Solutions for Improving Clinic Flow and Reducing Delays

Assessing Existing Clinic Flow
Creating Flow Stations
Unscheduled Patient Arrivals

March 30, 2014
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James Shirley Management Consultants, Inc.
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Table of Contents

1. Assessing Existing Clinic Flow: Defining and Tracking Flow ........................................ 1
2. Creating Flow Stations: Using Continuous Improvement ................................................. 1
3. Unscheduled Patient Arrivals: Implementing Key Strategies to Improve Flow ............ 1

List of Exhibits

1. Clinic Flow Project – Value Stream Map ........................................................................ 2
2. Example of Clinic Data from Clinic Flow Project ............................................................. 3
3. Analyze Processes and Data to Reduce Waiting, Defects and Confusion in Flow ... 4
4. Three Components of Continuous Improvement: Lean Thinking – Six Sigma – Change Management ...................................................................................................................... 5
5. Key Strategies for Improving Flow with Unscheduled Patient Arrivals .................... 6
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I. Assessing Existing Clinic Flow: Defining and Tracking Flow
1. Define the flow of patients, physicians, nurses, medical assistants and front-office staff using a value stream map (Exhibit 1) to show process steps, delays, defects and bottlenecks.
2. Design and implement tracking processes to gather and measure time data on the flow process. (Exhibit 2)
3. Analyze processes and data to identify waiting, defects and confusion that do not add value to the flow of work in the clinic. (Exhibit 3)
4. Develop recommendations and test methods to improve and control clinic flow.

II. Creating Flow Stations: Using Continuous Improvement.
1. Use Continuous Improvement methods to evaluate indirect care (nonvisit work). (Exhibit 4)
2. Redesign physician work so nonvisit work is completed in flow between seeing patients.
3. Create a Flow Station for Medical Assistants to work on email messages, some telephone calls, and other delegated indirect work while the physician is caring for patients.
4. Ensure physicians complete about two minutes of indirect work before seeing the next patient.
5. Add new work for Medical Assistants with patients, such as: checking allergies, verifying medications, updating status of preventive tests and screenings.
6. Continue to work on skill-task alignment to focus the correct person at the correct time.
7. Develop standardized work (precise work sequence/time) for each position in the Flow Station.
8. Ensure the layout of the flow station is effective and only work that is required for the physician reaches the flow station.

III. Unscheduled Patient Arrivals: Implementing Key Strategies to Improve Flow (Exhibit 5) [2]
1. Focus on demand-capacity (patient needs – physicians available) management.
2. Implement real-time monitoring of patient flow.
3. Forecast the service demand.
4. Use queuing theory (waiting line theory) to evaluate patient and physician flow.
5. Use the Theory of Constraints to identify bottlenecks in flow.
6. Manage variation in arrivals and service times to improve operations efficiencies.
7. Clearly communicate the aim of the system and ensure effective teamwork.

References:
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Exhibit 1

Clinic Flow Project - Value Stream Map – James Shirley Management Consultants, Inc.

Name: ___________________ Date: ____________
Contact Name(s): __________________________

Process Location: _____________________________

Information Flow

Front Desk
Check-In at Front Desk

EMR
Obtain Chief Complaint and Pt. Needs

Nurse or MA
Prepare exam of patient

Provider
Prepare orders and Pt. guidance

Provider
Complete Pt. orders/instruct Pt. and dismiss Pt.

Nurse or MA
Front Desk
Check-out Pt. from clinic.

NVA = Nonvalue added time
Min. %

VA = Value added time

NVA Time
VA Time

Work Flow

Pull system
Push system

Time Flow

1 – Pt. arrives for check-in.
2 – Pt. received in EMR.
3 – Nurse or MA calls pt. back for exam.
4 – Nurse or MA indicates pt. ready for provider in EMR
5 – Provider first enters exam room
6 – Provider last leaves exam room

7 – Provider begins pt. instructions/orders
8 – Provider completes Pt. orders/instructions and dismisses Pt.

9 – Nurse or MA begins pt. orders/instructions

10 – Nurse or MA completes Pt. orders and dismisses Pt.
11 – Pt. arrives for checkout.
12 – Pt. completes check out.

1 - Value added step
2 - Value added step

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Exhibit 2

Example of Clinic Data from Clinic Flow Project
Value Stream Map – Patient Visit with Provider

Name: All Providers
Date: 3/8/14
Contact Name(s): Jim Shirley
James Shirley Management Consultants, Inc.

EMR

Front Desk

Provider

Nurse or MA

Provider

Nurse or MA

Front Desk

Check-In
at Front Desk

Obtain Chief Complaint
and Pt. Needs

Provider exam of
patient

Prepare orders and
Pt. guidance

Complete Pt. orders/
Instruct Pt. and
dismiss Pt.

Check-out Pt. from clinic.

VA1

NVA

VA2

NVA

VA3

NVA

VA4

NVA

VA5

NVA

VA6

NVA Total = 53 min.

VA Total = 44 min.

1 – Pt. arrives to check-in.

2 – Pt. received in EMR.

3 – Nurse or MA calls pt. back for exam.

4 – Nurse or MA indicates pt. ready for provider in EMR.

5 – Provider first enters exam room

6 – Provider last leaves exam room.

7 – Provider begins Pt. instructions/orders.

8 – Provider completes Pt. instructions/orders

9 – Nurse or MA begins Pt. orders/instructions

10 – Nurse or MA completes Pt. orders/instructions an dismisses Pt.

11 – Pt. arrives for checkout.

12 – Pt. completes check out.

Hi = 113
Av = 9
Lo = 0

Hi = 109
Av = 21
Lo = 0

Hi = 75
Av = 16
Lo = 0

Hi = 32
Av = 6
Lo = 0

Hi = 48
Av = 3
Lo = 0

Hi = 16
Av = 2
Lo = 0

Hi = 27
Av = 4
Lo = 0

Hi = 77
Av = 2
Lo = 0

Hi = 30
Av = 4
Lo = 0

Hi = 7
Av = 2
Lo = 0

Hi = 97
Av = 22
Lo = 0

Hi = 37
Av = 8
Lo = 0

Hi = 7
Av = 1
Lo = 0

Hi = 180
Av = 22
Lo = 0

Hi = 109
Av = 21
Lo = 0

VA

NVA

EMR

Pull system

Push system

NVA = Nonvalue added time
VA = Value added time

Min. %
NVA Time 53  54.6
VA Time 44  45.4

97 100.0

VA1

Pull system

Push system

NVA Total = 53 min.

VA Total = 44 min.

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Analyze Processes and Data to Reduce Waiting, Defects and Confusion in Flow

Questions about Waiting
1. How can we save you time?
2. Where is time lost in your work?
3. Do people and schedules match workload?
4. When are people not available when you need them?
5. What things are not available when you need them:
   - information?
   - equipment?

Questions about Defects
1. How can we reduce errors?
2. What causes rework?
3. Where will mistake-proofing help most?
4. Where do defects occur when work is not specified well?
5. Where do you find errors in:
   - patient records?
   - handling patient medications?

Questions about Confusion
1. What tasks are unclear?
2. Are the best ways to do tasks defined?
3. Where is standardized work not used and is needed?
4. Where do these cause confusion:
   - Tasks that are not standardized?
   - Tasks that require remembering what to do?
   - Tasks where you must work through process steps?

Waiting
Defects
Waste
Confusion
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Exhibit 4

Three Components of Continuous Improvement
Lean Thinking – Six Sigma – Change Management

Continuous Improvement

Lean Thinking [1]

Focus: Reduce waste in time, cost and work and improve speed.

Major Steps
1. Specify value from customer’s point of view.
2. Identify value stream and eliminate waste.
3. Ensure flow of work goes smoothly from one stage to another.
4. Implement standardized work and pull, not push.
5. Continuously reduce waste and work toward perfection.

Outcomes
1. Most successful results in improving healthcare performance.
2. Patient and staff satisfaction are high.
3. Everyone contributes to improving work.


Six Sigma [2]

Focus: Remove errors and defects from systems and processes.

Major Steps
1. Define – Agree on the problem, customer impact, project boundaries.
2. Measure – Establish baseline metrics, observe the process, collect data.
3. Analyze – Analyze the data for patterns that may point to root causes.
4. Improve – Improve the process to eliminate defects and other wastes.
5. Control – Ensure gains made will be preserved using new procedures and training.

Outcomes
2. Goal is less than 3.4 errors per million opportunities.
3. Highly trained team of improvement experts called “Black Belts.”


Change Management [3]

Focus: Effectively lead change efforts to improve performance.

Major Steps
1. Increase urgency.
2. Build a guiding team.
3. Get the vision right.
4. Communicate for buy-in.
5. Empower action.
7. Don’t let up.
8. Make change stick.

Outcomes
1. Short-term wins guide major change efforts.
2. Change efforts are successful.
3. Performance improvements are successfully implemented.


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Key Strategies for Improving Flow with Unscheduled Patient Arrivals

1. Demand-Capacity Management
   - Predict demand based on history.
   - Match service capacity to pt. demand.
   - Make daily predictions and plans.
   - Implement real-time dashboard/monitor it.
   - Respect needs and concerns of your team.

2. Real-Time Monitoring of Patient Flow
   - How many pts. are we caring for now?
   - When do they need what services?
   - How does our capacity match demand?
   - What are our contingency plans?
   - What does this patient need next?
   - What are the rate-limiting steps?

3. Forecasting Service Demand
   - Identify pt. type, number by day/time.
   - Stratify pts. by type of services needed.
   - Use data to predict pt. arrivals.

4. Queuing Theory (Waiting Line Theory)
   - Minimize waiting time.
   - Advise pts. of expected wait time.
   - Give finite time for treatment.
   - Increase capacity in bottlenecks.

5. Theory of Constraints
   - Constraints limit throughput.
   - Analyze and manage bottlenecks.
   - Increase capacity in bottlenecks.

6. Managing Variation
   - Evaluate variation in arrivals and service times.
   - Improve operations efficiency.
   - Prioritize available resources.
   - Predict demand.
   - Smooth demand.
   - Improve accuracy of predictions.

7. System Appreciation
   - Realize the flow is part of a system.
   - System must have an aim.
   - Aim of system must be clear to everyone.
   - Ensure everyone understands the aim of the system... that is we must match what we say with what we do.
   - And, we must have effective teamwork!

Four Key Questions:
1. How many patients are coming?
2. When are they coming (Month, Day and Time)
3. What resources will they need?
4. Will our capacity match pt. demand?

[1] *Hardwiring Flow – Systems and Processes for Seamless Patient Care*
Thom Mayer, MD, FACEP, FAAP and Kirk Jensen, MD, MBA, FACEP
James Shirley Management Consultants, Inc.
A HC Issue/Flow/Pt Flow Guidelines (3/23/14)