Software Change Management in Medical Residency Programs

The two major challenges faced when implementing new software, such as electronic field notes or evaluation tools, into residency settings are:

1. Getting buy-in from busy preceptors and residents; and,
2. Ensuring the technology is extremely efficient, and the user experience essentially frictionless

Universally, doctors are busy people working primarily on fee for service. Any time they are not talking to patients, they are sacrificing earnings. If they have to spend five minutes trying to figure out an app to give a resident feedback, they may perceive the opportunity cost as too high and lose the motivation to engage.

A well-designed change management plan will maximize the chance of success when introducing software solutions into your residency program.

So what are the components of such a plan?

The Elements of Change Management

In health care-related change management frameworks, there are four touchstone elements comprising successful change. The four elements, and their distilled definitions, are:

- **Environmental conditions**: The external factors giving rise to the need for change. These include new regulations, technology, economic conditions, and education methods
- **Organizational harmony**: The alignment of people, plans, and goals with one overall vision
- **Power dynamics**: Buy-in from the most influential individuals and teams in an organization
- **Organizational capacity**: The resources and will required to execute and sustain the change

Even though the software you are introducing has clear benefits for the program and users, in order to realize those benefits and get them to stick, you should account for these elements in your transition plan.

The Process of Change

Successful information technology change management can be broken down into three steps: planning, implementation, and sustainment.
• Planning involves making fact-based judgments about the current situation, culture, and attitudes in the organization in order to go realistically ‘from here to there’, where you want to be.

• Implementation refers to the multifaceted, customized method of disseminating information, introducing practices, and changing attitudes within a healthcare organization.

• Sustainment means averting the improvement evaporation effect or regression caused by change that is introduced without a robust plan. New methods and outcomes must endure challenge, and yet be flexible enough to incorporate later improvements.

So how do you generate the enthusiasm, leadership, measurement, and responsiveness necessary to maintain the benefits of change, minimize disruption, and retain the flexibility to incorporate tweaks and improvements when introducing a new mobile app to your program?

The Process of Change in Medical Education Settings

Drawing from our experience, we’ve identified some of the most critical factors at each stage of introducing a new software solution into a medical education setting:

The Planning Stage:

It is critical in the planning stage to address the four elements of change management visited earlier. The largest environmental factor we have seen leading to the adoption of software solutions is the mobile-first revolution combined with the shift to competency-based medical education. The ability to efficiently evaluate competency immediately after procedures, and aggregate that data, gives medical education institutions a superior and measurable way to promote competency and identify gaps in learning.

Communicating how a software tool contributes to competence and how definitions are tied to competency standards is key to the alignment of people and resources, and to achieving buy-in from residents and preceptors.

The Implementation Stage:

The main decision we’ve identified in this stage is how the information will be disseminated to all preceptors and residents across all sites.

Training the trainer vs. a dedicated change management person

Some universities have well over a thousand residents and preceptors spread out across a wide geographic area without a singular person dedicated to change management. Often the university will try to have someone on the ground at each residency site.

In a train-the-trainer approach, each of those sites has a person who will be responsible for training everyone at that site. Some programs use their assessment or faculty development reps for this task.
Program Directors show the reps how to use the system, and provide them with the training materials with which to go forward and train the doctors.

The downside to this is potentially inconsistent quality across sites and extra degrees of separation between Program Directors and the preceptors carrying out the program.

The alternative is a dedicated trainer who is the in-program expert in the software solution. That individual will visit all of the sites and train all of the preceptors. This works best with smaller program populations.

For your program, you will have to determine how to best manage the benefits and shortcomings of each option in order to decide which is optimal for you.

**The Sustainment Stage:**

Overcoming legacy issues and instilling new habits are always challenges. In the long run, foreseeable problems have to be addressed in order to experience the sustained benefits of a new software solution.

Here are some of the common difficulties with sustaining change that we have identified and solutions we have refined for them:

**Problem**

- Preceptors may not want to do anything perceived as extra work.

**Solutions**

- Ensure the technology is extremely efficient, and essentially frictionless to use. Eliminate unnecessary logins, and design it to be one touch to get to a field note or evaluation form. We’ve also found a text-to-talk function increases ease of use while not overwhelming users with features.
- Nudge preceptors on board. Tell preceptors that the residents can take care of all the logging, and that they, as teachers, only need to know how to give great feedback.

**Problem**

- Ensuring the accuracy of the data being logged and maintenance of the logging habit

**Solutions**

- Technical Mirroring: When a resident enters information into the app, a duplicate of the field note can be immediately sent to the preceptor’s device. Knowing this, residents enter information with more accuracy, even if it never actually gets checked. Just the possibility that it may get checked incents more meticulous care when inputting data.
• Inactivity reminders are built into the system to account for the huge range of personal discipline among residents, and to make sure residents remember to log their experiences.

**Problem**
• Getting buy-in and getting it to stick

**Solution**
• Program Directors engage the data in a way that learners will appreciate. Directors will:
  1) explain why they are asking learners to use it.
  2) look at the data and make sure residents are aware they look at it.
  3) make decisions that benefit residents based on the data.
  4) open an ongoing dialogue with the residents based on insights derived from the data.

Mobile software solutions provide leverage for your program, and the benefits can mean greater data accuracy, profound program insights, and more competent residents. The degree to which a program experiences these depends greatly on how deliberate the implementation of change has been.