Jewish General Hospital

Inventory Monitoring
At The
Jewish General Hospital

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Agenda

- **The importance of the inventory monitoring process**

- **The existing inventory monitoring process**

- **Issues with the existing inventory monitoring process**

- **Goals for improving the inventory monitoring process**

- **Envisioned inventory monitoring process**

- **High level description of components of the envisioned process**

- **Next Steps**

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Why Is The Inventory Monitoring Process Important?

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Importance Of Inventory Monitoring Process

- **Improper inventory monitoring can lead to not having the correct items at the correct place at the correct time:**

  - **Patient care is affected**

  - **Additional medical staff time is needed**

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Importance Of Inventory Monitoring Process

- **Improper monitoring can lead to unnecessary expenses:**

  - **Excessive ordering costs**

  - **Unnecessary cash tied up in inventory**

  - **Expired items**

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Importance Of Inventory Monitoring Process

- **Improper monitoring can lead to the wrong order quantities:**

  - **Optimal stock levels can and most likely do change seasonally and with patient mix**

  - **Optimization of these quantities requires knowledge of demand in context of these and possibly other factors**

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Importance Of Inventory Monitoring Process

- **If the process is performed manually by departmental staff:**

    - **It may not be done properly when those staff are busy**

    - **It may not be done properly particularly when done by replacement staff**

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The Existing Inventory Monitoring Process

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The Existing Departmental Inventory Monitoring Process

- In many departments the following process occurs:

  - On a regular (e.g. daily or weekly) basis

  - Due to a patient need

  - When it is noticed that the department has run out of or is close to running out of of one or more items

- The process consists of a medical or administrative departmental staff member:

  - Going to the stock room (or rooms)

  - Recording on paper the items that are needed

  - If those items are ordered directly from vendors (as opposed to from stores), transcribing those items from paper to RGS

- Note that no monitoring of consumption is actually done

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Issues With The Existing Inventory Monitoring Process

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Issues With The Existing Inventory Monitoring Process

- **The existing inventory monitoring processes:**

  - *Do not* measure consumption

  - *Most likely do* lead to not always having the correct items at the correct place at the correct time

  - *Do* lead to unnecessary ordering costs, unnecessary cash tied up in inventory, and expired items

  - *Most likely do* lead to the wrong order quantities

  - *Most likely do* lead to monitoring not being done consistently particularly by replacement staff

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Goals For Improving
The Inventory Monitoring Process

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Goals

- **Make sure that the right stock is at the right place at the right time by:**

    - **Continuously and automatically monitoring inventory levels**

    - **Automatically determining (on an on-going basis) needed inventory levels based on analysis**

    - **Using that information to automatically order needed amounts at the right time**

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Goals

- **Eliminate unnecessary medical supplies expenses due to:**

  - **Improper monitoring of inventory levels**

  - **Expired items**

  - **Cash being tied up by having too much (safety) stock**

  - **Unnecessary supplies**

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Goals

- **Reduction of medical staff involvement in**

    - **Inventory monitoring process**

    - **(Ordering process)**

    - **(Stock reorganization and bins replenishment)**

    - **(Forecasting requirements)**

- **So they have more time to provide quality care to patients**

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Envisioned Inventory Monitoring Process

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The Envisioned Inventory Monitoring Process

- **We have already discussed limitations of departmental staff monitoring inventory levels**

- **That leaves two other possibilities:**

  - **A manual monitoring process in which someone walks around the hospital and records some measure of inventory levels;**

    If done on a daily basis this has been measured to require in excess of 1.5 staff

  - **An automated process that automatically signals a central server (computer) of changes in inventory levels;**

    This would make it possible to also record demand much more accurately and thus lead to better optimization of inventory levels

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The Envisioned Inventory Monitoring Process

- **The envisioned inventory monitoring process is to use RFID to automatically monitor the delivery and removal of supplies from departmental store rooms**

- **RFID stands for radio frequency Identification**

- **RFID entails using a radio device called an interrogator periodically requesting tagged items in its vicinity to report their presence using a unique sequence number**

- **The interrogator either sends all sequence numbers, or sequence numbers of new items or removed items, to a central server**

- **That server is then used to process the data for ordering and related functions**

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The Envisioned Inventory Monitoring Process

- **Using RFID to monitor inventory levels we can:**

  - **Tell the exact time and quantity of items added and removed to store rooms**

  - **If desired track who added and removed items to/from the store rooms**

  - **Measure demand of each item exactly**

  - **Automatically and continuously monitor levels of each item in each store room**

  - **Use demand data to optimally determine needed inventory levels**

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High Level Description Of The Components Of The Envisioned Inventory Monitoring Process

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High Level Description Of Inventory Monitoring Components

- **To monitor inventory items, the items need to be tagged;**

  Tagging items costs from approximately $.10 on up depending on the type of item and how it is to be used

- **Because it is not immediately feasible to individually tag every type of item kept in departmental store rooms, we envision a two-tier approach:**

  - **High value items will be individually tagged**

  - **Lower value items will be placed in bins that will have tags that can be set to indicate that the items in those bins are below pre-determined points;**

    This approach will reduce implementation costs at the expense of reduced monitoring granularity of lower valued items

- **As the cost of tagging items becomes lower additional items will be individually tagged**

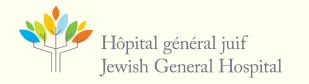Hôpital général juif
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Next Steps

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Next Steps

- **UQAM Professor Ygal Bendavid suggests the following steps should be followed before selecting an RFID technology:**

  - **"Document (and quantify) the problems including actual process flows**

  - **Define the project goals**

  - **Build a «to be» scenario (including a gap analysis and envisioned process flows)**

  - **Target the right (RFID) technology and specific design of the solution for the project (type of tags, readers, middleware, integration, installation/location, etc.)**

  - **Identify the vendors and compare solutions"**

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Next Steps

- **Given these steps if the inventory monitoring approach of this presentation is to be implemented, our next steps would be to:**

  - **More carefully document the existing processes**

  - **"Target the right (RFID) technology and specific design of the solution for the project (type of tags, readers, middleware, integration, installation/location, etc.)**

  - **Identify the vendors and compare solutions"**

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Questions?

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