

# Technology Drill Down

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*FACILITATOR'S GUIDE*



**American Academy of Nursing**

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# Technology Drill Down

## *Facilitator's Guide*

### Introduction

#### **Introduction to Technology Drill Down (TD2)**

Keeping hospitalized patients safe from harm while providing expert care are key nursing roles best performed at the patient's bedside. While some activities necessarily draw nurses away from the patient's bedside, the goal is to keep them to a minimum and make them efficient. The question is – how?

With support from the Robert Wood Johnson Foundation, the American Academy of Nursing's Workforce Commission designed this TD2 process for implementation at hospitals across the country including your organization. This DVD provides all the tools needed for conducting a TD2. The elements of this DVD include:

This Facilitator's Guide, which

- Provides a TD2 overview
- Describes the facilitator's role
- Provides the necessary forms, templates and handouts

#### **TD2 OVERVIEW**

##### **Step One: Identify Medical / Surgical Unit**

- Hospital system administrators and leaders identify a medical/surgical unit that could benefit from a TD2.

##### **Step Two: Identify the TD2 Facilitator**

- An internal TD2 facilitator is identified who uses all the training materials on this DVD to prepare for and facilitate a TD2. It is helpful to select a facilitator who has experience with process improvement and Visio software.

##### **Step Three: Select Participants**

- Approximately 20 to 30 unit and interdepartmental representatives come together for a day and a half. They map out gaps between current workflow and an idealized workflow and, most important, potential technological applications that could close the gaps. Participants should include all individuals who are critical in the efficient function of this unit. These can include but are not limited to the following:

##### **SUGGESTED PARTICIPANTS**

- |  |   |
|--|---|
| • Nursing Staff (4 – 6 staff nurses from the unit)               | • Patient Transportation  |
| • Nursing Administration   | • Nutrition   |
| • Pharmacy   | • Case Management   |
| • Clinical Engineering/Human Factors Engineers/Systems Engineers | • Architectural Engineering/Design Integration/Industrial Engineering |
| • Social Work  | • Patient Advocate  |
| • Respiratory Therapy  | • Pastoral Care   |
| • Physical/Occupational Therapy                                  | • Emergency Department  |
| • Radiology  | • Unit Clerk  |
| • Information Technology/Services                                | • Patient Education   |

Once a date is selected for the TD2, participants should be invited so appropriate staffing arrangements can be made.

##### **Step Four: Conduct Technology Drill Down Day 1 & Day 2**

### **Technology Drill Down (TD2) Summary**

*A Project of the American Academy of Nursing's Workforce Commission*

The Robert Wood Johnson Foundation (RWJF) awarded a grant to the American Academy of Nursing in December of 2005 for a project called "Technology Targets: A Synthesized Approach for Identifying and Fostering Technological Solutions to Workflow Inefficiencies on Medical/Surgical Units."

A major component of Technology Targets is a process called Technology Drill Down (TD2), which represents an opportunity to develop an improved process for identifying technological solutions to medical/surgical unit workflow inefficiencies.

Twenty-five hospitals and health care systems participated as a TD2 site between March of 2006 and May of 2007. All of the sites found the process to be beneficial in identifying workflow issues and areas most ripe for technological fixes as well as process improvements.

The American Academy of Nursing has now made the Technology Drill Down process available for all hospitals to facilitate through this TD2 DVD and Facilitators Manual.

The Technology Drill Down process focuses on medical/surgical unit workflow from a systems-wide or global perspective rather than a unit perspective. It engages not only RNs, assistive personnel, and unit clerks but also department members from across the entire health care team (including, for example, pharmacy, materials management, social work, and respiratory therapy) whose work processes interface and are interrelated: they all impact patient care and delivery.

This interdisciplinary perspective provides a unique opportunity for looking at and analyzing these processes to see where and how they can be improved to create more efficient health care environments. Moreover, the process allows for the involvement of key decision makers such as chief nursing officers and chief information officers as well as environmental experts, clinical engineers, human factor's engineers, and architects so that they can be informed by the day-to-day realities faced by frontline staff before time and financial investments in technologies are made.

This process is facilitated by an internal representative of your organization with assistance and materials available on this DVD and in this facilitator's guide. Once your hospital's leaders have identified a medical/surgical unit that could benefit from the TD2 process, you will convene approximately 20 to 30 unit and interdepartmental representatives who will come together for a day and a half for the primary purpose of mapping out gaps between current workflow and an idealized workflow as well as potential technological applications that could close the gaps.

Group participants begin by identifying major work categories and then analyzing their current work environment and process within each work category. Then participants envision their ideal day or how the work would flow under ideal circumstances, identifying gaps between the current and the ideal environment. As they talk, the facilitator will map or diagram the discussion, which will appear on the screen that all participants can see. This response keeps the group engaged and focused on the task at hand. Processes that need to be changed to reach an ideal state are identified and available technologies that could fill the gaps are discussed. Moreover, participants identify specific requirements for new technologies and discuss how these technologies could reduce waste, add value to nurses' time and create efficiencies in overall workflow and work processes.

TD2 precisely defines and measures the technological gaps between practice and need and, in generic terms, describes technological products that could close the gaps.

This project is conducted under the auspices of the American Academy of Nursing, with ongoing support from the American Organization of Nursing Executives. Academy President and Director of Technology Targets, Dr. Linda Burnes Bolton and Dr. Pamela Cipriano, Chair of the Workforce Commission provide project direction and oversight.

## Technology Drill Down

### *Facilitator's Guide*

## Audiovisual, Software & Computer Equipment Requirements

### **AUDIOVISUAL EQUIPMENT**

- Screen (8ft x 8ft preferred)
- LCD Projector on an AV cart
- Extension cords (an adequate number so that all 4 laptops can be connected to an electrical outlet)
- Television with DVD capability

Capability to show a DVD on a television at the same time a Power Point is displayed through a computer and LCD projector onto the screen.

### **LAPTOPS**

4 laptops are needed on Day 2 for use by the small workgroups. Internet capability is not necessary. Microsoft Word is the only software needed on the laptops. A 5th laptop is needed for the facilitator to use.

### **SOFTWARE**

Visio, a flowchart program is required to create the Day 1 work flow chart which documents the discussion. If the Visio software is not available within your hospital system, it can be purchased for less than \$150 online or at most office supply stores. The flowchart is built while the group is in session. Most participants comment that it is amazing to see their process come together right before their eyes. This response keeps the group engaged and focused on the task at hand. Once the document is created, it can be saved as a PDF.

### **FACILITATOR NEEDS**

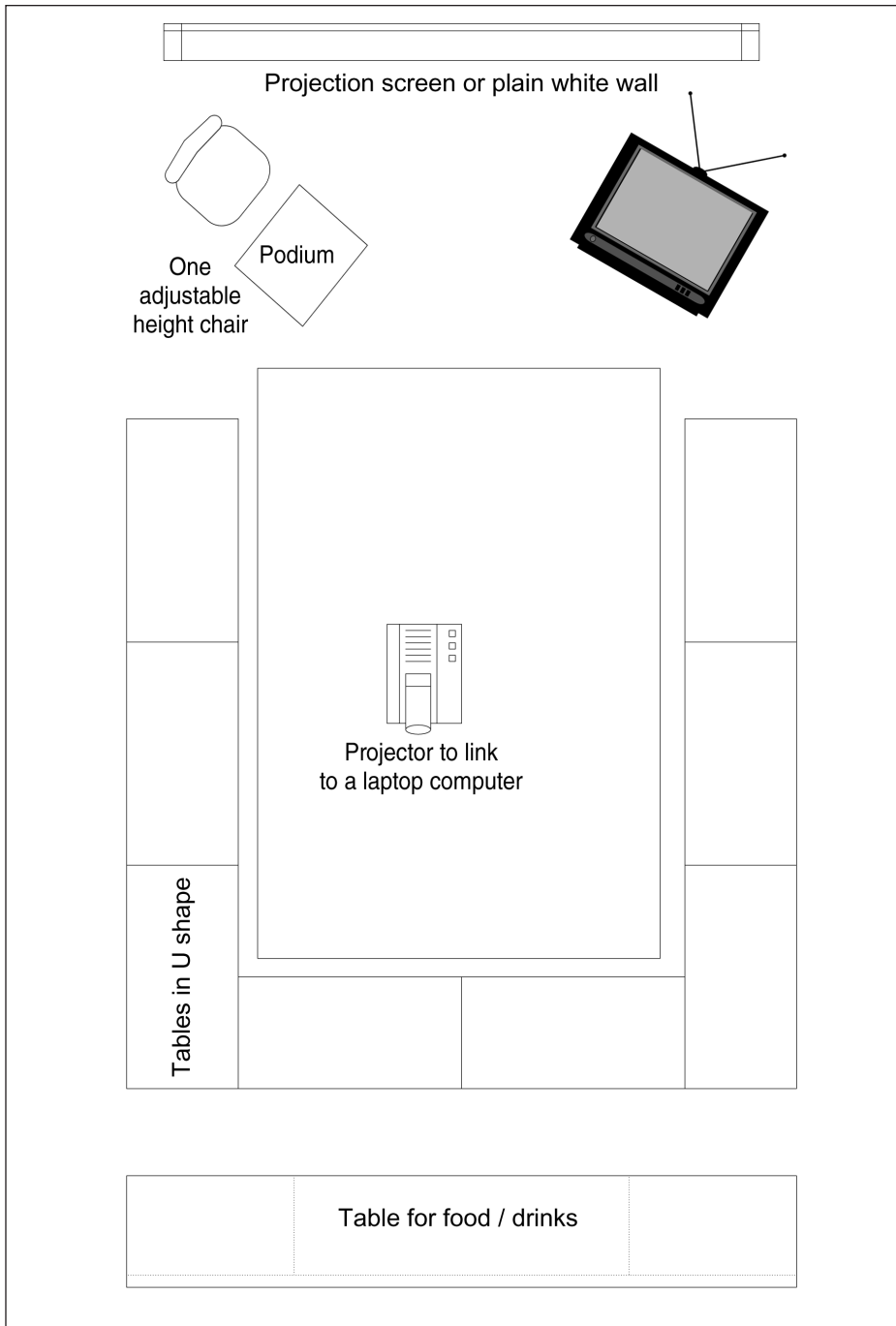
- Podium with stool
- Ability to link the facilitator's laptop computer to the projector from the podium
- A flashdrive to easily save documents from each of the workgroups

### **TABLE TENTS**

A table tent can be made by each participant upon their arrival on Day 1. Simply have cardstock paper and markers available. Each attendee can fold the cardstock in half and write their first name and job function.

# Room Layout

## DAY 1



### TD2 Day 1 Room Layout

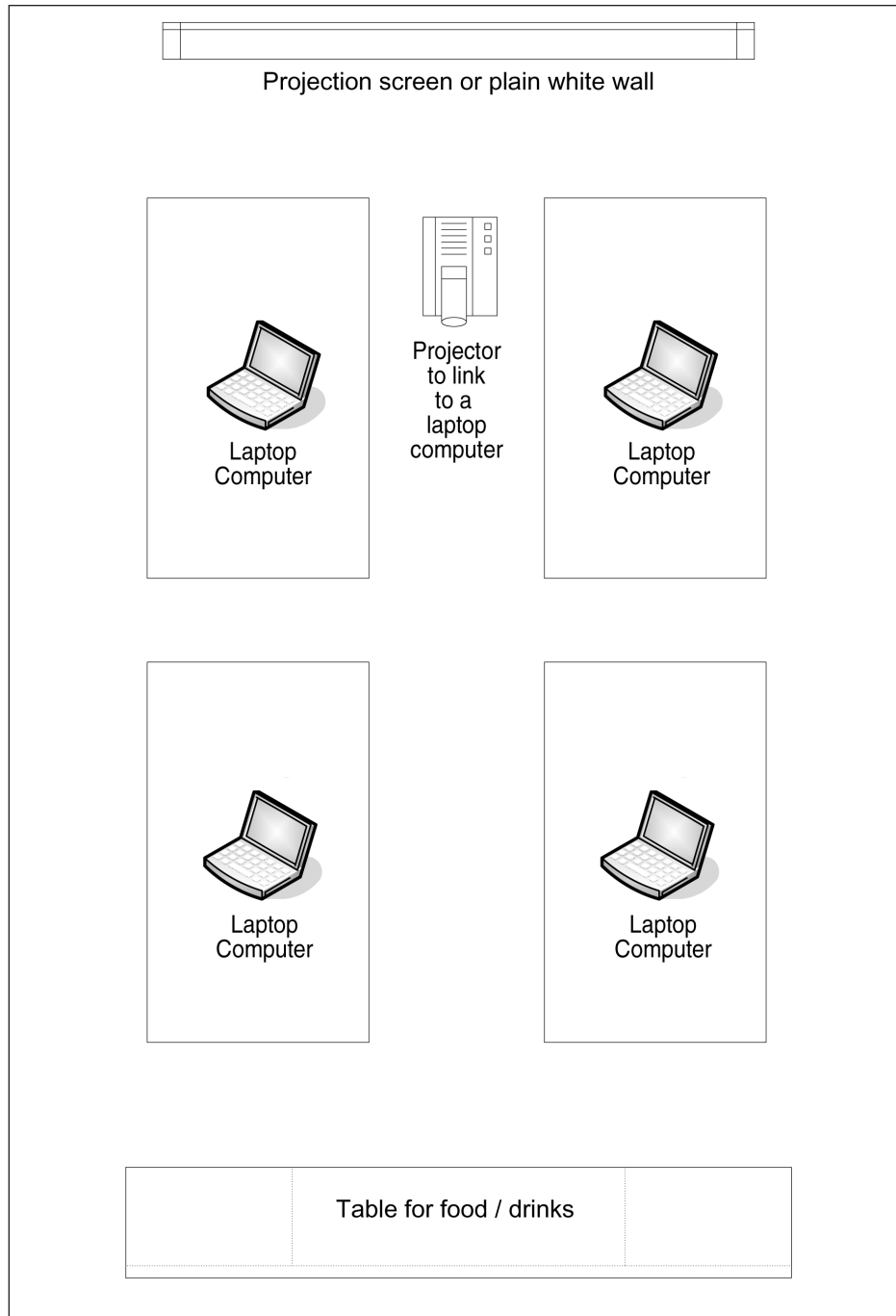
- Tables set up in U shape with enough seating to accommodate number of attendees
- DVD player and TV separate from a projector and screen
- 1 Laptop computer (with Visio software)
- Electrical cords needed to connect laptop, DVD, television and projector to electrical outlets
- A projector and a screen

## Technology Drill Down

### Facilitator's Guide

## Room Layout

### DAY 2



#### **TD2 Day 2 Room Layout**

- Tables set up to accommodate four small workgroups
- 4 Laptop computers (with Microsoft Word software; no internet needed)
- Electrical cords needed to connect laptops, and projector to electrical outlets
- A projector and a screen to connect to a laptop – used for group reports

INSERT HOSPITAL NAME

## Technology Drill Down – (TD2) Agenda

INSERT DATE INSERT LOCATION <b>DAY 1</b>	INSERT DATE INSERT LOCATION <b>DAY 2</b>
<b>8:00 – 8:15 am Continental Breakfast</b>	<b>8:00 – 8:15 am Continental Breakfast</b>
<b>8:15 – 8:30 am</b> <b>Welcome &amp; Introduction</b> INSERT FACILITATOR'S NAME HERE <ul style="list-style-type: none"> <li>Overview of agenda and activities to be accomplished</li> </ul>	<b>8:15 – 9:45 am</b> <b>Design Phase</b> <i>(small groups)</i> <ul style="list-style-type: none"> <li>Further describe the gap between the current &amp; the ideal situation</li> <li>Specify aspects of work flow processes that need to change based on gap analysis</li> <li>Identify technology solutions to be developed that would enable achievement of ideal state.</li> </ul>
<b>8:30 – 9:15 am</b> <b>Dr. Burnes Bolton - DVD</b> <ul style="list-style-type: none"> <li>Description of AAN Project &amp; Proposed Outcomes</li> </ul>	<b>9:45 – 10:00 am BREAK</b>
<b>9:15 – 10:00 am</b> <b>Identify current work categories</b>	<b>10:00 – 11:00 am</b> <b>Workgroup Reports</b> <i>Each workgroup reports findings and solutions to entire group</i>
<b>10:00 – 10:15 am BREAK</b>	<b>11:00 – 11:30 pm</b> <b>Technology Recommendations</b> – Time Cost Grid
<b>10:15 am – Noon</b> <ul style="list-style-type: none"> <li><b>Current State</b> – <i>Identify current workflow for each work category</i></li> <li><b>Future State</b> – <i>Identify ideal workflow for each work category</i></li> </ul>	<b>11:30 pm – Noon</b> <ul style="list-style-type: none"> <li>Wrap-up</li> <li>Next Steps</li> <li>Evaluation</li> </ul>
<b>12:00 – 1:00 pm</b> <b>LUNCH</b> <b>Dr. Robin Felder - DVD</b> <ul style="list-style-type: none"> <li>Improving Healthcare Quality &amp; Efficiency through the Development of Advanced Technologies.</li> </ul>	
<b>1:00 – 3:00 pm</b> <b>Continuation to identify current and ideal state for each work category</b>	
<b>3:00 – 3:15 pm BREAK</b>	
<b>3:15 – 3:30 pm</b> <ul style="list-style-type: none"> <li>Prioritization voting by each participant</li> <li>Self select into desired workgroup</li> </ul>	
<b>3:30 – 4:00 pm</b> <b>Overview of Current Technology Planned for Implementation</b> INSERT NAME OF HOSPITAL INSERT NAME OF INDIVIDUAL PRESENTING THIS OVERVIEW	
<b>4:00 pm</b> <b>Wrap Up &amp; Plan for Day 2</b>	

# Technology Drill Down

## *Facilitator's Guide*

### **Facilitator Role**

#### **FACILITATOR PREPARATION PRIOR TO TECHNOLOGY DRILL DOWN DAY 1**

1. Do a trial run of the TD2. All of the video presentations are available on the DVD so become familiar with the DVD and how to access Day 1 and the elements of Day 1 such as the presentation by Dr. Burnes Bolton and the Visio document.  
On the TD2 DVD Day 1 Menu, select the Day 1 Overview. This short video clip summarizes the Day 1 TD2 activities and shares some helpful facilitator pointers. Notice the room layout and the set up of the laptop, screen and projector.  
Next, on the TD2 Day 2 Menu, select the Day 2 Overview. This video clip summarizes the activities of Day 2 and again shares pointers for the facilitator. It is helpful to note the room layout and workgroup interaction. Together, the Day 1 and Day 2 Overviews give a snapshot of how to conduct a TD2.
2. Practice using the Visio document (see detailed instructions below entitled Visio TD2 Day 1 Worksheet Instructions).
3. Using the TD2 agenda template (available on the TD2 DVD Project Overview menu,) add the name of your organization, the dates of the TD2, the room location and the names of presenters. Make copies for the number of attendees.
4. Make copies of the Dr. Burnes Bolton Power Point presentation. Access from the TD2 DVD. It is listed as the Dr. Burnes Bolton Power Point presentation. Copies can be made six per page, black and white and back to back if desired.
5. Make copies of the Voting Form (available on the TD2 DVD Day 1 menu).
6. Make copies of the Day 2 handouts including:
  - The workgroup worksheet example (page 19)
  - The time cost grid – example (page 20)

### VISIO TD2 DAY 1 WORKSHEET INSTRUCTIONS

An important component of a successful Technology Drill Down is the facilitator's use of the Visio software. The TD2 facilitator should become familiar with the use of the TD2 Day 1 Worksheet, which is available on the TD2 DVD. The Visio software must be downloaded onto the laptop that the facilitator will use during the TD2.

In the Visio Day 1 Worksheet on the TD2 DVD, look at the tabs at the bottom of the page.

The tabs are as follows:

**Tab 1 – Prep**

**Tab 2 – 10 are Day 1 Worksheet pages 1 – 9**

**Tab 11 - Template**

A single click on the tab brings up that particular page.

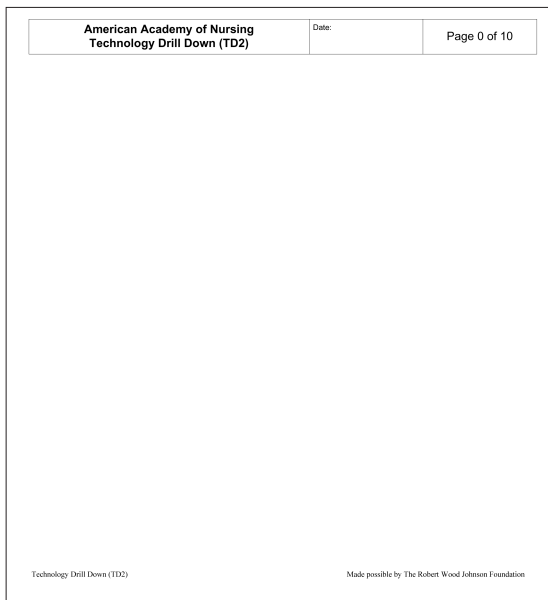
The **template page** is used to add the date on which the TD2 is schedule. To add the date:

Within the date cell, left double click

The date text becomes highlighted, click again

When the black cursor appears, the date can be added.

The date will automatically appear at the top of each worksheet page.



After the TD2, it is recommended to convert the Visio document to a PDF using Adobe Acrobat. Doing this will allow for easy transfer of the file as well as the ability to open the document even if the Visio software is not available.

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## Facilitator's Guide

The **Prep** page is used on Day 1 of the TD2 from 9:15 am – 10:00 am to identify the Major Work Categories.

- A single click on the small black dash, mid point on the left of the page, brings up a text box.
- Click on the black dash again until it is highlighted in blue.
- Click again until the highlight disappears; now you can type in the box.
- As the group identifies the major work areas during day 1, type them in this box.
- Remember to frequently save your work.

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Group participants begin by listing the current work categories on the medical / surgical unit.

Once 14 – 20 work categories are identified, participants discuss & summarize their current environment within each work category. Then participants envision their ideal day in an acute care work environment or how the work would flow under ideal circumstances, identifying gaps between the current work process and their imagined ideal environment.

As they talk, the facilitator summarizes, records and diagrams the flow.

Processes that need to be changed to reach an ideal state are identified and available technologies that could fill the gaps are discussed. Moreover, participants identify specific requirements for new technologies and discuss how these technologies could reduce waste, add value to nurses' time and create efficiencies in overall workflow and work processes.

Technology Drill Down (TD2) Made possible by The Robert Wood Johnson Foundation

The **pages tabs** are used from 10:15 a.m. to Noon and then 1:00 – 3:00 pm on Day 1 of the TD2 to create the current and ideal environment portion of the document.

- During the morning break, each of the major work categories should be copied and pasted into one of the center boxes on tab pages 1– 9. Add the work categories alphabetically so they can easily be found as you work during the day.
- To type within the current and ideal environment boxes, move the cursor over the text in the box until an arrowed cross appears; then double click. This will highlight the text in blue.
- Once the text is highlighted in blue, click again. The cursor will appear and typing within the box can begin.
- Remember to frequently save your work.

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Ideal Environment:   Current Environment:

Ideal Environment:   Current Environment:

Technology Drill Down (TD2) Made possible by The Robert Wood Johnson Foundation

### **FACILITATOR'S PREPARATION THE NIGHT BEFORE OR MORNING OF TD2**

1. Set up room as indicated on the Day 1 Room layout.
2. Connect a laptop to the overhead projector screen.
3. Make sure the TD2 DVD works properly in the laptop and that all presentations and forms can be accessed.
4. It might be helpful to again, watch the TD2 Day 1 Overview (7 minute video clip).

### **DAY 1 FACILITATOR COMMENTS**

1. Thank participants & administration if present.
2. Welcome participants to the TD2 process – From the TD2 DVD, under Day 1, select Day 1 Overview so it plays for the group.
3. Ask participants to introduce themselves, adding the comment, "This process is about you!"
  - Ask each participant to provide name, department, and the number of years within system and this site
  - Begin written sheet of participants – Name, Dept, email
4. Explain how you as the facilitator became familiar with the TD2 study and process.
5. Review agenda
  - Flexible, informal because very interactive; really need feedback and participation
  - Lunch
  - Restrooms
  - TD2 name – process by which we "Drill Down" – very focused identification process; real drill down portion is tomorrow during which you will work in small groups. Today is a bigger picture of your current environment and work process and a little about your ideal environment.
6. From the TD2 DVD, select the Dr. Burnes Bolton DVD Presentation. Ask participants to refer to their Power Point presentation handout.

Provide comments after the video as follows:

- Think about technology as the tools that can improve your ability to deliver care.
  - As Dr. Burnes Bolton stated, a multidisciplinary team was invited to participate in this process because nursing does not function in a vacuum. It takes the team to deliver the care.
7. From the laptop, access the Visio document and go to the Prep page. Ask the group, primarily the staff nurses from the unit, "what are the major work categories in your day?" Type each of these categories. If the group struggles, ask them "How do you begin a typical day on the unit?"
  8. Once the group is finished listing the major work categories, give them a 10 – 15 minute break. During this time, copy and paste each one of the work categories into a box on pages 1 – 10 of the Visio document. List them alphabetically.  
Count the total number of work categories. It should be between 14 and 20. The agenda allows 3½ hours or 210 minutes for completing this part of the process so divide 210 by the total number of work categories. This will tell you how much time to dedicate to discussion on each work area (e.g., 210 minutes divided by 15 work categories would allow 14 minutes to discuss each category).

## Technology Drill Down

### *Facilitator's Guide*

9. When the group returns from break, work within each category to identify the current process. Record bullet points of the process on the right hand side of the Visio form. Then have participants begin to envision their ideal environment and list those bullets on the left side of the Visio form.
10. Complete as many work categories as possible prior to lunch. Give participants time to use the restrooms and retrieve their lunch.  
Once participants have their lunch, begin the Dr. Felder presentation. On the TD2 DVD, select Dr. Robin Felder (DVD Presentation).
11. After Dr. Felder's presentation, give participants time to clear lunch items and give them a designated time to return (approximately 1:00 p.m.).
12. After participants return, continue the process of identifying the current and ideal work environment for each category of work until all categories are complete. Remember to periodically save the Visio document.
13. When all work categories are finished and the participants have identified the current and ideal environment for each work process, give the participants and yourself a break. This is a milestone!
14. When the participants return from the break, quickly review each work category. Have the participants list the categories on their voting form. Then ask them to vote for the top 4 categories where they think technology could improve the current process. Votes do not need to be in rank order. A check mark is sufficient to indicate the top 4.  
Collect the voting forms.  
Use one of the blank forms for the master voting list. Record each of the votes with a hash mark on the master list. The top 4 work categories with the most votes will be the 4 workgroups on Day 2.
15. Announce the 4 workgroups to the participants and have them self select into the workgroup of their choice. However, make sure that one staff nurse is included in each group and that the group is appropriate for the individual's position within the hospital. Each of the workgroups should have approximately the same number of participants, which is typically 5 - 8 per workgroup.

### END OF DAY 1 FACILITATOR COMMENTS

1. Review agenda for tomorrow
  - Room
  - Start time
  - Small groups
2. Tell participants that overnight, they can think about...
  - Stealing shamelessly from other industries e.g. hotel (give example that hotels no longer use traditional keys but the credit card keys), restaurant (servers use touch screen to place order and are often alerted that orders are ready through a wireless ear device), Disney, Wal-Mart (how many functions are accomplished when the UPC is scanned upon checkout i.e. inventory, staffing, security, accounting, ordering etc)
  - Patient involvement – what can we ask patients to do or how can we get patients more involved in their care process e.g. teach patient (education) when patient is ready. Give a generational example... a grandfather who is not technologically savvy; a forty something person who is “trainable” and a teenager who is technologically programmed differently than all the rest of us.
  - The progression of technology. Give an example of how quickly technology is changing and advancing in our world. Have the group remember when they first got email in their work environment (probably in the early 1990's). Ask the group, “how has email changed how you work.” The use of email began just 14 – 15 or so years ago. What new technologies will be available to us in the next 15 years?
3. Thank the participants.

### END OF DAY 1 – PREPARATION FOR DAY 2

1. Print out a copy of the Visio Document that was produced during the day.
2. Make copies of the Day 1 document for each participant to use on Day 2.
3. Set up the room as indicated on the Day 2 room layout.
4. Find a flashdrive that can be used on Day 2 to save the workgroup reports so they can be shared with the entire group.
5. Download the Day 2 Workgroup Worksheet and the Time Cost Grid Template from the DVD to each of the 4 laptops that will be used on Day 2.
6. Gather the copies of the Workgroup Worksheet and Time Cost Grid examples so they can be distributed on Day 2.
7. It might be helpful to again, watch the TD2 Day 2 Overview (7 minute video clip accessible on the TD2 DVD).

# Technology Drill Down

## *Facilitator's Guide*

### **DAY 2**

1. As participants arrive on Day 2, remind them to sit with the workgroup they chose on Day 1.
2. Small workgroups
  - Distribute the workgroup example handout to each participant as well as a copy of the Visio document produced on Day 1.

From the TD2 DVD Day 2, select Day 2 Workgroup Report so that it is displayed on the large screen for all to see. Explain how to complete the Workgroup Report.
  - Encourage the participants to use the work produced yesterday in each workgroup category to help build the Workgroup Report. The basic process area and suggested technology solution will be added to column one of the report; the detail regarding the technology will be placed in column 4. In column 2, record why this ideal environment would be better and in column 3 briefly describe the current environment (which can also be transferred from the Day 1 report).
  - Each group needs a volunteer recorder. Using one of the laptop computers and the downloaded Workgroup Report template, the recorder will summarize and type the group's discussion into the template. This is an important job. The number 1 rule of the day is to help your recorder. Help your recorder to capture all of the ideas and record them into the template. Remind the recorder to frequently save the Workgroup Report.
  - Each group will also need a volunteer reporter. During the Workgroup Report session of on the agenda, the four, individual groups will reconvene, and each appointed, workgroup reporter will share and summarize their group's work.
  - Start – review area from yesterday; prioritize; transfer information from Day 1 to the Workgroup Report.
  - Encourage participants to make notes so they don't forget their ideas; it is really important to capture all of the ideas.
  - Remind participants, there are no bad ideas.
  - Encourage the groups to dream and be very forward thinking.
  - Remind recorders to periodically save their work.
  - Ask the groups to answer the following questions regarding each technology they suggest:
    - Who uses the technology i.e., patient, caregiver, family, etc.
    - What is the technology?
    - Where should it be used? When is the technology used?
    - Why is the technology used?
    - How is it used?
  - Encourage the groups to be detailed.
  - Let the groups know that you will be around to answer any questions and to help guide the discussion so the focus is the ideal environment.
  - Make sure the groups remain focused on the ideal environment and technologies that can help achieve the ideal environment.
3. When all groups have finished their report, give all participants a 10 – 15 minute break. During the break, visit each workgroup and save their report to a flashdrive. Insert the flashdrive in the laptop connected to the projector and screen. Ask one of the groups to volunteer to be the first group to give their report then bring that report up on the computer screen and overhead screen.

4. Group Reports
  - 10 – 15 minutes per group.
5. Time Cost Grids
  - Distribute a time cost grid handout to each workgroup.
  - From the TD2 DVD, select the Time Cost Grid (Microsoft Word Document).
  - Explain to the group that each technology solution listed in the fourth column of the Workgroup Report should be put in a box. The box can be moved accordingly within the grid.

The horizontal axis depicts estimated cost of the suggested technology and the vertical axis represents the time it would take to implement that technology within their facility based on current environment and cost. Items that are high cost (very expensive) and would take a long time to implement would be placed in the upper right side of the grid. If a process has been identified that can be addressed in the near future without added technology or using technology currently in place, the solution would be placed in a box in the lower left of the grid. Have the groups review the example.
6. Ask participants to complete a brief TD2 evaluation.
  - From the TD2 DVD, select Evaluation Form (Microsoft Word Document) to display the evaluation question on the overhead screen.
  - Have each participant list the least beneficial part of the TD2 process, the most beneficial part of the process, and any suggestions or comments.
  - You may also print this form and have written copies available for participants to complete.
7. Wrap Up - Thank participants for their time. Let participants know the next steps. How will this information be shared within the organization. What is the plan?

## Forms & Templates

### DAY 1 WORKSHEET (EXAMPLE)

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**Ideal Environment:**

- Patient locator
- Robot for delivery of supplies
- Each patient has a supply box (server) including equipment items based on patient needs.
- Electronic inventory control for items coming out of the server for automatic delivery. No need to order.
- Equipment locator.
- Service indicator for equipment. Monitored by engineering and biomed.

**Hunting and Gathering**

**Current Environment:**

- Supplies, linen, equipment.

**Ideal Environment:**

- Bar coding
- Medication in the room
- Patient information sheets printed at time of order (no need to go into MicroMedics)
- Pharmacy on the unit to deliver patient education (virtual).
- Scan provider, medication, patient to automatic recording to the MAR.
- Additional premixed meds. Full IV mixture and delivery.
- Updated phone list for Physician beeper number. No handwriting for the Physician.
- Physician enters order into the MAR ensuring verification prior to transmission to the pharmacy.
- Fill medication orders prior to discharge for all patients.

**Medication**

**Current Environment:**

- Reconcile, verify, preparation, education, administration, documentation, monitoring
- Pyxis connect: Scanning orders,
- Pyxis (per unit, floor stock and narcotic)
- Med carts (patient specific)
- Tube system (difficult to obtain medication on night shift or during breakdowns)
- Satellite pharmacy for day shift.

Technological Solutions to Workflow Inefficiencies on Medical/Surgical Units

The Robert Wood Johnson Foundation Grant 09.14.2005



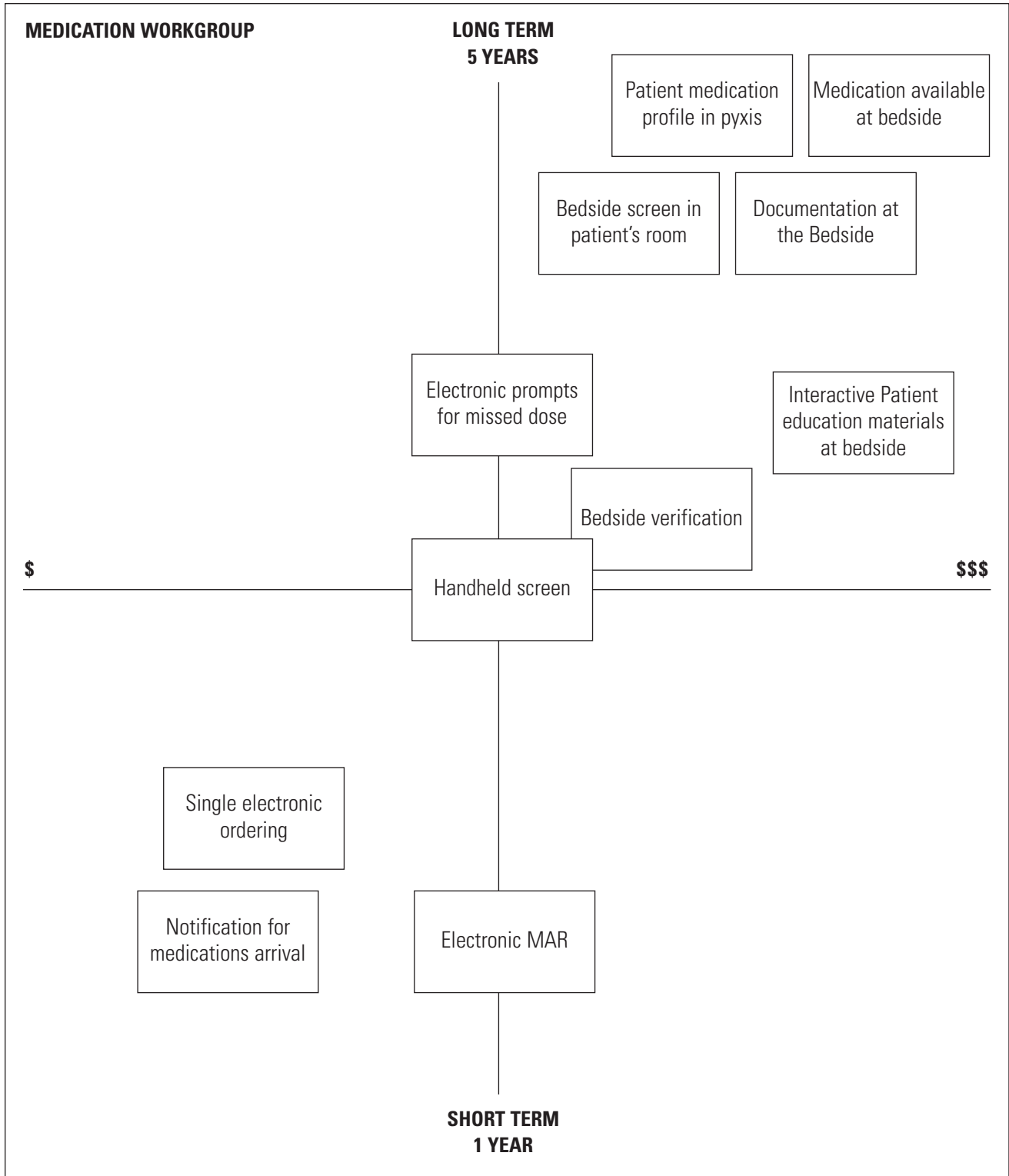
## Technology Drill Down

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#### DAY 2 WORKGROUP REPORT (EXAMPLE)

Ideal Environment	Why would this be ideal? What benefit would be gained; who would benefit and how?	Issue/Process to be improved. Gap between current & ideal environment (i.e. the problem). Quantify the gap or problem.	Technological solution for closing the gap (or addressing the problem).
Single electronic ordering system.	Decrease errors and time. Improve patient safety. Interdisciplinary staff satisfaction. Return of medication in timely manner. Communication to everyone that needed the information.	Fragmented. System doesn't talk to each other. High ability for error. High number of errors to report. Patient and staff dissatisfied.	<b>Single electronic ordering system</b> – Talks to everyone. – Physician order entry within our health system and nationally. – Nurses have own system to access information.
Bedside verification of the order patient, drug, staff identifiers.	Reduces error Patient safety. All equipment in one place beside patient. Minimizes time.	High error. Patient safety compromised. Equipment in several places. Take lots of time.	<b>Bar code all medications to include patients ID band.</b> – Scan nurse's badge. – Small technology that could not be lost – User friendly – Long battery life – Bedside verification of the order patient, drug, staff identifiers.
Documentation at the bedside	Decrease time. MAR with nurse at bedside when medicating patient. Patient and interdisciplinary satisfaction. Decrease interruption time.	Multiple steps. Staff skips steps. More time to get information and medication. Patients would get medication on time and rapidly.	<b>Documentation at the bedside</b> – Scan bar code would chart information to include Pharmacy. – Missing medication signal Pharmacy to fill. – Dispenser and scan at bedside. – Located in patient's room. – Badge swipe for pyxis. – Hub pyxis that circulates to the patient room and is removed when patient is discharged including controlled substances. – Technology that checks itself

TIME COST GRID (EXAMPLE)



## Technology Drill Down

*Facilitator's Guide*

### Evaluation Form

**MOST BENEFICIAL/WHAT DID YOU LIKE BEST?**

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**LEAST BENEFICIAL/ WHAT WAS NOT HELPFUL TO THE PROCESS?**

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**COMMENTS / SUGGESTIONS**

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### Technology Drill Down Participant Comments

- The TD2 process is very helpful in looking at how we can improve now, even without the technology.
- It was beneficial to work with multiple team members and discuss coordination of patient care and how to improve our processes either with or without addition of technology.
- Having high end management involved in the Technology Drill Down was key and much appreciated.
- I enjoyed the opportunity to discuss challenges as a team and work toward solutions as a team. I was able to understand the challenges from different perspectives.
- It was great to be able to participate in a research process as a staff nurse.
- The most beneficial element of the TD2 was the process of evaluating what we do and the insanities related. This is very helpful and often the fixes are immediate and glaring.
- I enjoyed the diversity of the group and the shared input. It is interesting to see how everyone's ideas are lined together and how everyone is moving or wants to move forward to bring "patient care" and personal touch back to the hospital.
- The work group brainstorming session was fantastic.
- I enjoyed the time spent evaluating current practices and coming up with ways to make it better.
- I liked that we were allotted sufficient time on day 1 for discussion, as it helped to get a global view of our system's issues. The staff interactions were terrific and the ability of the staff to "think outside the box" was worth every minute we spent in our sessions.
- The TD2 process was beneficial – learning how to gather information in a focused environment to achieve an outcome using a multidisciplinary approach/environment.
- It is fun to think of the big "out there picture." I suggest we spend time looking seriously at the low hanging fruit that could realistically be corrected. Let's have this "Think Tank" replicated as a functioning hospital committee.

# Technology Drill Down

## *FACILITATOR'S GUIDE*

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