the modules described in <u>Table 1</u>. It details the purpose of each module and describes activities that contribute to the next modular phase(s) of the complete process.

The *HKSC Field Guide* is laid out in a linear progression of activities with simple commentary to encourage readers' thinking toward eventual outcomes and changes that are required to make a transition from a library setting to a *healthcare knowledge services center* (HKSC) operation. It is expected that the successful manager will make several passes through the entire guide, helping to better understand all the pieces that must be in place for a strategic and successful plan.

Each module chapter provides descriptions to explain the module theme and share ideas for how to proceed with the process. Following the descriptions and guidance are a worksheet for taking notes and a checklist of tasks. The intent of each worksheet is to focus on a specific data collection, a strategic planning activity, and/or to note details describing required resources. Chapters conclude with a checklist for you to sign off on tasks considered and/or completed. Some forms may not be completed until multiple passes have been made through the guide, and managers are encouraged to refine and hone activities in fine-tuning their work. A separate document in MS Word format supplies both worksheets and checklists for you to edit electronically, or to create separate editable documents for each module.

The guide begins with a <u>self-audit of the status quo</u> for medical libraries embarking on a transformation to HKSCs. The transition will be smoother and accomplished more easily by making incremental changes and additions, and by establishing a good understanding of why some activities, technologies, content or services may no longer be beneficial or appropriate. The audit is where we begin the process. From there you are guided step-by-step through action activities. Consider this guide as a written coach, reminding you of all the steps in the process and making it a little easier to get through an important effort.

Finally, in the <u>Appendices</u> are supporting documentation and links to documents that can give inspiration for new activities or ideas for initiatives you might want to pursue for the HKSC. Browse through these citations and lists soon and often to find material that might spur you to begin the next activity.

TABLE 1: MODULE ELEMENTS FOR KNOWLEDGE SERVICE CENTER DEVELOPMENT

MODULE	DESCRIPTION	DETAILS
A. <u>AUDIT</u>	 Conduct an institutional audit Identify People, Bodies of Knowledge, and Technology needed to create an HKSC 	Institutional Audit: Who – stakeholders What – services provided Where – services delivered How – services delivered How Long – service activity Internal material assets External material assets Institutional survey
B. <u>DOCUMENTATION</u>	 Develop institutional documentation for the HKSC 	 Mission Statement(s) Strategic Plan(s) Preliminary Operating Budget Job Descriptions (Knowledge Manager)
C. <u>COMPETENCIES</u>	 Identify Needs for Professional Competencies & Skills 	 Gap Assessment Competency Training Plan Service Components Business Alignment
D. <u>COLLABORATIONS</u> (Internal)	Develop Internal Collaborations Checklist	 Identify institutional alliances and create an action plan
E. <u>COLLABORATIONS</u> (External)	Develop External Collaborations Checklist	 Identify external resources for networking & professional development
F. PRIORITIZATION	 Develop Prioritization Schema 	Prioritize functions & changes
G. RISK ASSESSMENT	Develop Risk Assessment Plan	 Identify potential risks to developing and maintaining a successful HKSC
H. BUDGET & COST ALIGNMENT	Develop a Budget	Develop an acceptable operating budget with cost alignments (direct & indirect)
I. CHANGE MAP	Develop a Change Map	Task MapSchedules
APPENDIX	 Citations and Important KM Links 	 A. Knowledge Management Day Workshop B. Other KM related resources

A. INSTITUTIONAL SELF-AUDIT: PURPOSE AND METHODS

Change is hard and enlisting support and participation for an institutional change initiative is even harder. *A key to executing a vision to bring about change is to move quickly*. Otherwise, you and everyone else involved or impacted will lose energy and interest. The audit is essential because the results will give you answers you need to provide to management, whose support you need. *Without specific data, collated in an organized and unified manner, you will be at a significant disadvantage. Lack of relevant information will slow down the process of change at every juncture.* With facts at hand, you will be more responsive to every question and challenge.

The following steps suggest how to *gather data*; you will probably use more than one means in this discovery audit. Some information will come from direct inquiry in meetings and conversations and other information will exist in written documentation and your own records. Some data will need to be gathered from day-to-day process capture (e.g., document delivery statistics). When other means are incomplete or not practical, using a survey is the best way to round out information gathering. However, with demands on time, input in written or online forms is very difficult to depend on for substantive information. Use a survey form for questions you need to have answered that are easily defined and answered.

Data must be captured in a way that information can be understood, retrieved, and visualized. This requires some thought. Spreadsheets are a popular means for capturing data, but they are not good for capturing relationships. Methods for capturing information that illustrates the interconnectedness of people, content, business units and processes, include free tools such as VUE, FreeMind and TheBrain. Pick "capturing tools" that are easy to learn and use. Take time up front to decide how you want to organize your findings. There is a good chance that you will be asked to share information through briefings or presentations to individuals and groups. Visualize ways of presenting what you know and learn. This is important to communicating and selling your vision.

Here is what you need to collect in order to establish the baseline for the current state of your services and, when relevant, anything you have done before which had value, but were forced to eliminate. For the activity time period, try to select a

representative time, relative to the flow of the season (e.g., beginning of a new rotation of residents). The period should be at least a week but no more than a month.

- What service(s) have you provided in the past that were eliminated? (Review and define value)
- Who walks in the door? pick a time period and capture.
- Who calls? pick a time period and capture.
- Who emails? pick a time period and capture.
- Who are the surrogates and who do they serve?
- Capture what is done for each group that you serve.
- Acquire and review logs for self-service (e.g., intranet, on-line services, in-house log, etc.) While you probably won't capture all walk-ins, positioning a clipboard for sign-ins will enable

At a rural hospital, a professional librarian was hired part-time as a probable segue to total elimination of a little-valued library. He immediately set about auditing every activity that had preceded his arrival and determined that the book collection had little relevance to the medical staff. He also concluded that the time required maintaining the catalog was of no value, because nothing in the collection was being used.

you to estimate the traffic. During the day, you might choose to use a clicker to get a count of daytime traffic if there is a staff member with a view of the entrance.

SUMMARIZE YOUR AUDIT:

I. Current Activities:

- a.) Who are the stakeholders and constituents of the operation? Count, categorize and call out significant champions among this community.
- b.) What services are being provided? Categorize by type, numbers of instances, and summarize types of expertise required to provide the service.
- c.) How are services delivered? (e.g., desktop, mobile, phone, or in the library, etc.)
- d.) How are services delivered? Categorize by type of communication (e.g., verbal, materials, report, documented responses, etc.)
- e.) How long or what was the duration of each service activity? Break down the time into categories (e.g., quick reference < 5 minutes; research = 30 min. 1 hour; lengthy research = 1 5 hours; over a period of days)
- II. **Resources in Use** refers to your staff or outside personnel at other institutions, plus the full range of content resources that were accessed during the audit period. This is not the final indicator of either people or materials that might be eliminated or established for expansion, but it will serve as an indicator of possible candidates for upsizing or downsizing.

At a large city hospital with a sizable medical staff engaged in various levels of research, EndNote has become the de facto tool for individuals to capture citations. For one library staff member, a significant amount of her time is vested in training on the use of the tool. Knowing the amount of time devoted to this activity is important, but also: documenting the use of the tool, which is using it, and where the resulting silos of content reside is important information to capture for planning. There may be an opportunity for change, growth or improving services by fully understanding the impact of the activity. This librarian is contemplating how to deal with the current situation to the advantage of the staff and hospital.

To document significant amounts of overtime, spent on services of high value, works to your advantage for expanding staff or resources. However, you may be requested to provide additional evidence over a longer period. Take time to make qualifying observations about underutilized resources, if you suspect that the time period measured was an anomaly.

Finally, be sure to capture information about the technology resources that have been used/accessed via your operation (i.e., computers, software applications, and online services):

- a.) Internal Resources: People, Material assets (e.g., content types)
- b.) External Resources: People, Material assets (e.g., outside institutions, internet services, etc.)
- III. **Descriptions of Valued Activities, Content and Services** eliminated during or before your tenure may have been captured already in memos, reports, or in correspondence with medical staff or administrators. It is critical to bring into focus that history (of anything you believe would still have value and would like to revive). The strongest case for bringing back what was lost will be built on the impact that the loss had on the medical staff and/or institution. Explain events that had a negative impact which you can demonstrate; codify and simplify the message in an objective voice, absent of emotion or blame.
- IV. **Institutional Surveys** are useful in a number of situations, all of which depend on the desired outcome. If your plan and agenda for becoming an HKSC can be clearly defended through information you have already gathered and documented, you need not go further. Additional surveying may slow down your process, confuse issues that raise barriers, or waste the time of people who could become allies in the future.

However, if you really do need to bolster any of your arguments or positions for new initiatives, add these survey possibilities to your audit:

- a.) What is the *specific purpose* of the Survey? This would include: gathering information you can't learn in other ways; communicating with people you never see but you want to attract to the operation; and finding opportunities for attracting collaboration partners.
- b.) *Methods* you can use are: online; email; phone; or meeting with an individual or small group. Minimize the format and amount of information you are trying to gather by tightly reining in the scope and themes. It would be better to target only the audience who will readily have information for one category, and to survey different groups for separate topics.
 - In most cases, making sure the questions can be answered easily and quickly (less than 20 minutes) will bring quality data. Online survey tools (e.g., SurveyMonkey) work well because they keep the total scrip tight. Test the method and questions on a small set of subjects before going forth with the final survey. This filters out lines of questioning that are not productive, or inquiries that could be confusing.
- c.) *Evaluation* should be used to find ideas, justify existing services/content/staff, justify new services/content/staff, or to justify elimination of any of these categories. It is important to do the evaluation looking for qualitative information as well as for quantitative data.

Throughout the audit process, remind yourself of two important realities:

- 1. Take time now to achieve improvements and efficiencies in the future. You are doing the exercise for long-term benefit, not short-term gains. It deserves careful execution because you will need to live with the results for a long time.
- 2. Prepare yourself for the inevitable discoveries that make you aware of resources, people, or services you really need to eliminate because they are not valued or bringing a benefit to the institution. No matter how important you, personally, believe something is, if you can't provide or uncover any evidence of its value to anyone else, be willing to let it go, and communicate that with justification.

A. INSTITUTIONAL SELF-AUDIT: WORKSHEET

Make notes as you accrue information (Data to collect):

- What service(s) have you provided in the past that were eliminated? (Review and define value)
- Who walks in the door? pick a time period and capture
- Who calls? pick a time period and capture
- Who emails? pick a time period and capture
- Who are the surrogates and for whom do they do service?
- Capture what is done for each group that you serve.

Acquire and review logs for self-service (e.g., intranet, on-line services, in-house log, etc.) While you probably won't capture all walk-ins, positioning a clipboard for sign-ins will enable you to estimate the traffic. During the day, you might choose to use a clicker to get a count of daytime traffic if there is a staff member with a view of the entrance.

I. Notes for Current Activities

Who are the stakeholders and constituents of the operation? Count, categorize and call out significant champions among this community.

- a.) What services are being provided? Categorize by type, numbers of instances, and summarize types of expertise required to provide the service.
- b.) Where are services delivered? (e.g., desktop, mobile, phone, or in the library)
- c.) How are services delivered? Categorize by type of communication (e.g., verbal, materials, report, documented responses, etc.)
- d.) How long or what was the duration of each service activity? Break down the time into categories (e.g., quick reference < 5 minutes; research = 30 min. 1 hour; lengthy research = 1 5 hours; over a period of days)

II.	Notes for Resources in Use
a.)	Internal Resources: People, Material assets (e.g., content types)
b.)	External Resources: People, Material assets (e.g., outside institutions, internet services, etc.)
III.	Descriptions of Valued Activities, Content and Services eliminated during or before your tenure
IV.	Institutional Survey Plan and Intent (notes, if planned)
a.)	What is the <i>specific purpose</i> of the Survey?
b.)	Methods
c.) l	Evaluation

A. CHECKLIST/AUDIT SUMMARY

Use boxes on left to indicate that the item has been considered and assign a code indicating level of activity [e.g., A (actively doing), C (considering), N (not active or not considered); make up codes that are relevant or appropriate to your operation and use them when you have a response to fill-in]. You can also add space to indicate scope, count or size of the deliverable (e.g., number of subscriptions; searches performed; time unit, etc.)

Services Provided and Lost	***
Itemize those activities lost that had value and are targets for revival	
Current Activities	
User communities	
Primary Stakeholders identified	
Primary Constituents identified	
Groups of constituents identified	
Services offered (all)	
Walk-in reference research support	
Intranet and On-line connectivity to collections	
Project/Program development activities	
Training and information technology support programs	
Collection development and subscription management	
Other:	
Other:	
Expertise of staff	
Collection building: knowledge of authoritative and relevant resources, publisher relations, procurement and negotiating	

Content management: taxonomy/thesaurus building, indexing, original	
cataloging/metadata development and data governance	
Online searching and advanced research	
Content evaluation, search results assessment, curation of content	
Business planning, budget development and planning	
Facilities planning	
Staff management, staff development, scheduling and work allocation management	
Inter-organizational relationships: communications, outreach, leadership participation	
Other:	
Location and delivery, technologies	
Mobile devices	
On-line: email, broadcast (blog, Twitter, etc.), Skype	
Phone	
On-site	
Requestor's office	
Service delivery modes	
Verbal response by phone or in-person	
Written: Electronic or printout	
Reports: Curated search results or research results memorandum/document	
Other:	
Time allocated to services activities	
Number of Quick Reference activities/unit of time	/
Number of Short Research activities (6 min – 1 hour) / unit of time	/
Number of Long Research projects / unit of time	/
Other:	/
Description in Hea (Indicate a govern details belong in forms)	
Resources in Use (Indicate a count; details belong in forms)	

Internal staff (Non-exempt) Library science interns	
External services (e.g. Subscription agencies; researchers, document delivery)	
Computers/Printers	
Software applications	
Online search services	
Monograph collections	
Print subscriptions/Online subscriptions	
Other:	
Services Provided and Lost	***
Itemize those activities lost that had value and are targets for revival	
Surveys Performed (List Purpose of each Survey and Audience; Number surveyed)	
Survey Purpose/Audience:	
Survey Purpose/Audience:	

B. DOCUMENTATION FOR CURRENT CONDITIONS AND PLANNED INITIATIVES: ASSET ASSEMBLY

- I. Why assemble documentation for existing operations that you plan to eliminate or transform, you might ask. When should you do it? As you are performing the audit you will uncover: forgotten operational documents; memos written to staff concerning services; assignments and decisions concerning content. There are several reasons to review and collate this material in one place:
 - a.) By unearthing and reviewing these documents you will trigger ideas, and determine whether they reflect outdated or current intent;
 - b.) By bringing it all together, you can establish a resource you will likely need to draw upon as you propose new initiatives and change; and
 - c.) By organizing and exposing material as evidence to call up as discussions progress with management, you will reinforce your thoroughness and credibility.
- II. **What should you to do with these documents?** As noted, they need to be organized and collated. They should be readily available in a timely manner. You should create a Table of Contents to be made available at the appropriate time.
- III. **What should be included**? In addition to the historical and background material already mentioned, bring all of the following into the corpus and *make certain that everything has a date and note of attribution*:
 - a.) Job descriptions for the entire staff. Update them if they are outdated.
 - b.) Mission statements for any and all entities within your department.
 - c.) Strategic plans from past administrations and any you have previously presented to your management.
 - d.) Budgets for the past 5 8 years, or if your department does not have its own budget, gather everything you can that details expenditures for content, services, materials and staff. Source(s) of funding should be noted.
 - e.) Institutional Mission and Strategic Planning Documents for the entire enterprise are valuable for establishing how your unit has (or has not) been included in these documents. They will also be extremely valuable for you to be able to point to activities and operations where you can play an important role, if you are not already. These materials may reveal redundant operations that should be merged or other business units with which you can partner. Ignore these documents at your peril because they are vital to your planning process. Finally, enterprise descriptions and organization charts will give you additional names and positions of people you may want to interview.

IV. Documentation for Activities Proposed for Upgrades or Additions

This is where your research expertise will pay off. The vision of new and knowledge-focused initiatives will come from professional resources (e.g., peers in other institutions; MLA and other professional societies; and documentation of similar institutions describing their operations). Content will come from database searches, plus technology and service contacts already in place from vendors with whom you have relationships.

If you are already planning to shift focus away from library as "place," to library as "service operation," you already have contacts and relationships with individuals and groups that have given you ideas. Begin with a list of possibilities for where you envision making changes, and use it as a guide to your research.

The next set of steps secure all the backup information and resources you may require to respond to questions, defend your decisions, or explain new ideas and concepts. Knowing that you have this set of documentation to turn to in a pressured situation, when any change might be challenged, will give you security and peace of mind that you are on the right path. You will have evidence that: others have done something similar and succeeded; that this is accepted and expected current practice; or that "the best institutions" are already operational models in this practice.

a.) Collecting and capturing is a matter of using your research skills, and not just in a literature searching mode. If you have a specific problem to solve or challenge, you talk it through with a colleague or peer. This program from the NN/LM NER exists to serve as a resource and/or referral path to peers with whom you can talk through your ideas, test your operational theories, and elicit feedback.

First formalize a plan outline to illuminate: services you want to add; skills you need to accrue (for yourself or staff – see Module C); or current operations you need to enhance. Don't burden the process or tax yourself with a lot of excess description or detail; simply outline each distinct milestone you want to reach through a change.

For each point of change, document a resource or person who might have the insight or expertise to work through the idea. This resource person will help you think through what you need to do, learn or emulate by suggesting examples where something similar has been done.

Prioritize your objectives and focus on each task in succession. There may be interdependencies, but try to minimize the complexity of how you define the objective. This will open your investigation and discussion to more alternatives and a free flow of ideas. The goal is to look at a wide range of options for achieving an objective, not to constrain the possibilities with pre-conditions or limitations on how you want to get there.

- b.) Where to look is a matter of taking each item in your list in order and giving thought about whom, what group, or what resource can help. To avoid being overwhelmed, allow further development to happen organically after you have made the list in step "a.)" Let the list lie a few days and see what comes to mind. You probably have periodic conversations with other librarians at meetings or in the course of business (when seeking an article or answering a request). Tap the professional peers you encounter for thoughts on the objectives you are considering or ask for a referral. This is one step in the process that requires time and energy to pursue, so take it in small measures, doing outreach when it is appropriate. When approaching others for ideas, it may stimulate a lot more discussion than you might expect when you ask the question. Be prepared to listen.
- c.) Whether your outreach produces a bounty of resources and people to pursue, or just a couple of possibilities, prioritizing is again important. In the first case, you may decide there is more than you can handle, so rank contacts according to best chance for a productive discussion or visit, then begin with the most promising. You can always follow up later with others if the first communications do not play out as you hope.

Begin by listing the questions you want to ask and what you want to get information about. Whether by phone, in person over coffee, or in a meeting in someone's office, establish how much time you would like to spend in advance, and offer a short (2-3 items) agenda. After the outreach, a follow up with a thank-

For one private city hospital, persistence in securing additional funding to expand services and broaden the operation resulted in an unexpected opportunity. On the third proposal for a grant, an influential reviewer responded with a counter proposal to enter into a collaborative venture with a second entity.

The new proposal would benefit the library and the other group, one with an intense research component among whose staffers were some heavy library service users. The vision was to provide a new constituency of important researchers with the onsite services of a professional library operation, while enhancing the position of the library within the medical community it serves.

A new role is being accepted into the operation that far exceeds the original intent of the grant request, thus strengthening an operation that already had a fine reputation. By reaching out for more responsibility and communicating its strengths, library management fostered an even more important relationship. Communicating ideas and possibilities is key to getting the most out of asking for input. Sometimes you open doors you never expected.

you, recognizing what the person has contributed to your research, is important. Be prepared to capture as much as you can by taking notes or recording the conversation. Finding the appropriate and most workable means for capturing discussions depends on circumstances and your preferences. It is mandatory to ask permission to record, if you so choose.

Sample opening questions might be:

- "I have learned that you initiated a new service last year to... How did it come about and what was the impetus for the program?"
- "What did it take to plan and who was involved in the process?"
- "Did you face any barriers as you moved forward?"

Any of these are openings to begin a dialogue, but the more follow-up questions you ask, the better. Information gathering is the purpose. When you ask follow-up questions, they might shed light on aspects that concern you. It will help you to know how they solved a problem you expect to encounter.

When you have done sufficient information gathering through searching, reading and interviewing, the results need to be written up. There should be enough narrative to give context to your notes. The usefulness will be in doing the writing, because from that step you will solidify facts, anecdotes and pieces of evidence to call upon when asked to justify your plan, probably in a meeting or even a casual conversation. Be able to respond with something on the order of: "you know, over at the LXQ Medical Center, the nursing school faculty has added a library research course requirement for first year students..."

A second benefit of note taking is the mental processing and reprioritizing of any vagueness or gaps in your own agenda. It will help crystallize and refine the plan.

- d.) How to share what you have learned is important:
 - i. Organize materials to be made available to your management. Anything shareable (e.g., non-confidential documents) belongs with records that the library staff routinely has access to.
 - ii. Introduce content best introduced through a formal process (e. g., staff meetings, special presentations, or when appropriate, one-on-one meetings).
 - iii. Write an introduction to the material that provides context about the reasons for its presence and guidance about the intent.
 - iv. Provide an outline or guide.
 - v. Use reassuring language, such as: "You may have detected increased requests for us to provide.... Well, we have been talking to other hospitals of a similar size and mission to ours to learn what they are doing in this area. Right now we are gathering a lot of information about how they have instituted.... and we are making this available to you." To the extent that you can, it is always helpful to offer some comment about: next steps, timeframes, what this means in the short term, etc. Everything about change has the potential to be threatening and upsetting.

- vi. This sharing has two great benefits: solidifying trust; and opening opportunities for reciprocal sharing of information that could improve the planning process. It is sometimes surprising what will be shared when people feel that they are being brought into a process. They may have important knowledge of influencing factors or helpful resources that will benefit the effort.
- vii. Finally, timing is critical. You need to consider the risks of sharing too soon, or not soon enough.

B. DOCUMENTATION FOR CURRENT CONDITIONS AND PLANNED INITIATIVES: WORKSHEET

I.	Where to look and what documents are important
II.	How you will collect and organize the documents
III.	What you expect to uncover and include (list documents):
	a.) Job descriptions for the entire staff
	b.) Mission statements
	c.) Strategic plans
	d.) Budgets for the past 5 – 8 years
	e.) Institutional mission and strategic planning documents for the enterprise
	f.) Descriptions of existing services, subscriptions, and vendor relationships
	. Proposed Upgraded and Additional Activity Planning Documents (For each step, a. – c., pture notes for each initiative planned, then, arrange in priority order.)
	a.) Targets for change initiatives i. Describe initiative
	ii. People to include
	iii. Objective(s) to achieve

b.) Ou	treach Activity Plan and Results (Capture information for each initiative planned)
i.	Contacts
ii.	Questions you want to ask
iii.	Research and Meeting Results
	aring plans for documentation assembled (list document resources for management and off. [For each document note the following)
i.	Process for sharing (including who should receive)
ii.	Reason for sharing (importance, relevance)
iii.	Context for document as part of the plan
d.) Gu	ide to document sharing, schedule

B. CHECKLIST OF CHANGE PLANS AND SUPPORTING DOCUMENTATION

Knowledge Service Opportunities Activities Considered	Done
Target Areas Considered for Improving Content Accessibility	
Expanding and improving linkages to external resources	
Adding access and services to expose and leverage more internal resources	
Providing current awareness services that place new resources in plain view	
Improving topical access through improved subject categories and cross-referencing	
Ensuring internal search engines are optimized to deliver metadata field level access to content resources	
Other	
Target Areas Considered for Medical Decision-Support	
Delivery mechanisms to medical staff	
Database and content services for medical staff through point of practice access	
Outreach opportunities to engage medical staff with new information	
Other	
Target Areas Considered for Business and Operational Staff Support Services	
Reviewing internal business plans for awareness of institutional business needs	
Seeking external resources that provide non-medical information to medical institutions	
Other	
Background Documentation Collected for Knowledge Service Change Planning	
Documents Collected Reflecting Current Operations (Institutional and Library)	
Operational plans	
Mission statements	
Policies	
Budgets	
	<u> </u>

Business plans	
Facilities plans	
-	
Positions/Job description for your staff	
Organization charts	
Documents Collected Concerning Future or Strategic Plans (Institutional and Library)	
Operational plans	
Mission statement revisions	
Policies	
Budgets	
Business plans	
Facilities plans	
Job openings or Positions planned	
Other	
Documentation for New External Resources Considered	
Technology enhancements	
Subscription services (e.g. mobile access resources, content	
Consortia and collaborative initiatives	
Training, conferences, meetings and education	
Other	
Outreach Activities for Background Information	
Medical staff	
Professional Peers in other institutions	
Management and business operations	
Professional associations	
Academic faculty in library, information science and related disciplines	
Surveys undertaken	

Other	
Sharing Activities (Sharing appropriate information with people who will be influential in your transition to pave the way for change.)	
With your manager	
With your colleagues/peers	
With your staff	
With other department managers whose cooperation and collaboration could be a benefit or barrier	
Through public announcements at appropriate times	

C. HUMAN RESOURCE ASSETS & REQUIREMENTS

I. **Library staff competencies currently in place** should be reflected in documentation such as job descriptions coupled with performance reviews. However, if your institution is like many, these may be minimal and probably do not reflect the full scope of all that your staff is capable of delivering and supporting.

This activity requires some digging to uncover knowledge about people's skills and competencies. If you go back to Module A and the audit of current activities, a review of the results may well reveal information that can sum up what different people in your operation contribute to on a regular basis.

Supplement this information by asking each member of the staff to conduct a self-audit. In simple terms, creating a log for a representative week of every task or activity performed gives the individual an opportunity to reflect on their own full performance. Encourage them to include everything, no matter how trivial the task may be. Revealing wasted effort should not be a goal, but the results might give you ideas on how better to deploy your valuable and available human resources.

II. Transition and Competency Training Plans

At this point, you need to focus thoughtfully on where new knowledge-based services or initiatives will begin. Also, this step is one that will be iterated repeatedly throughout the periods of greatest change and transition, and should always be on a manager's radar for improvement. Stagnating skills contribute to poor motivation and performance, so neglect is not an option for top performing operations.

Document for each anticipated new initiative the following:

- a.) Service component description (retained and new)
 - i. Tasks that your staff is required to perform.
 - ii. Value attributed in terms of improving services, or enhancing an existing activity (e.g., minimizing risk, delivering better medical care, etc.)
 - iii. Competencies and skills required by your staff member that must be improved or learned.

b.) Business Alignment

- i. Prepare a description of how a service task aligns to institutional missions.
- ii. Make an evaluation, to the best of your ability, that expresses how the cost for staff development compares (as a ratio) to the value that will be delivered through improvements to material resource changes.

iii. Explore ways to express the relative value of a single KM professional to an institutional worker's productivity improvement.

III. Gap Assessment for Human Resource Requirements

- a.) Itemize the new skills or training required to bring existing staff up to a level of competence that will enable them to perform at a quality level.
- b.) Itemize competencies or skills that will require new staffing, and make use of the information you establish under *Business Alignment* to justify the position.

An example in one library was the use of professional time to evaluate journal subscriptions that would be the best resources for the library, and would also provide sought after articles through ILL exchanges. The professional was working to keep the budget under control while ensuring access to external libraries, with which she could maintain a reciprocal relationship.

A ratio of time spent to value delivered might take into account: the professional time spent evaluating resources; measuring how much additional content is being acquired through the ILL process; and what the subscriptions would have cost had the exchanges not been available.

C. HUMAN RESOURCE ASSETS & REQUIREMENTS: WORKSHEET

I. Current staff competencies

- a.) Itemize documentation detailing library staff competencies currently in place.
- b.) List staff members required to deliver a self-audit of activities.

II. Transition and Competency Training Plans

Document for each anticipated new initiative the following items, a.) and b.):

- a.) Service component description (retained and new) with focus on professional input to activity
- b.) Tasks that your staff is required to perform
- c.) Value attribution in terms of improving services, or enhancing an existing activity (e.g. minimizing risk, delivering better medical care, etc.).
- d.) Competencies and skills required by your staff member that must be improved or learned

III. Business Alignment

- a.) Prepare a description of how a service task aligns to institutional missions
- b.) Make an evaluation, to the best of your ability, expressing how the cost for staff development compares (as a ratio) to the value that will be delivered through improvements to material resource changes.
- c.) Explore ways to express the relative value of a single KM professional to an institutional worker's productivity improvement.

IV. Gap Assessment for Human Resource Requirements

- a.) Itemize the new skills or training required to bring existing staff up to a level of competence that will enable him/her to perform at a quality level.
- **V. Itemize competencies or skills** that will require new staffing, and make use of the information you establish under Business Alignment to justify the position.

C. CHECKLIST (ITEMIZE PRIMARY HUMAN ATTRIBUTES)[SEE SAMPLE]

Competencies and Human Resource Assessment	Done
Current Competencies	
New Competencies Requirements and Acquisition	
Gap Assessment	

C. SAMPLE CHECKLIST FOR PRIMARY HUMAN RESOURCE ATTRIBUTES

Competencies and Human Resource Assessment	Done
Current Competencies	
Develops outreach programs for new hires and hospital staff	X
Researches information technologies and services targeting healthcare professionals; solicits trials and pilot projects with vendors to evaluate products; designs evaluation methodologies to measure value for organizational and patient benefit	X
Provides subject expert search across biological, medical, life sciences and chemical databases	X
Thesaurus building, metadata management, original cataloging and indexing of specialized content collections	X
Software application packages utilized: Office 2007, Adobe Photoshop, Dreamweaver verison. n, ProCite, Filemaker Pro, MultiTes thesaurus management	X
New Competencies Requirements and Acquisition	
Requires training in business resource databases and services targeting business managers	X
Requires training in advanced spreadsheet development including statistical analysis and pivot table development	X
Requires training in SharePoint 2010 site management and taxonomy management for SharePoint sites	Planned
Records administration and retention policies as they relate to legacy collections housed in libraries materials	TBA
Gap Assessment	
BGM has excellent search skills and has also been instrumental in development of outreach to the business staff. Would be an excellent candidate for additional business database training	X
MLE has mastered Office 2007 products and used Excel for several years for special projects; an internal class is held quarterly for advanced Excel and she would be the best candidate to take that training	X
VAD is proficient with a number of software applications and handles all technical services, cataloging and indexing of special collections. SharePoint training and site	X

management fits with his current responsibilities and skills	
No staff experience with archival matters or records management; seek internal collaboration with Records Administration to transition responsibility for this legacy collection, and its possible disposal	TBA

D. COLLABORATIONS (INTERNAL)

Isolation (physical) or isolationist practices (behavioral) are an enemy of the traditional library operation. In the first instance, when facilities are reorganized, the library proper may be relegated to a remote location, far from the path of most natural constituents. Thus the location becomes symbolic of its importance: once out of sight, it is also out of mind. The inconvenience of going to

the "place" equates to the inconvenience of using the service. This is a condition to avoid in the first place, but if it has occurred, even more outreach to internal partners is needed.

Lack of traffic and/or lack of awareness of the department can also undermine the attitude and emotional well-being of the library staff; an isolationist mentality sets in, unless it is mitigated with a strong effort toward intra-departmental collaboration to keep the service in plain view.

A rural community hospital we visited maintains and provides self-training guides for nurses to check out for certification. This establishes a simple relationship with the HKSC Service Center but opens the door (literally) to more opportunities for communication and services.

If you find that your operation has been physically or practically isolated from other operations in the institution, the following list suggests some natural departmental alliances and others that you might not first think about:

I. User communities

If patients are undergoing financial hardships at home while hospitalized, your group can research innovative programs undertaken by finance departments at similar hospitals. Passing the resulting information along to your business office is a way to demonstrate your capabilities and interest in helping them become more effective.

- a.) Core constituent entities would include the medical staff and professional business staff you currently serve and those you would like to attract.
- b.) Specialty departments include units that have may not have traditionally been considered hospital library users: facilities and building development; nutritionists; occupational therapy; patient services; business office; records management and administration; fundraising; and marketing/public communications. If you think in terms of how the staff in these departments impact patient care and support the primary care providers, the possibilities for opportunities to improve overall operations are enormous, and you can play a leadership role by finding those opportunities. Outreach to one or several of these groups can be undertaken in an entrepreneurial spirit. One can encourage intra-departmental collaboration through understanding the relative impact each group has on total effectiveness.
- c.) Professional development, where education or training of staff in any role is a focus, presents opportunities for the knowledge professional.
- **II. Parallel Departments** are specialty departments whose role in the institution intersects with all of your core constituents. These were mentioned in the previous section, but to give a better idea as to how you might collaborate, we offer a suggestion for each and of course you are in a better position to think of other innovative joint projects.

a.) The department that takes care of information technology infrastructure, whether it is called *IT* or *IS*, may also be a department you report to, but you certainly must coordinate much of your information and knowledge service technology needs with them. Viewing the relationship as adversarial is a non-starter for advancing the position of your group as a knowledge service leader, but legacy relationships may have caused strains. If that is the case, it is only to your advantage to relieve pressure points and find advocates to work with you to clarify roles and missions.

Consider creating a document and the "elevator speech" that goes with it to compare professional competencies of a librarian/knowledge professional with an IT professional. Stress the roles of each when it comes to applying information technologies to content management of internal knowledge assets. Of prime importance is differentiating between managing the infrastructure and your role in managing the information resources that are stored in these systems. You must be the conduit for making the distinctions clear, because no one else in the institution can do it for you.

b.) HR is the source of information about the organization, its departments and communities. Work with them by asserting the competencies detailed in the

All of the visited hospitals clearly articulated their relationships with top management and the value of doing so to sustain the support necessary to increase services and expand operations.

previous item, so they clearly understand your positioning and why you need to understand "the lay of the land." Organization charts are a must-have to seek and clarify all players; it gives you a point to begin thinking about where you can add value among the leading entities. While it is important to keep underserved constituencies in mind when creating new services, you will have a better chance of long-term success by first having a presence and proving value to the leaders of the organization. This

is a strategic way to go about getting more support for other groups that could also benefit from a knowledge services operation.

- c.) Training and education may be a separate department or may be embedded in various business and professional units. Regardless, aligning your services with their mission requires attention.
- d.) Facilities and operations might not come to mind as a group to work closely with when you consider that your space requirements may always be at risk due to their planning. It is good to give them service where appropriate. By sharing information about energy efficiencies, environmental impacts on hospital operations, and your own ideas for getting better use out of the space you already have, you can establish a vital communications relationship. When you have that kind of exchange going, they may be more likely to share plans and operational changes that would impact your group in advance, giving you the opportunity to express opinions or to be part of the planning.

- e.) Communications and public relations need your services, because the messages and information they disseminate must be authoritative and accurate. By giving them superior search services and resources to help them build up a healthy flow of information for outreach, you establish a relationship that you can call on for helping your group with re-branding and messaging as you work through repositioning or expanding *your* services. They are the professionals at communicating and you need them.
- III. Affiliated institutions may already be wellestablished partners for your healthcare knowledge services center, but it still takes thought and effort to sustain beneficial relationships. There are institutional agreements that must be considered first, of course. However, libraries of similar institutions could be formal affiliates, even if they are not now. Purchasing

At one of our visits to a large city hospital we learned about their formal network of hospitals in that city. There are formal relationships among those hospitals in which other departments collaborate and the inter-library connection is strong. However, while working through an e-book sharing purchase, it has become clear that not all collections in the service meet the needs of all the participating libraries. This underscores the need to look at all the variable realities of engaging in resource sharing before accepting a merger of collections. It is also your professional responsibility to seek out and secure only those relationships that will work.

content and services from vendors is the largest budget expense after staff. By contractually formalizing a relationship that puts you into a position for bulk purchasing, you may strengthen price negotiations and expand content access opportunities.

This is a high stakes area to consider, and some loss of control is always a possibility but we consider it an area to work out with your own management and institution to see where the benefits might lie.

- a.) Academic, medical, dental, physical therapy, occupational therapy, psychology, audiology, and nursing schools, with which your hospital already has some affiliation, are the most obvious choices to seek library "mergers," *de facto* or formal.
- b.) Institutes of research, which your hospital recognizes as partners, are candidates for stronger purchasing arrangements.

D. COLLABORATIONS (INTERNAL): WORKSHEET

- I. User communities (notes)
 - a.) Core constituent entities
 - b.) Specialty departments
 - c.) Professional development departments

IV. Parallel departments

Note department name and contact person/people with contact information

- a.) Information technology
- b.) HR
- c.) Training and education
- d.) Facilities and operations
- e.) Communications and public relations

V. Affiliated institutions

List institutions and include contact names with contact information

- a.) Academic schools, medical, dental, physical therapy, occupational therapy, psychology, audiology, and nursing.
- b.) Institutes of research which your hospital recognizes as partners are candidates for stronger purchasing arrangements.

D. CHECKLIST (VERIFY THAT YOU HAVE CONSIDERED/CONTACTED)

Collaborating Entities (Internal)	Done
User Communities	
Core constituents: Medical staff, Professional business staff	
Specialty departments: facilities, nutritionists, occupational therapy, patient services, business office, records management & administration, fund raising, marketing & public communications	
Professional development departments	
Other:	
Parallel Departments	
IT/IS	
HR	
Training & Education	
Facilities & Operations	
Communications & public relations	
Other:	
Affiliated Institutions	
Academic schools: medical, dental, therapy, occupational therapy, psychology, audiology, and nursing	
Research institutes	
Other:	

E. COLLABORATIONS (EXTERNAL)

When internal and formal inter-institutional relationships are not sufficient to boost your resource acquisitions and information sharing, then finding other partners is always a good option to consider. Everything mentioned about internal collaboration holds true here, as well, but you must carefully assess the balance in the relationships you pursue. *The net advantages must benefit both partners more-or-less equally.*

As you reassess your own operation for transitioning to a healthcare knowledge services operation, take a critical look at current external collaborations and be prepared to extricate your operation from those that no longer give you true reciprocal value. Justification for doing so should be documented. Do not burn bridges, but move on when you need to shift allegiances and resources to other more productive partnerships.

- I. **Library consortia** fall into a similar category as partnering hospitals. Library-to-library collaboration works just fine.
- II. Governmental agencies vary significantly in how well they perform from one region to another, and from one agency to another. The caveats about time and effort spent leveraging the relationship certainly holds here.
- As already noted, one library has entered into a consortia arrangement to purchase e-book subscriptions, which may or may not work out. On the other hand, purchasing subscriptions jointly has proved very beneficial, and cost sharing has been worked out equitably. Like all relationships, these joint ventures require attention and nurturing. They are great when all parties benefit equally, but that particular premise for collaboration has to be reviewed periodically to be sure this pattern continues.

- State
- Regional
- Federal
- III. Academic institutions as formal partners was noted in the section on internal collaborations, but

One of the most beneficial government programs we encountered was a city hospital that could blend a statewide subscription arrangement with its own holdings to reflect all journal resources in a unified list on its intranet. Seek out these opportunities aggressively and make sure that attribution for those added publications is clearly displayed in the presentation.

there may be some that only make sense for exchanging interlibrary services. A second type of relationship with academia can also be fruitful. Each of the librarians we interviewed had taken on additional responsibilities at some point in their professional careers. They have:

- taught classes/seminars
- developed curricula to provide students with knowledge of library research;
- taught for-credit courses toward information science degrees;
- undertaken specialized training in medical research; and

supported professors in their teaching activities.

Wherever you are in proximity to teaching institutions you can seek out opportunities for increasing the information literacy of a college or graduate community.

- IV. Non-profit agencies/NGOs are on the rise and there are a lot of reasons to believe that the trend will continue as federal and state programs undergo major cuts. These agencies will be seeking funding through grants, philanthropy and other fundraising initiatives. Conventional wisdom might hold that these entities will seek your support in their ventures. However, there are opportunities for reciprocal relationships. One example might be to have them share data about their health related outcomes or research on an expedited basis, in exchange for some resources from your operation. If an agency is doing work that has an overlap with research in your hospital or a partnership that already collaborates on medical services to remote areas, you can become the conduit for receiving and disseminating the results of the NGO's work.
- V. Public Libraries in large metropolitan areas often have special collections or endowments for special activities. If your hospital is in such a community with a large number of teaching hospitals and medical schools, you may find a basis for reciprocity with the public library. It is worth building up a relationship because you probably can supply important scholarly content when they have a patron request and their non-medical collections and services can fill gaps in yours. It is important to include State Libraries in this outreach.
- VI. Professional associations are probably the most productive resource for building external collaborative ventures because they bring you in contact with professionals of similar interests. The most important guidance offered in this document is to look beyond traditional library and medical associations. There are a number of fledgling groups that

operate informally, without membership requirements. If you get on their mailing lists, the meeting announcements alone will give you ideas that suggest other knowledge services and activities worth pursuing. Additionally, these groups will give you the names of people - and their knowledge roles

All of the librarians interviewed for this guide are and have been active throughout their careers in professional associations, on boards of libraries, and contributors to innovative collaborative inter-library efforts.

- to seek out for further discussion. Our experience is that most professionals are quite enthusiastic to share what they are doing if others ask them, especially if you label their pursuits "innovative."

More and more groups host blogs containing commentary about member activities. Many publish through a group website the presentations from their meetings. Even as a "lurker" you can participate in the threads, trends and notable accomplishments in the knowledge disciplines for inspiration or confirmation of the worthiness of a track you are on. Appendix B lists a number of websites and groups you may decide to follow or join when it is practical.

E. COLLABORATIONS (EXTERNAL): WORKSHEET

For each category, list names of organizations and contact people with their contact information

- I. Consortia
- II. Governmental agencies
 - State
 - Regional
 - Federal
- III. Academic institutions
- IV. Non-profit agencies/NGOs
- V. Public Libraries
- VI. Professional associations

E. CHECKLIST (LIST ENTITIES CONTACTED/CANDIDATES FOR COLLABORATION)

Collaborating Entities (External)	Done
Consortia	
Governmental Agencies	
State:	
Regional:	
Federal:	
Academic Institutions	
Non-Profit Agencies (NGOs)	
Public Libraries	
Professional Associations	

F. PRIORITIZATION: SEQUENCING NEW PROGRAM INITIATIVES

Initiatives are activities you undertake to raise the stature and visibility of the services you already provide or plan to launch. The two attributes which most reflect how to be at the pinnacle of information resource delivery are trustworthiness and authoritativeness. Whether through an intranet portal, simple home page of links, or in the midst of physical traffic flow, you want to be omnipresent as a top information resource. Respect will be earned if you reach out, deliver authoritative results in a pinch, refer to authoritative resources when you don't have the assets inhouse, and find an expert when one is needed.

A significant frustration that we hear from librarians who feel undervalued is that they are always the resource of *last resort*, instead of first. *We recommend that all your initiatives and plans aspire to shift the balance, incrementally, in the other direction so that you are the first stop that constituents make*. You want them to be confident that you will make the path to answers more efficiently than any other resource in the institution. You should not be shy about creating reminders, explicit or implicit, that focus attention on your department.

- I. **Institutional initiatives** begin at the top. In any organization, successful people emulate leaders they respect. Personal philosophies about being egalitarian and equally supportive of the weak and underserved need to be put aside in favor of establishing a stronger unit that will survive and benefit everyone over the long haul. Making institutional leadership a priority, particularly when the survival or existence of the library is in jeopardy, is not wrong-headed. By taking their needs seriously and demonstrating with confidence that you have real value through the knowledge services you provide, you strengthen the net worth of the department.
- II. Interdepartmental relationships and partnerships are a close second to executives when it comes to prioritizing initiatives. Early in your planning for improving and expanding services, schedule meetings with as many potential internal managers as you can identify using the organization charts and referrals from others. Some natural and comfortable alliances will probably come to light easily, while others might be less probable for any number of reasons.

Work on the relationships that make the most sense right away and put them at the top of the list for development. Leave each meeting with an action item and schedule a time, or at least, a timeframe for the next conversation. It is not enough to just get a consensus and leave with a

Two libraries we interviewed shared anecdotes of their interactions with C-level executives on multiple occasions. In addition to becoming regular information seekers and communicants with the librarians, they also routinely refer others to the service centers. Having that level of recommendation will penetrate the culture, as it has in their institutions, and it will become more "top of mind" for others to follow these executive examples.

good feeling about the potential. Try to make it real right away and if the other potential partner is not ready, they will let you know directly or indirectly. Take cues seriously but not personally. Some partnerships for collaboration might make sense, but for political

- reasons or other constraints (hidden from your view), they might not be possible in the short term. Shift those weaker options lower on the list, but flag them for follow-up in the future.
- III. There are some **departmental initiatives** that would be less collaborative in nature. However, these initiatives may be where you have expertise and competencies to offer. Approach these as outreach to learn more about their needs and respond with information about what you can do to fill a knowledge resource gap.

Set your priority list based on this sequencing and where you believe your efforts will make the maximum impact with a reasonable level of effort (think "low hanging fruit" first). Next, move on to a second round of validating by conducting a risk assessment. You want to understand how each potential project fits in with political and budgetary realities.

F. PRIORITIZATION GUIDANCE; SEQUENCING NEW PROGRAM INITIATIVES: WORKSHEET

List a brief description of each initiative you plan to undertake in each category and rank them as to priority within the category.

- I. Institutional initiatives
- II. Interdepartmental relationships and partnerships
- III. Departmental initiatives
- IV. External initiatives
- V. Professional development/Outreach activities

F. CHECKLIST (LIST IN PRIORITY ORDER & VERIFY ACTIVITIES INIATIVES)

Initiatives Prioritized	Done
Institutional Initiatives	
Interdepartmental Relationships	
Departmental Initiatives	
Other	

G. RISK ASSESSMENT

Risk is an issue that resonates across all aspects of business management. Transforming or reengineering programs and actions that could expose institutions to financial, legal, or performance downgrades are as necessary for hospitals as they are for financial institutions. Libraries and librarians are notoriously risk-averse and cautious; they also take their roles and responsibilities to their institutions very seriously. There is no question that given a direct assignment or task to perform in the line of duty, most will work hard and overtime to deliver.

However, there is a second line of risk management that is not often talked about: the risk of not

pursuing high-value responsibilities. On this point, the risk is to the very survival of the professional librarian as an accepted and expected team member in the delivery of health care. This is the core purpose of this guide.

The following four behaviors are the risks you must confront directly and without equivocation if you believe you have special value to deliver that cannot be provided by any other professional group in your institution. If you fail to act, if you are laid off and the library is closed, restoring the legacy value of the unit will probably take years or decades to occur. It takes institutions a long time to recognize the value of what they have eliminated.

I. The **risk of continuing with the** *status quo* is a given. There is no professionalism or justification for sustaining the same processes, tasks and operational mode for years on end. When you fail to recognize new opportunities to grow your service, add new value, or establish new resources and technological pathways to get information out to your constituents, you are at risk of being eliminated.

What you need to take on is a proactive stance; eliminate services that do not provide constituents with improvements to their operation. If you are not visible in your role, outand-about learning how you can serve, you have exposed yourself to risk number one.

The most poignant anecdote in our visits was hearing about a hospital library that had some years before, acquired an integrated library system (probably at significant cost) and was using it to catalog books, most of which were donations to the library. Few of the materials were medical in nature and the level of circulations of those books was in the single digits (on an annual basis). When the library manager *left, a part-time professional was* brought in to keep the doors open until it could be closed down permanently. Fortunately, for the medical staff, the librarian saw the misuse of professional time and eliminated the book collection "development" program and online cataloging of non-relevant materials. From that point, outreach and high-level research services became the focus of this knowledgebased service, and the librarian is now full-time.

II. **Risks of not communicating plans and development strategy** routinely with your management and key stakeholders must be taken seriously. If you try to make changes in a stealth mode, there is a huge risk that others will mistake lack of communication as passivity or complacency. Others need to know that you are doing and that you want collaboration.

- III. **Risk of not initiating planned activities** -- once you have charted a course of change and roused the interest of stakeholders, constituents and partners -- would be interpreted as having no follow-through. You cannot risk being viewed as having a lot of rhetoric without action or without the commitment to your program. This risk could render you completely powerless. At the least, you must demonstrate incremental progress.
- IV. There are always **risks of falling short of your goals**, having to regroup or readjust methods, roles, and even purposes. However, a strong leader will always find ways to come back and find recovery options.

Consider the situation of one city hospital library that was being pressured to accept a legacy collection of physician's notes. *Other than historical interest they* would provide little value to the services the library provides in the practice of medical care, but would consume substantial time to index, and rob the library of space needed for workstations, already at a premium. The library manager took a strong position, defending the true purpose and value of the existing operation, not to become a "depository" for unwanted materials. A compromise was reached to house the materials elsewhere for "curatorial" attention when time is available. The process of explaining and adjusting to political realities is necessary for the KM champion and leader.

G. RISK ASSESSMENT: WORKSHEET

Itemizing and documenting risks is critical at this point. Even though you may have internally acknowledged these conditions, writing them out will solidify your commitment to moving on and acting to control your department's destiny.

- I. The risk of continuing with the status quo
- II. Risks of not communicating plans and development strategy
- III. Risk of not initiating planned activities
- IV. There are always risks of falling short of your goals and mitigating options

G. CHECKLIST (RISK AVOIDANCE PRACTICES)

Risk Assessment: Have You	Done
Planned a course of action to	
Established a plan to make purposeful changes to increase the value of your operation?	
Communicated your plans and initiative to your manager?	
Routinely kept your partners in the loop as initiatives are launched?	
Kept your plans and initiatives on track and made adjustments as necessary?	
Found ways to recover when desired outcomes are not being achieved?	
Broadcast successes and achievement through a communications campaign?	

H. BUDGET AND COST ALIGNMENT

- I. The current budget and historical budgets for the previous five years (or longer if they are available) are the starting point for determining two primary budgetary processes. This is based on documentation that you collected earlier in Module. B. If budgetary information is not in spreadsheet formats, or in a financial package with advanced reporting activities, you can enhance presentation options by recasting it in that mode now. It will make it much easier to illustrate cost trends or changes in expense distributions over time as you defend any proposed changes. Charting of budgetary data will also help you see possible areas for tightening, cutting or reallocating your financial resources. Finally, when comparing expenses year after year, you may notice some lower cost areas that you know bring high value, or conversely, high ticket items that offer questionable or lower benefits. If you do not have skills with spreadsheet or financial package reporting capabilities, consider taking a course in a local continuing education program.
- II. The **proposed budget** must realistically include shifting costs and expenses across various areas. The organization's business group can be an excellent resource for understanding how simple expenses (including small and large capital costs) are allocated and accounted for. You must be aware of how and when it makes sense to shift items from one category of expense to another. You would be surprised where hidden financial resources can be uncovered by reallocating some items in the existing budget.
 - a.) Planning the budget effectively depends on having completed the data assembly in Section I of this module and understanding institutional accounting. With this knowledge you can proceed to evaluate changes in view of available financial resources. The planning phase requires artful decisions based on where you can make the largest impacts most quickly. Consider the budgetary consequences of these items in your planning strategies:

We were wisely counseled in one of our visits with the Director of Library Services, how vitally important it is to pay attention to business realities. This means fitting your agenda to the circumstances of the institution. Constantly evaluate your priority list for initiatives to see what should be moved to the top, to service a pressing need for the institution. This may be an obvious notation, but sometimes in our enthusiasm for what seems like a great idea, we neglect looking at the big picture and risk getting off to a rocky start. The best advice is to make it your business to stay tuned to the business and keep your antennas up.

- i. Take time to lay out various scenarios for consideration.
- ii. Anticipate consequences of new initiatives. Overall strategy execution will be weakened if overreach causes a breakdown in existing, high value services.
- iii. Recognize the need for staff to acclimate to new initiatives, particularly if the initiative requires new skills and training.
- iv. Establish benchmarks and schedules that allow for logical breaks to assess results and confirm positive progress. Make adjustments when necessary.

- v. If initiatives are going to overlap, factor in all the resources that will be tapped, with contingencies for unexpected institutional conditions that might jeopardize progress.
- vi. Include budget for internal marketing and PR support.

Bringing a plan online and executing it successfully at each stage will give your manager and institutional executives confidence in your management abilities and business competencies. Overall trust and respect for the professionalism of the Healthcare Knowledge Services Center will accrue as initiatives play out positively.

- b.) Aligning with business objectives of the institution means that you must be vigilant about any changes that are eminent or surface unexpectedly. Adjust accordingly, but have discussions with key managers first to confirm that you are not overreacting. The important point here is to establish that you are tuned in and aware of what is going on around you.
- c.) Finally, aligning with similar initiatives is crucial because you cannot afford to be in the position of launching a new program only to find that other groups are intent upon providing a service or filling a need you have targeted. There may be an opportunity to collaborate by sharing costs, resources, and responsibilities. A wise choice is to work through which group has the strongest competencies for taking on a new initiative.
- III. Selling the plan is where your communication options will be exercised. Earlier in Module D. there are comments about internal collaboration with Communications and Public Relations professionals. Seek them out during your planning process to insert significant activities for making announcements, plus establishing branding and messaging content. These are details best worked through with the professionals who know the institution and how to get attention when it counts.
 - a.) Take opportunities to tell your constituents about imminent changes and plans. This can generate energy and excitement about what is coming. Ask your biggest champions for ideas on rolling out new programs, or how to capture renewed interest in the HKSC.
 - b.) Consider posting notices that raise interest and promote awareness of your current services to pique the interest of the audience with the promise of more to come.
 - c.) There is always a chance that new information may come to light once you go public that brings a negative reaction or inquiry about the necessity for change. Be open to suggestions, receptive to compromise when necessary, or to negotiation of alternatives, if there is truly a legitimate issue to be debated. Money issues often underlie protests about new initiatives. Use justification that includes benefits; that will go a long way to resolving controversy.

H. BUDGET AND COST ALIGNMENT: WORKSHEET

List documents (with links as appropriate) to complete this worksheet

I. The current budget and historical budgets for the previous five years (and charts or summary presentations)

II. The proposed budget (notes)

- a. Planning the budget
 - i. Scenarios for consideration.
 - ii. Consequences of new initiatives
 - iii. Staff additions
 - iv. Benchmarks and schedules
 - v. Other resources that will be tapped
 - vi. Budget for internal marketing and PR support.
- b. Business alignment
- c. Other initiative alignment

III. Selling plans (notes)

- a. Informing constituents
- b. Notices and broadcasts
- c. Handling feedback and providing justifications

H. CHECKLIST FOR BUDGET PLANNING

Current and Historical Budgets	Done
Data Preparation and Analysis	
Build competencies with financial packages and budgetary software	
Summarize past budgets in spreadsheets or financial database	
Experiment with reporting software to creating visual evidence of budgetary history	
Create budget analysis reports illustrating relevant trends across expense categories	
Other:	
Proposed Budget	
Armed with report results, meet with your management to evaluate and discuss budget options	
Seek supporting guidance from business managers in collaborating partner departments	
Seek accounting advice and ideas from institutional finance departments	
Lay out initiative scenarios and test budgetary consequences	
Allocate budget for staff development activities	
Allocate budget for communications & public relations	
Consider new inputs, guidance and advice, readjust budgetary plan, as appropriate	
Selling	
Informal program communications; interest generation	
Roll out PR and communications notices	
Accommodate feedback, commentary, and contingencies that arise in program and budgetary plans	

I. CHANGE MAPPING AND IMPLEMENTATION

I. Task maps are in order, now that you have conducted audits, collected documentation for new knowledge initiatives, and generated program ideas through outreach and collaboration. In <u>Module A</u> we recommended tools for collecting information in visual formats.

Task maps are process oriented documents reflecting decision points, change elements and many will include scheduling features. Products such as MS Visio and MS Project can be used for mapping out major change initiatives. There are other software applications that

may be readily available from your IT department or business planning group.

While this guide provides a holistic view of multiple changes as part of a complete strategy for transitioning to an HKSC operation, we are well aware that most operations must make changes incrementally. This is the only practical way to proceed for a one- or two-person operation.

However, without becoming overwhelmed with the work ahead, it is worthwhile to have a "grand vision" in mind, even as you proceed at a measured pace. A macro view – a change map with initiatives you are targeting over time – will assist with focusing your energy on the big picture. It is a plan you can revise as needs change and situations in your institution dictate.

For every initiative you do launch, run through all the checklists as a reminder of key elements that must be considered. Getting a big program accomplished for a small unit is achievable in increments. With an iterative approach you will become an efficient pro at surmounting the hurdles.

We recommend a change map for each new initiative and then a macro view map of all the changes you plan to make. With your maps drafted, a double check is in order to make certain the itemized tasks are accounted for. Revisit your checklists to refresh your own knowledge of what needs to be included.

- **II. Schedules** may be embedded in the task maps or you may want to create separate worksheets to illustrate overlapping initiatives and timelines. We find <u>Gantt and PERT charts</u> useful ways to visualize streams of activity with markers for beginning and end points of significant milestones. In the chart we recommend the following inclusions:
- a.) Task initiation and implementation
 - New relationships
 - New technologies
 - New services
 - New content
 - Programs and services to be phased out
- b.) Training and learning activities for the staff
- c.) Pilot projects
- d.) Routine operations, transitions, or phase-outs
- e.) Launch

III. Staff development is always a necessary

consideration when expanding services. Referring back to the <u>competencies audit</u> and <u>human resources</u> review, you can begin to match the people you have with initiatives, and then assess where skills or training are required. Whether you are in a one-person operation or manage several others, your own competencies and prospective contributions to an activity need to be factored in.

Whether training involves learning more about a technology, updating information or

library science skills (e.g., taxonomy development), or adding business skills (e.g., statistical analysis), a budget will be another requirement. Even before you begin the entire program of transitioning, the need for professional development is imperative. Technology is a core foundational resource on which you build your healthcare knowledge services center. Given the pace at which technology changes, some level of coursework will be required. Make it a standard line item in your budget and be assertive in defending it.

- **IV. Pilots: Testing/Evaluation** is part of rolling out an initiative and you want the results to be significant. If it is going to take a while to develop the program, start small and work through the project in phases, with tests and evaluations along the way. Thinking generically across all possible knowledge resource programs, these are the minimal test and evaluation requirements to have in place before you begin:
 - a.) Who are the people you most want to attract to the program? Find a representative sampling from this group who are willing to provide feedback. This means including enthusiasts and some skeptics.
 - b.) Prepare a written description of the program, explaining its intent, proposed benefits to their community, and specific questions about what you want them to evaluate. It would help the process and be less of a burden for evaluators if you make it simple for them to respond, which means making the questions really specific (e.g., rating scales, Y/N, short answers, etc.)
 - c.) After the evaluation/testing, leave the option open for a follow-up debriefing. Debriefing can be done in person with the group or in private during which time they can explain any concerns they have but also look for endorsements. This is your time to make incremental adjustments to the program and you want to know as soon as possible where there are problems. If you detect something is amiss -- whether it is your instructions, explanations of benefits or the program itself -- do not proceed until you get it figured out.

The most direct line of inquiry, if you believe there are problems, is to ask a couple of things:

- i. What do you think we need to do to make this program/initiative more effective?
- ii. Do you have questions about why we are offering this (....program/ service/ resource) to your group?
- b.) Most important: do not proceed unless you can and do take corrective action where you see flaws. Communicate with management and all participants about what has taken place and continue to be transparent, showing good faith in how you are taking responsibility for moving forward. In the direst circumstance, you may be faced with a decision to stand down and try again with a different approach later. Make the decision, and make your intent clear. Conditions change, and your recognition of some event/timing/constraint that is a barrier is a sign of professionalism and maturity. But don't let that deter you from trying the next initiative or trying again.

V. Implementation is where the reality of your transformation takes hold. Each new initiative is a separate process and from this point forward, you need to cycle through each of the steps. As an example, you might be launching a new initiative in collaboration with the Nursing Department. A collaboration might be an online current contents service for nursing staff that includes bulletins from the CDC and other healthcare websites on controlling infections and alerts of infection incidence. This is a single initiative through which you will move through all the phases. The process is the same for every new launch.

Timing is critical in any new venture. Many potentially great ideas can meet failure simply because the time was not right, and the necessary ingredients (people, assets, budget, and competencies) were not in place. It is not enough to simply settle for "sufficient" resources or a time that is convenient for your group to begin. Try to position the timing to coincide with or align with other activities that will be a good fit and rise to the level of a truly coordinated activity. In our simple example, if the Education Department is offering special training to upgrade nursing skills in a related area, synchronize your efforts for the rollouts. Even if you think an initiative is a top priority, get input from your internal partners and allies for their judgment on *when* it makes sense to go forward.

VI. Launch is where you put forth the major communication messages, including branding and promoting for each program that is online in its fully tested and accepted mode. This is not to say that incremental changes will not be made going forward. Nothing about your service offerings should ever be considered "done". The nature of information, how and why it is delivered will always be changing. This step is the "grand opening." Celebration is important to your staff.

Make sure that every deliverable that comes out of the new program is branded and identified as to source; your unit and any collaborators need to have a visible presence on the work (i.e., web pages, documents, pamphlets, etc.)

VII. Evaluation and assessment has been commented on in several modules, but it bears repeating. Change is ongoing and *status quo* is not professionally acceptable. When things are going well, find ways to leverage the positive aspects and apply these in other new initiatives. Whatever is working well can probably be applied in future programs, and what you learn will make each successive step more efficient in the implementation.

Likewise, when something in a program seems off, not embraced or utilized to the level you expected, expend the energy to figure out why. We know that the energy and effort we expend to make information delivery better for our constituents must be worthwhile. As already mentioned, sometimes timing is not right, but the messaging might also need fine-tuning. You don't want to waste time delivering a service or content that is not valued; it is equally important to

Our two city hospitals were both launching new services when we visited. Both included graphics and special labeling identifying their responsibility for the content. One was proud to show me the artwork for a new program being rolled out as this goes to press.

recognize why it is that the value is not perceived as you believe it should be. Take corrective action where possible, or let it go when the effort is not likely to be productive.

In every institution and for every professional there will be significant hurdles. There will also be plateaus in both interest and our own professional inventiveness. The best we can do is to continue to deliver each service task with the best intentions and know-how that we can possibly bring to the effort. To sustain your own professional energy and commitment, we recommend ending each day by making a note of what was accomplished. It should include everything, even research or reading for your own professional growth. We began the guide with an audit and we end with this guidance to maintain your own professional audit. A daily list of accomplishments will take minutes, but can continue to stimulate a sense of accomplishment and ideas for the next day's work.

I. CHANGE MAPPING AND IMPLEMENTATION: WORKSHEET

Capture notes in the following sections with ideas concerning methods and tools that you will use in mapping, scheduling and tracking your initiatives.

- **I. Task maps tools** (see Module A of main guide); make notes on tools to document and visualize project activities and highlight those that will be used
- **II. Scheduling notes** should include targets for prioritized initiative development and program launches. Also include contingency notes, assumptions and possible scheduling conflicts or risks. List names of Gantt or PERT charts if they will be used.
 - a.) Task initiation and implementation
 - New relationships
 - New technologies
 - New services
 - New content
 - Programs and services to be phased out
 - b.) Training and learning activities for the staff
 - c.) Pilot projects
 - d.) Activity phase out OR transition from routine operations
 - e.) Launch

III. Staff development plans and initiatives

IV. Pilots: Testing/Evaluation

- a.) Who are the people you will target?
- b.) Program notes and descriptions:
 - i. Intent
 - ii. Proposed benefits
 - iii. Evaluation questions
- c.) Debriefing plans and questions

	i. Corrections/Changes
	ii. Communications
V.	Implementation – next step notes
VI.	Launch notes
	a.) Messaging
	b.) Branding and promoting
	c.) Publicity plan
VII.	Evaluation and assessment /After Action Review (AAR)
	a.) What went right?
	b.) What needs correction?
	c.) What should be eliminated or abandoned?
	d.) Significant learning and outcomes?

d.) Follow-on activities

I. CHECKLIST FOR CHANGE AND IMPLEMENTATION

Change Maps	Done
Tools and Methods	
Select software for task maps and scheduling	
Build Task Maps	
Build process (task) map for each initiative	
Build a (high-level) macro-map of all initiatives	
Scheduling Map	
Schedule new tasks: New relationships, New technology, New services, New content	
Training and continuing education	
Pilot projects	
Phase out programs/Transitional activities	
Launches	
Itemized Tasks	
Staff development:	
Pilots:	
Implementations:	
Launches:	
Evaluations & Assessments:	

APPENDICES

Resources for background, inspiration and ideas

APPENDIX A: KNOWLEDGE MANAGEMENT DAY WORKSHOP

Moulton, Lynda. *Knowledge Management: Enabling the Medical Library Transformation (a primer)*, presentation at Knowledge Management Day Workshop, March 4, 2011. [with notes]

Participants Demographics Exercise, Knowledge Management Day Workshop, March 4, 2011.

Table Topics Discussion (Workshop Roundtable Discussion Summaries), March 4, 2011.

Template for Building a Healthcare Knowledge Services Center. Developed by members of the Hospital Library Subcommittee of the Regional Advisory Council (RAC) of the National Network of Libraries of Medicine, New England Region (NN/LM NER), March 4, 2011.

APPENDIX B: OTHER RESOURCES

Adams, Katherine. <u>Peak performance</u>; <u>CKOs contribute to organizational success through effective knowledge leadership</u>. <u>Intelligent enterprise</u>. Oct. 24, 2001] 10/24/2001, 3p.

Cohen, Noam. When Knowledge Isn't Written, Does It Still Count? NY Times, 08/07/2011, 1p

Genusa, Angela. *RX for learning; why Tufts' health sciences database earns honors*. [In:CIO; the magazine for information executives.] 02/01/2001, 6p.

Hedden, Heather. <u>The Accidental Taxonomist</u>, <u>Information Today</u>, 2010. 472p. ISBN 978-1-57387-397-0

Kalb, Claudia. *Do No Harm; Medical errors kill some 100,000 Americans every year*. How we can reverse the trend. Newsweek, 10/04/2010, 3p.

Kennedy, Mary Lee. *New roles for info pros*, by Mary Lee Kennedy and Angela Abell. SLA <u>Information Outlook</u>, 01/2008, 11p

Koenig, Michael E. D. KM: the forest for all the trees. KMWorld, 04/2006, 1p.

Koenig, Michael. <u>Knowledge Management in Practice: Connections and Context</u> (Asist Monograph) by Michael Koenig and T. Kanti Srikantaiah, 2008. 544p. ISBN 978-1-57387-312-3

Lamont, Judith. *ECM supports healthcare*. KMWorld, 03/01/2011, 2p.

Liebowitz, Jay. Knowledge retention: What practitioners need to know. KMWorld, 02/01/2011, 3p.

McGee, Marianne Kolbasuk. <u>Missing pieces</u>. <u>InformationWeek Analytics</u>, 12/2010, 11p. ["Health information exchanges must overcome a range of technical challenges or risk losing their clientele."]

Mills, Elinor. Most reliable search tool could be your librarian. CNET News.com, 09/29/2006, 2p.

Moulton, Lynda. *Indexing for an audience: Where you will find new opportunities*, presented to the New England Chapter of the American Society of Indexers, March 24, 2007, Chelmsford, MA. LWM, 03/24/2007, 16 slides

NISO. <u>A Framework of Guidance for Building Good Digital Collections</u>, 04/16/2008. [The 3rd edition (2007) of the Framework was supported in large part by the Institute for Museum and Library Services (http://www.imls.gov)]

Owens, Leslie. *Know your role! In a content-dominated world, content and collaboration have morphed into a critical strategic function in your organization*. KMWorld, 10/29/2010, 3p.

Raths, David. *In implementing BI, hospital officials face KM challenges*. KMWorld, 03/01/2011, 2p.

Robertson, James. Intranets in 2015, presented at KMWorld, 2010. Step Two Designs, 11/2010, 23 slides

Santosus, Megan. *The ABCs of Knowledge Management*, by Megan Santosus and Jon Surmacz. <u>CIO</u>, 8/13/2002, 4p.

SLA. <u>Competencies for Special Librarians of the 21st Century</u>," a guide for operational and professional excellence for special librarianship. Moulton also was a contributor to professional and technical (NISO) standards development related to library and information science.

Wheaton, Ken. *The future of the future: Rise of the knowledge librarian* by Ken Wheaton and Art Murray. KMWorld, 02/02/2009, 2p.

Zipperer, Lorri. <u>Patient Safety: Focus on Information and Knowledge Transfer</u> (Blog); <u>Zipperer Project Management</u>; and <u>Knowledge Sharing in Hospitals: The Librarian's Role</u>

OTHER KM CONNECTIONS

- SLA. Knowledge Management Division [http://www.sla.org]
- David Gurteen [http://www.gurteen.com/]
- Dave Snowden [http://www.cognitive-edge.com/index.php]
- KM definitions and links [http://www.dmoz.org/Reference/Knowledge Management/]
- Boston KM Forum [http://kmforum.org/blog/] and check out Archives
- Patrick Lambe [http://www.greenchameleon.com/]
- Euan Semple on KM [http://www.fastforwardblog.com/FASTforward09/euan-semple-2-11-09.mp4]
- TheBrain [http://www.thebrain.com/]
- FreeMind [http://freemind.sourceforge.net/wiki/index.php/Main Page]

• KM Edge (a LinkedIn Group). Current Discussion: What is the origin of "knowledge management" expression?

Links to papers, presentations and press comments by LW Moulton relating to knowledge management topics: http://lwmtechnology.com/presentations/presentations.htm#km; http://lwmtechnology.com/press/press.htm#km