Fundamentals of Health Workflow Process Analysis and Redesign

Unit 10.1b

Clinical Workflow

This lecture covers the concepts of clinical workflow

Topics – Unit 10.1b

- The Clinical Setting
- Common Health Care Processes
- Clinical Workflow
- Summary: What a Process Analysis and Redesign Specialist Does

The topics covered in this second lecture of Unit 1 of the Fundamentals of Health Workflow Process Analysis and Redesign Component include:

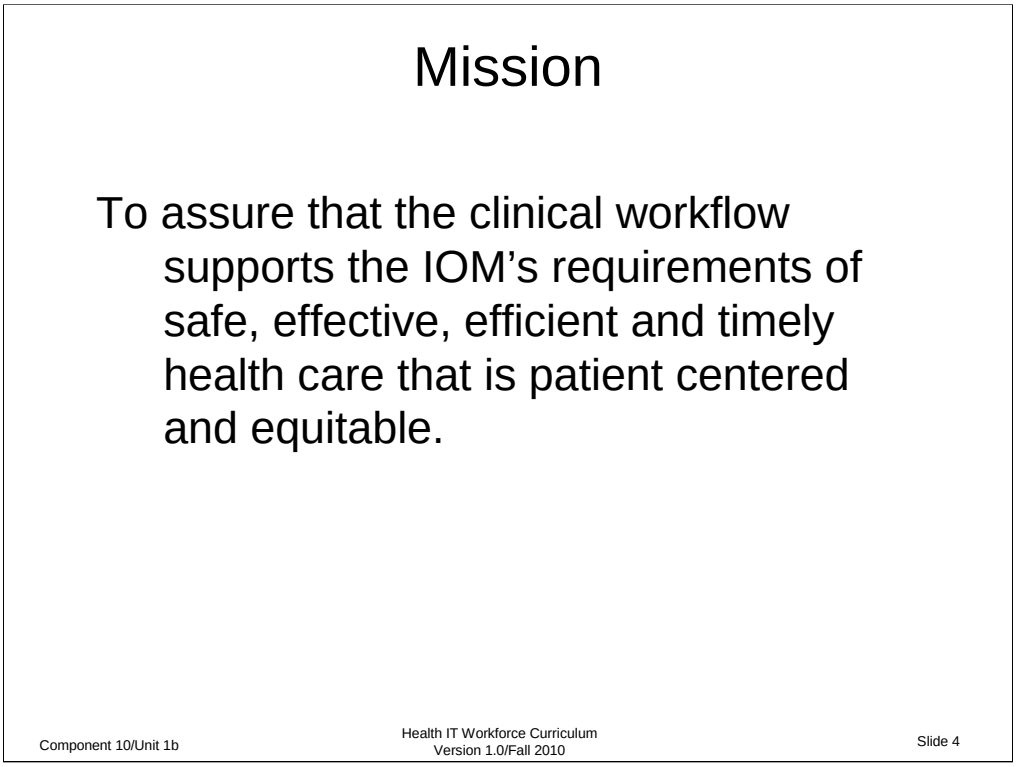
- Important characteristics of the Clinical Setting and Clinical Workflow
- Common Health Care Processes
- Clinical Workflow
- Summary: What a Process Analysis and Redesign Specialist Does

Role of Health Care Workflow Analysis and Redesign Specialist

Workers in this role assist in reorganizing the work of a provider to take full advantage of the features of health IT in pursuit of meaningful use of health IT to improve health and care.

To reiterate, the role of Health Care Workflow Analysis and Redesign Specialist is one of 12 roles defined by the Office of the National Coordinator for Health IT as critical to achieving meaningful use of health information technology and Electronic Health Records.

The description, expected background and competencies for the role are provided in a supplemental handout sheet.



The mission of this role is to support the IOM's aims defined in Crossing the Quality Chasm.

As mentioned in lecture, they are:

1. Care should be safe, as safe for patients in their health care facilities as in their homes.
2. The science and evidence behind health care should be applied and served as the standard in the delivery of care.
3. Care and service should be cost effective and waste should be removed from the system.
4. Patients should experience no waits or delays in receiving service.
5. The system of care should revolve around the patient, respect patient preferences, and put the patient in control.
6. Unequal treatment should be a fact of the past; disparities in care should be eradicated.

Again, increasing the quality of care is our goal. Implementing technology is a way to achieve this goal.

Workflow is a Process

Workflow includes:

- **How tasks are accomplished**
  - **by whom**
  - **task order**
  - **task priority**
- **Choices and decisions**
- **Location**
- **Information needs**

A workflow is a process, it includes activities, entities (people or things that take part in the activities), and criteria that specify the order of the steps.

Workflow also includes information about how the activities are accomplished. For example, who completes the tasks that comprise an activity. What is the order of the steps? Are some tasks higher priority than others? What criteria do people (or computers) use to determine order and priority of tasks. Where are the tasks performed and what the information needs are.

Clinical Care Activities

- **Interaction with patients**
- **Verbal and physical assessment**
- **Prescribing and conducting diagnostic tests**
- **Decision making and diagnosis**
- **Developing a treatment plan**
- **Assessing compliance with treatment regimen**
- **Patient education**
- **Records creation and management**
- **Determination of confidentiality / privacy requirements**

Workflow includes Activities, e.g., Activities in clinical care such as Assessment, Diagnostic testing, Diagnosis, Treatment, Monitoring, Education, Documentation, Consultations and Referrals.

Administrative Activities

- **Patient flow and efficient intake / scheduling**
- **Patient tracking internally and externally / transportation**
- **Coordination of billing for services**
- **Making consultations and referrals**
- **Facilities and supplies services and maintenance**

Or administrative activities that are necessary for care, for example, Scheduling, Transportation, Documentation, Billing, Food service, Laundry, and maintaining an Inventory of supplies.

Grouped Activities

- **Admission**
- **Surgery**
- **Specimen collection**
- **Reimbursement**
- **Discharge**
- **Handling of inpatient emergencies**

Single activities (also called tasks or steps) are grouped together, “grouped activities” into processes. Some examples of activities grouped into small processes include: Patient Admission, a surgery, collecting lab specimens, etc. The point is that steps in a process can be thought of in groups of smaller steps, or as individual steps. The detail level at which one thinks about clinical workflow depends on the detail level that is needed. For example, a professor teaching a new procedure to a resident will describe each single step. However, the medical assistant scheduling the procedure for a patient will think of the procedure as one step, the procedure.

Roles

- Providers
- Medical assistants
- Phlebotomists
- Receptionists
- Billing Coordinators
- Practice managers

There are several roles that are common to many healthcare practices. These include providers, (which can be physicians, physician assistants, nurse practitioners, and nurses), phlebotomists, medical assistants, billing coordinators, and receptionists. While the providers are licensed professionals, there can be overlap in the roles. For example, the Nurse may weigh the patient and take vital signs and a history, or these tasks may be performed by a medical assistant. Patient education may be provided by any of the providers. Any of the providers or a phlebotomist may draw blood for lab tests. Thus, when analyzing workflow, the role that performs a task must be clear. Clinics that perform outpatient procedures and Hospitals tend to have more complex processes that involve even more roles.

Location, Location, Location

- Where tasks are performed can be important
- Physical layout of a clinic impacts workflow
  - Patient transportation
  - Hallway traffic
  - Distance clinic staff must travel to accomplish tasks
  - Patient privacy

Where tasks are performed can be important. The physical layout of a clinic can impact workflow. For example, can the patients be weighed on the way to the exam room, or must they go past the exam room, get weighed them come back. If patients must walk the hall way, do they pass other patients, or pass procedure rooms? Do patients have to walk past exam rooms or back through the waiting room to leave the clinic ? Are printers and copiers located conveniently for clinic staff who need them?

While changes in the physical layout of a clinic may not be feasible as part of process redesign, layout and it's impact on physical workflow must be taken into account.

Information needs

- What information is used and generated in the course of a patient encounter?
- Do providers and clinic staff have ready-access to information they need when they need it ?
- Do patients have access to information about their health before, after and between visits ?

Healthcare is an information intensive endeavor, and information needs are an important part of workflow. For example, providers are required to reconcile the information they have about medications a patient is taking. This requires that the patient know what medications they take, and that the provider can both access their records of medications that the patient is on AS WELL AS be able to update that list. Could this process be improved by providing the patient information before their visit, e.g., a blank form, or a form with the medications that the doctor has on record ?

Unique Health care Requirements

- System of “experts”
- Healthcare providers are ultimately ethically, morally and legally responsible for *everything* that happens to a patient
- Physicians have taken an oath to, “Above all, do no harm”
- Patient care involves teams of people
- Patterns of fundamental clinical routines are the product of years and decades of evolution

When working in a clinical setting, it is important to remember three things:

1. Physicians and physician extenders are ultimately ethically, morally and legally responsible for *everything* that happens to a patient
2. Physicians have taken an oath to, “Above all, do no harm”
3. Patient care involves teams of people
4. Patterns of fundamental clinical routines are the product of years and decades of evolution. This evolution involves complex interactions between members of the healthcare team, technology, information, external forces and organizational factors. Sometimes the result of this evolution is a process that operates optimally. Other times, processes are the relic of compromises or constraints that are no longer important. Only careful analysis can differentiate the two.

Complexities of Health care

- Each situation is unique
- Involve multiple people and organizations
  - Thus - many opportunities for delays and variability,
- Must take patient preference into account
- Continually changing priorities
- Many interruptions, options and exceptions,
- Have overlapping roles and responsibilities,
- Involves Humans and organizations
- Vary from practice to practice
- Subject to time and resource pressures

Pause the slides and view the videos below about healthcare complexity
http://www.youtube.com/watch?v=4kW4bIrYqPY
http://www.youtube.com/profile?user=Saferhealthcare#p/u/4/jmh4FWapa80

Healthcare is complex. Medical workflows:

Vary from practice to practice

Involve multiple people and organizations, Thus - many opportunities for delays and variability,

Must take patient preference into account

Have many interruptions

Have many options and exceptions,

Have overlapping roles and responsibilities,

Involves Humans and organizations

Because of the need to contain costs, Healthcare today is subject to considerable time and resource pressure.

This slide provides a link to a short video about the complexity in healthcare today. Pause the slides now and watch the videos, they are one and two minutes in length.

Pulling it all together

Clinical Workflow Impacts Patients

- Problems, errors and delays are not just aggravating, inefficient or even infuriating
- In medicine, more than in other fields, problems, errors and delays can kill people

There are many factors that differentiate healthcare from other industries. One looms larger than all the rest. Healthcare is about life and death. Care, including preventative care directly impacts an individuals health and wellness. Many decisions and actions taken in the course of healthcare involve intervening with someone's body or mind. Things that impact the care process directly impact patients.

1. Problems, errors and delays are not just aggravating, inefficient or even infuriating
2. Problems, errors and delays can kill people

Common Health Care Processes

Electronic Medical Record (EMR/EHR) MedComSoft 02 Parts 1-3
http://www.youtube.com/watch?v=hqYXOM0bMRM&feature=related
http://www.youtube.com/watch?v=jl2b_z71zBY&feature=related
http://www.youtube.com/watch?v=jz91yUBUbbU&feature=related

To participate in improving processes in the clinical setting, we must first understand them. Pause the slides and view the three videos. As you watch the videos, make a list of the processes that the doctor in the video mentions. Each of these are common processes in primary care. Restart the slides after you view the videos. Pause the slides and watch the videos now.

Common Processes in Physician Practices

- Appointment scheduling
- New patient intake
- Existing patient intake
- Exam and Patient Assessment
- Ordering Labs / receiving & communicating results
- Prescriptions
- Referrals out / in
- Diagnostic testing
- Billing

Common processes in physician practices include

•Appointment scheduling

•New patient intake

•Existing patient intake

•Exam and Patient Assessment

•Ordering Labs / receiving & communicating results

•Prescriptions

•Referrals out / in

•Diagnostic testing

•Billing

The path and steps by which these processes occur is called clinical workflow. In the next slide, we will pick an example process and talk through the workflow. A separate unit covers common clinical processes in greater depth. The information here is just an introduction to make the concept of a clinical process more concrete by example.

Lab Process Example

Locate the *Ordering Lab Tests* scenario in your course materials.

Your course materials include a written scenario about ordering lab tests. Read the scenario. As you read it, write down, or highlight the following things 1) activities or steps in the process and their order, 2) roles or people that take part in the process, 3) where the steps are performed, 4) choices or decisions, and 5) information needs. After you do this, restart the slides and we will talk through the results.

Pause the slides now.

Activities

1. Patient arrives
2. Patient checks in
3. Patient pays co-pay
4. Called back to exam room
5. Nurse asks reason for visit
6. Nurse takes vital signs
7. Nurse locates electronic chart
8. Nurse confirms medications
9. Patient removes shoe and sock
10. Doctor examines patient
11. Doctor makes working diagnosis

We will go over the list of activities first.

1. Patient arrives
2. Patient checks in
3. Patient pays co-pay
4. Called back to exam room
5. Nurse asks reason for visit
6. Nurse takes vital signs
7. Nurse locates electronic chart
8. Nurse confirms medications
9. Patient removes shoe and sock
10. Doctor examines patient
11. Doctor makes working diagnosis

Activities cont.

12. Doctor describes treatment options and requirements
13. Patient chooses course of action
14. Doctor orders lab tests
15. Nurse obtains lab supplies
16. Nurse completes lab requisition form
17. Nurse labels tubes
18. Nurse draws blood
19. Nurse immediately centrifuges and refrigerates samples
20. Nurse provides patient education
21. Courier picks tubes up and takes to lab

12. Doctor describes treatment options and requirements
13. Patient chooses course of action
14. Doctor orders lab tests
15. Nurse obtains lab supplies
16. Nurse completes lab requisition form
17. Nurse labels tubes
18. Nurse draws blood
19. Nurse immediately centrifuges and refrigerates samples
20. Nurse provides patient education
21. Courier picks tubes up and takes to lab

You may have left some off, for example, the activity of “patient arrives” or “making a co-pay” may not be germane to ordering lab tests. Some people might not include activities that are not relevant to the process of interest, and that is ok, and often necessary to focus attention on the main activities. If you missed some activities, read back through the scenario.

Locations & Roles

Locations

- Reception area
- Exam room
- Phlebotomy room

Roles

- Patient
- Receptionist
- Nurse
- Doctor
- Courier

The locations include the reception area, exam room, and phlebotomy room. And the roles include the Patient,

Receptionist, Nurse, Doctor, and Courier.

Choices and Decisions

1. Working diagnosis (Doctor)
2. Patient preparation for Doctor (Nurse decides based on chief compliant)
3. Which treatment option (patient decision)
4. Required tests (determined for each treatment option by clinical guidelines)
5. What tests or treatments to order and when (Doctor based on clinical guidelines)

The choices and decisions included:

1. Making a working diagnosis (Doctor)
2. Patient preparation for Doctor (Nurse decides what clothing needs to be removed based on chief compliant)
3. Which treatment option (patient decision)
4. Required tests (determined for each treatment option by clinical guidelines)
5. What tests or treatments to order and when (Doctor based on clinical guidelines)

Like activities, you may elect to include or exclude some decisions. For example, if you are interested in physical process steps, you might exclude mental decisions that do not impact physical actions. Or if you are only interested in how information flows, you might exclude physical steps that do not impact information and decisions.

Information Needs

- Co-pay amount
- Existing medications for medication reconciliation
- Treatment options for working diagnosis
- Required tests / follow-up for treatment options
- Patient and provider identifiers for lab test requisition

The information needs in the scenario include:

- Co-pay amount
- Existing medications for medication reconciliation
- Treatment options for working diagnosis
- Required tests / follow-up for treatment options
- Patient and provider identifiers for lab test requisition

This concludes this exercise with the Lab Test Ordering Scenario. If you missed any items, go back through the scenario and make sure you understand why. The ability to identify activities, roles, locations, decisions, and information needs is critical to process analysis. This skill must be mastered prior to the next unit. Your instructor may provide additional scenarios and practice exercises with them so that you can pracice analyzing clinical scenarios in this way.

Confusion About Workflow

- Most people are not accustomed to thinking of what they do everyday in terms of workflow
- Terms used in healthcare that may be confused with workflow or process analysis:
  - Regimented care
  - Clinical pathways, clinical guidelines
  - Accreditation and audit

Most people are NOT accustomed to thinking of what they do everyday in terms of workflow – That is why we need people trained as process analysts, to facilitate this process and to help practices accurately describe and analyze their processes.

Several terms used in healthcare that may be confused with workflow or process analysis are:

Regimented care

Clinical pathways, clinical guidelines

Accreditation and audit

On your own, look each of these terms up and think about the similarities and differences with process analysis.

Workflow changes

- Must first, do no harm
- Improve processes
  - Increase efficiency
  - Decrease delays and cost
  - Increase quality and safety
  - Improve the work environment
  - Improve ability to care for patients
  - Create a better overall patient experience

Workflow changes in the clinical setting Must first, do no harm, and secondly must Improve processes

Increase efficiency

Decrease delays, errors, and cost

Increase quality and safety

Improve the work environment

Improve ability to care for patients

Create a better overall patient experience

What a Workflow Analysis and Process Redesign Specialist Does

- Document context and process so that it can be analyzed
- Analyze process
- Recommend redesign options
- Implement redesign
- Evaluate, adjust and maintain changes

In Summary, the purpose of Clinical Process redesign is to improve the safety, efficiency and overall quality of healthcare. Meaningful use of health IT can help do this. The Workflow Analysis and Re-design Specialist role helps practices improve the safety, efficiency and overall quality of care by leveraging Health IT. The Workflow Analysis and Re-design Specialist role

1. Documents context and process so that it can be analyzed
2. Analyzes process
3. Recommends redesign options, including opportunities to leverage Health IT
4. Works with practices to Implement redesigned processes
5. Evaluate, adjust and maintain changes

Specialist may do these things them self or may teach groups of practices and facilitate groups to do the analysis and redesign themselves

References

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5. Medicare and Medicaid Programs: Electronic Health Record Incentive Program at https://www.cms.gov/InpatientPsychFacilPPS/Downloads/CMS1306Pdisplay.pdf

These references were used in this unit.