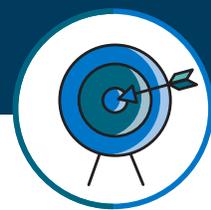


Public Health Informatics Profile Toolkit



Developing a Public Health Informatics Profile: A Toolkit for State and Local Health Departments to Assess their Informatics Capacity



Developed By: The Minnesota Department of Health
Supported by: The Public Health Informatics Institute & The Robert Wood Johnson Foundation

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Section I:

Getting Started

Information systems are vital to public health work: they help practitioners collect, store and use important data that help drive public health outcomes. However, for years, public health agencies have faced challenges managing information flow in the digital era. The growing demand for enhanced electronic exchange with data and clinical partners creates a compelling business need for agencies to conduct a current state assessment of key information system capabilities to identify areas for improvement.

The Public Health Informatics Profile Toolkit provides tips, recommendations and resources to guide public health agencies in implementing a robust informatics department. It is intended to help uncover the requirements needed for current information systems to better support public health functions, to facilitate electronic exchange of information and to assist in planning efforts to modernize information systems to become more standards-based and interoperable.

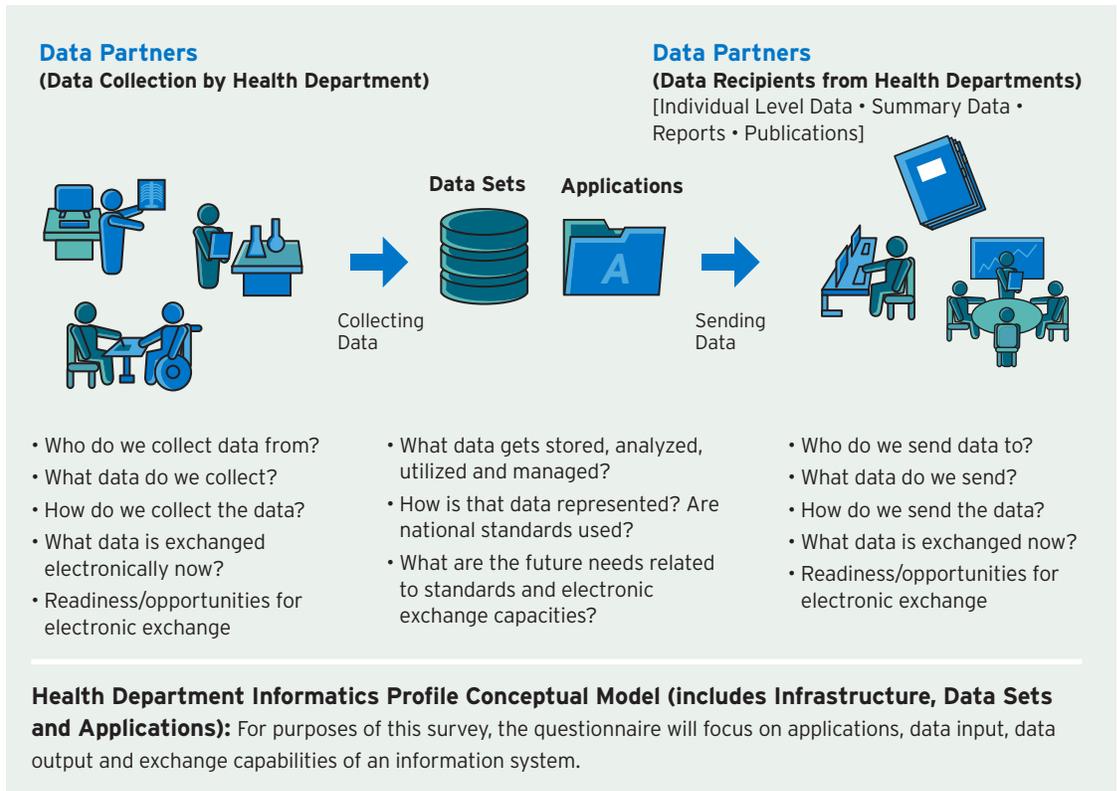
There are many things to consider before starting an initiative like this, such as developing a project management plan, developing a business case to garner support for the project, identifying project stakeholders, and identifying the scope of the project. This section describes how to develop a broad conceptual overview of the project, and how to define the project scope and goals.

Defining a conceptual view and project scope

Developing a conceptual view of the project in the form of a diagram or other graphic element can help clarify your agency's goals and project scope, and it can provide a visual tool for communicating those points to a broad audience. A framework assists the project by getting everyone on the same page about what the project entails or excludes. This view is often conveyed using a picture or figure. Developing a framework can be an iterative process and may take multiple versions before getting it right.

Defining the project scope upfront is also critical for developing a plan that is realistic and attainable, and defining the scope early assists when "scope creep" attempts to broaden the project beyond the original objectives. There are many stakeholders to consider, so making the scope manageable can be challenging. The key is to keep project parameters narrow.

- ✓ **1. Communicate visually.**
Use pictures whenever possible to provide a visual interpretation for the project.
- ✓ **2. Show how parts connect.**
Show how various components/elements are related to one another to ensure a common understanding among the project team and project stakeholders.
- ✓ **3. Be clear.**
Keep it simple and include the key elements that should be conveyed.
- ✓ **4. Explore your options.**
Will your assessment be conducted agency-wide? Will it be limited to systems that have electronic applications? Do the systems need to have a certain size or functionality? Consider the answers to questions like these first (see Section II).

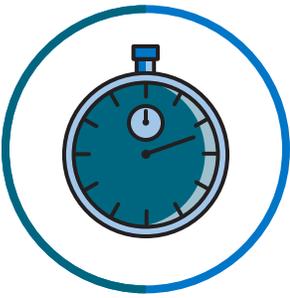


- ✓ **5. Include stakeholders.**
Identify and engage key stakeholders – including sponsors and the project team – in defining your project scope. Brainstorming sessions can be useful for gathering input.
- ✓ **6. Maximize available resources.**
If resources are a constraint, consider what resources are available before broadening the project scope.
- ✓ **7. Start with priorities.**
Consider relevant factors such as agency priorities or relevant policy directions as a place to prioritize.
- ✓ **8. Take into account more than one stage.**
Consider multiple phases to your approach. For example, phase one may be to collect the most critical information, and phase two may be to collect information that is less urgent.

Identifying key stakeholders

As with any project, it is important to identify key stakeholders and consider their desires and needs for the project. They can serve as important champions for the project if they are engaged early on, particularly if they are able to shape the project in the definition phase.

- ✓ **1. Remember your project scope.**
Consider the planned scope of the project and identify individuals across the organization that may have an interest in the project.
- ✓ **2. Communicate properly.**
Using the appropriate communication techniques is important throughout the entire project.
- ✓ **3. Customize messaging.**
Tailor messages to individuals if needed (see Section III).
- ✓ **4. Seek counsel.**
Ask for their help or support of the project.



Defining goals for and managing a public health informatics profile assessment

Because there will be different levels of understanding among your various stakeholders about the need for a project like this, it is important to consider the following:

- Define parameters of project management;
- Describe the context and key drivers;
- Adequately and concretely describe the business case to justify the project (i.e., what problems will the profile help solve?);
- Develop a project charter; and
- Secure executive leadership sponsorship for the project.

Because a project like this may have significant scope and implications agency wide, it is critical to create a solid project charter that outlines important project management principles.

Developing a project charter

The project charter is a vital tool that uses clear and concise language to describe the goals and initial project management plan to garner support for the project. It does not have to be long – many are just a few pages in length. However, they need to be detailed yet succinct.

Developing a charter includes building an effective project team, managing potential project risks, involving stakeholders and ensuring quality deliverables. Below are helpful tips for developing a project charter. For a sample, view our resources section.

- ✓ **1. Assign a leader.**
Designate a lead project manager to oversee the project schedule, manage scope changes, identify and resolve issues and be a central point of contact for the project.
- ✓ **2. Ensure your scope is well-defined.**
Clarify the scope of the project early on by considering the needs of the project sponsor as well as key stakeholders. The scope should be clear about what the project will or will not accomplish.
- ✓ **3. Plan out your project.**
Develop a project management plan to use for overseeing the project once it is initiated.
- ✓ **4. Develop and implement a communications strategy.**
Develop a communications plan to ensure all stakeholders are kept informed and engaged. For large projects, conduct a stakeholder analysis to identify your communications strategies for different groups based on their level of interest and their level of influence.
- ✓ **5. Take resources into account.**
Be realistic about all the resources you will need, especially staff and time.

There are other common elements that should also be included in your charter:

- A solid business case, context, and drivers for the project (see below)
- Project constraints and assumptions: assumptions are project factors you assume to be real, and constraints are existing, immovable limitations on the project
- Cost and schedule estimates to as much reasonable detail as possible
- Project sponsor sign-off



Exploring context drivers for interoperability and modernization of public health information systems

It is important to be able to articulate the context and drivers for the public health informatics profile assessment to various stakeholders with different perspectives. Some stakeholders will understand the need for the project early on, while others will need a little more convincing. For example, the context or rationale for planning and conducting your assessment may be the availability of new funds, to launch a new project, to respond to external pressures from data exchange partners, or to respond to new policies or regulations.

Example drivers on a state and local level

- The desire and need for integrated and interoperable information at the state or local health department level to provide higher quality services and more timely information.
- The need for better electronic exchange with data partners and expectations of bi-directional exchanges with the clinical sector, allowing for improvements in overall clinical services to patients and population health.
- Organizational needs around project portfolio management and identifying agency priorities based on needs and prioritization of resources.

Example drivers on a national level

Public health agencies are a critical partner in improving health outcomes. There is a demand for them to be able to exchange health information with the private sector when needed with stakeholders in the health, education and human services domains. Agencies should therefore be prepared to assess their information systems (particularly disease registries and immunizations registries) to be able to exchange health information with the private sector when needed.

- Achieving the vision of improvements in the quality, safety, and efficiency of health and health care through information and information technology, including a focus on population health with the desire that consumers, health care providers, and those responsible for population health will have ready access to timely, relevant, reliable and secure information.
- The expectation and use of exchange information electronically by promoting the use of standards.
- Consumers' increasing expectations for electronic government and thus driving public information system modernization.
- Consumers' desire to access their information.
- Decreasing levels of resources and the need for improving workflows in the public sector.
- Changing of the workforce and generational expectations for electronic information.
- Expectations for rapid, coordinated responses for natural and human created disasters and outbreaks.



Making the business case

Once the context and drivers have been articulated and the key stakeholders have been identified, a business case can be made to justify why the project is an important part of a solution to the context, issues, and challenges you've just described.

✓ 1. Tie together the project's context and drivers.

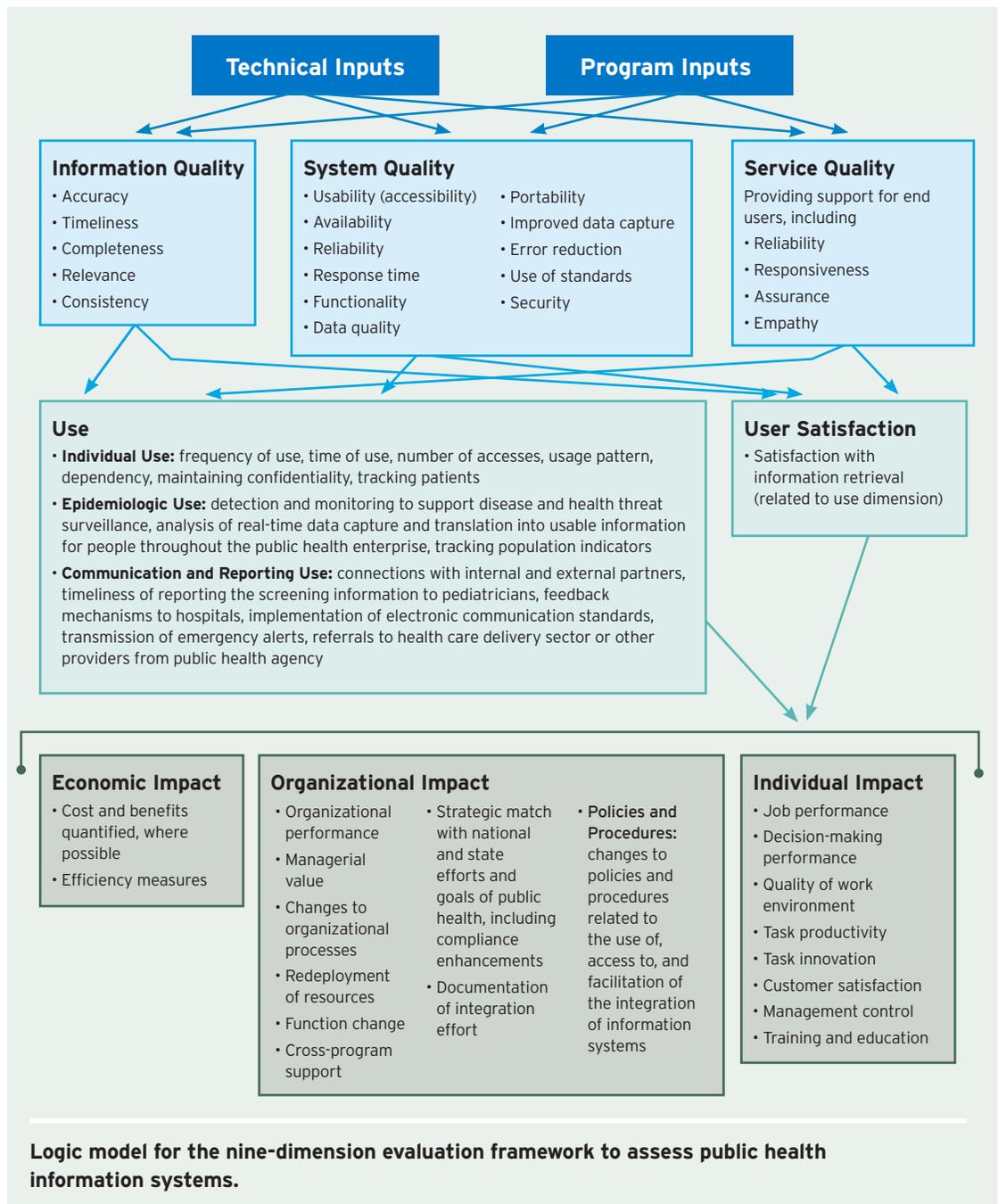
Link the project to the context and drivers for the project; show how it will help solve problems.

✓ 2. Coordinate the goals of the project and your organization.

Ensure alignment of the project to the strategic direction of the organization by answering the question, "How will the project help achieve our strategic goals?"

✓ 3. Outline advantages for stakeholders.

Explain how the project will benefit key stakeholders.



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Section II:

Assessment Methods

It is important to be clear about what datasets or information systems will be included in your public health informatics profile assessment as there will possibly be items that fall into a gray area. Being clear about your inclusion and exclusion criteria will allow you to manage the scope of the project and to succinctly develop the methods (based on your needs) that you use to collect the assessment data.

Assessment questions

There are many factors to consider in determining what questions to ask in the public health informatics profile assessment. The most important of which are the purpose and scope of the assessment: in other words, what system capacities are you assessing and for what purpose? Here are some additional tips for developing questions.

- ✓ **1. Remember stakeholders' needs.**
Consider stakeholders' needs for information, and develop questions that meet their needs (see Section I).
- ✓ **2. Study your information needs.**
Consider your data analysis plan to be sure that you will be collecting the data you need.
- ✓ **3. Define how your data will be used.**
Be very clear and concrete about how you will actually use every bit of information collected. If you don't have a clear purpose for a piece of information, don't collect it.
- ✓ **4. Evaluate before you implement.**
Try to test questions and/or get feedback on questions as much as possible before implementing the assessment, since public health informatics questions may be complicated and require additional refinement before implementing.

- ✓ **5. Explain unfamiliar terms.**

Provide definitions and agency examples of terms not commonly understood or terms that may mean different things to different people.

- ✓ **6. Diversify your questions.**

Use a mixture of questions – those that solicit discreet answers and those that require descriptive answers.

Collecting the information

There are several ways that information can be collected, including surveys, focus groups, and key informant interviews. Here are some tips for determining how to collect the information.

- ✓ **1. Keep the details in mind.**
Consider your audience, their knowledge level of the questions, the level of resources you have, and the timeframe in which you have to collect the information.
- ✓ **2. Recycle available information.**
Use exiting data/information when it exists. You may be able to save time by validating the existing information with your responders.



✓ **3. Weigh your options for collecting the information.**

In-person interviews work well when questions are complicated or when a dialogue is desired. Conversations are important to assure the responder understands your question completely. They are also important for clarifying questions as needed for future interviews. The risk is that the interviewer can unintentionally lead the responder to certain responses. In-person interviews can assist by increasing the overall response rate.

More traditional surveys can be useful for simple and straightforward questions that will be commonly understood among your audience. Focus groups or group discussions can also be beneficial when you are interested in more of a group consensus on a topic.

Conducting the assessment

Because your survey or focus group respondents may not have a lot of experience with the type of questions you are about to ask, it is important to be effective in your communications about the project, including why you are collecting the information and what you will be doing with the information once it is collected.

✓ **1. Start with transparency.**

Communicate the purpose of your assessment upfront and what you're going to do with the information.

✓ **2. Establish every one's role.**

Explain your role and that of your respondents in collecting the information.

✓ **3. Share your questions prior to conducting in-person interviews.**

Consider providing a copy of the questions before meeting with people if you have decided to do in-person interviews. Allow responders to change their responses if needed (i.e., after they see a draft report) in case there was a misunderstanding.

✓ **4. Assign a note taker.**

If you're conducting an in-person interview, have a person taking notes and capturing responses, and have another person asking questions.

✓ **5. Allot enough time.**

Be clear on the amount of time needed and that some follow-up may be needed.

✓ **6. Collect background materials.**

Let the program staff know that you may want to collect copies of existing forms or other program materials that help describe the activity and information being used.



Section III:

Creating Your Public Health Informatics Profile

After you have developed your questions, gathered your data and conducted your assessment, the next important step is to begin creating your public health informatics profile. Key components in this step include analyzing your data and interpreting and communicating your results. There are important details to remember in each of those phases.

Analyzing the data

Analyzing the information you've collected can be an overwhelming task considering the wide array of information you may have. It is helpful to keep a few important things in mind before beginning to analyze the information you've collected.

1. Keep up with your data.

Consider creating a spreadsheet or some other database for tracking all of the various responses to questions, both for analysis as well as for future reference.

2. Create an analysis plan.

Consider, up front, what information will want to analyze and develop an analysis plan that is in accordance with your original goals/objectives for the project ([see Section II](#)).

3. Don't forget your message.

Consider what message you are trying to convey; data can convey different messages depending on how it is represented or displayed.

4. Consider using qualitative data.

Qualitative responses can be as, if not more, valuable than quantitative data. Depending on how you collect the information, you may collect a wide range of rich responses. Qualitative analysis, such as identifying themes, can be very effective at communicating a message.

5. Display your results visually.

You may want to start by tabulating responses to each question and displaying them in a table. Whenever possible, you may also want to graph your findings ([see Section I](#)).

6. Look twice.

Consider taking a second look at the data once it is all reviewed to identify possible associations.



Interpreting and communicating the results

For your assessment project to have an impact, you must undertake the next two steps. They are all too often not sufficiently emphasized or resourced: (1) knowledgeably interpreting the findings based on your environment and (2) effectively communicating the findings in ways that engage those who can effect change. Here are some tips for interpreting and communicating the results.

- ✓ 1. Confirm your results are justified.
Make sure your tables, graphs and figures show the facts. It may be helpful to validate results with interviewees and other key groups to ensure that the information was understood and is consistent with what they were communicating to you.
- ✓ 2. Add your interpretation.
If you conducted interviews, use your understanding acquired to provide additional meaning and interpretation of the findings ([see Section IV](#)).
- ✓ 3. Encourage respondents to draw their own conclusions.
Consider engaging interviewees in drawing conclusions in which they hold a stake. Not only will you draw a better conclusion, and perhaps surface blind spots in your perspectives and conclusions, you will get their support for recommendations emerging from the findings. The results may provide insight into opportunities for different groups to work together to solve a common problem, or they may provide a view of the various systems and needs across an agency, leading to coordinated overall planning efforts for more consistent information exchange, integration, and/or interoperability. They may also reveal challenges that are best addressed collectively.
- ✓ 4. Document and communicate with both immediate and future needs in mind.
Display results in a way that even an uninitiated viewer can interpret and understand, and annotate graphs with narrative notes that provide sufficient context for the viewer. While graphs and PowerPoint presentations will likely serve your immediate communication needs—whether for senior leadership, central IT or those who contributed to the data—also consider a full written report for archival purposes. You may want to include key pieces of contextual information about current agency priorities: for example, needing to develop a more coordinated, consistent agency-wide response to Meaningful Use or to receive surveillance data across many programs. Keep in mind that even in two years from now, when you or someone else may want to repeat this assessment, many of the process details and contextual environmental information will have been forgotten. Also include any lessons learned about your data collection instrument and process as an aid to whichever future team repeats the assessment process.



Section IV:

Acting on the Results

Once you have completed your assessment and created a report that provides a comprehensive, consolidated view of the various information systems, informatics needs, and opportunities within your defined project scope, you can use the report to inform your planning for next steps.

Using the results to support planning

Begin by going back to your original purposes for conducting the assessment. What were you seeking to learn? Did you get the information you needed to answer those questions? Did you learn things beyond that? What new questions arose? What themes, common issues and ideas for improvement emerged from your interviews and data collection? Do natural collaborations among programs suggest themselves based on shared goals or challenges?

- ✓ **1. Collaborate within your agency.**
Identify natural partners and collaborators within your agency based on common ideas or ideas for improving processes.
- ✓ **2. Take small steps first.**
Identify small steps that can be accomplished incrementally, even if the overall goal seems daunting.
- ✓ **3. Tackle challenges together.**
Identify a suitable model for making decisions jointly and sharing responsibility. Consider whether a formal or informal governance model would work best for you, at least initially.

- ✓ **4. Involve your IT department.**

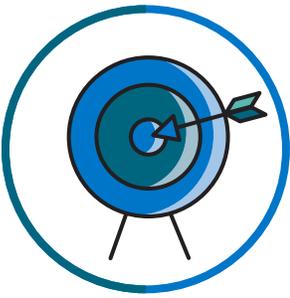
If your jurisdiction has a centralized IT department, identify how it could support your efforts. They may also have requirements which you would need to adhere to in implementing your plan. You may need to emphasize that informatics generally, and this informatics profile in particular, is more about program information needs and priorities than about information technology per se.

- ✓ **5. Translate results into goals and plans.**

The results will need to be translated into priorities, goals and activities that can be incorporated into plans and perhaps budgets across the agency. Otherwise, its impact will be minimal.

Acting on the assessment information

The whole purpose of collecting all the information you've gathered is to support informed decision making and action. Here, too, barriers, including project fatigue and new priorities, can interfere with this critical step. Other barriers you may need to address can include a lack of interest or perceived influence of key decision-makers, competing priorities for projects and resources, turf issues, and lack of buy-in or support for the recommendations in the report.



When an assessment is conducted agency-wide, it can be especially challenging to think of where to start with the recommendations. Sometimes it will even require a change in the environment before the findings in your report will take notice.

- ✔ **1. Use compelling recommendations.**
Whenever possible, keep recommendations clear and concrete. If necessary, prioritize them in order of most importance.
- ✔ **2. Articulate how the results will be turned into action.**
Identify how the results can be translated into recommendations and priorities that can be incorporated into agency or program plans and budgets in a coordinated way.

- ✔ **3. Test out various communication options.**
Explore a wide array of approaches in communicating your message and keeping people engaged (see Section I).
- ✔ **4. Repeat your message, but change your delivery.**
Repetition is important. Sometimes it takes people hearing a message multiple times and in different ways before the message will begin to sink in. As a result, seek additional ways to deliver your message, whether it be through formal communications (e.g., reports, memos or presentations) or information communications (e.g., conversations).