
Workforce Demand Forecasting Tool: HHR's Crystal Ball?

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Presentation Overview

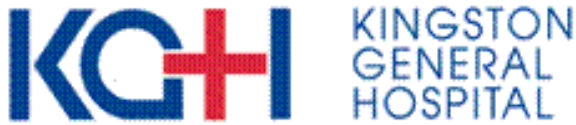
- Project Context & Overview
- Workforce Demand Forecasting Tool
- Project Approach
- Project Learnings
- Is the Tool HHR's Crystal Ball?



Project Partnership

St. Michael's

Inspired Care.
Inspiring Science.



University Health Network

Toronto General Hospital Toronto Western Hospital Princess Margaret Hospital



Inspiring Innovation and Discovery



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March 2010



Project Partnership

Six partners in health human resources planning:

- St. Michael's Hospital (lead)
- Kingston General Hospital
- Royal Victoria Hospital--Barrie
- University Health Network
- West Park Healthcare Centre
- Ontario Hospital Association

Evaluation Team:

- NHSRU at McMaster University

Project Funded By:

- Nursing Secretariat, Ministry of Health & Long Term Care



Project Context & Overview



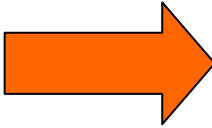
Project Overview – What is Forecasting?

- **“A planning tool which helps management in its attempts to cope with the uncertainty of the future”.**
 - starts with assumptions
 - Methodology for projection
 - Sensitivity analysis
- A forecast (which indicates what 'might' happen) should not be confused with a budget (which shows what 'ought' to happen).

www.businessdictionary.com



Project Overview – Why Forecasting in Health Care?

- Change is constant
 - Pressures in the external and internal environment of health care
 - Better recruitment and retention of health care professionals = better quality care
- 
- A proactive HHR planning approach grounded in quantitative and rigorous forecasts that can inform comprehensive workforce planning



Project Overview – Role of Leadership in HHR Planning

- Vision: human resources as strategic assets of an organization
- Understand workforce profile
- Monitor status of workforce
- Project future needs to inform workforce planning efforts
- Promote workforce stability:
 - Understand historical trends
 - Project unexpected events
 - Track recruitment statistics
 - Monitor vacancy and retention rates



Why Forecasting at St. Michael's?



St. Michael's

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Why Forecasting at St. Michael's?

Nursing Excellence Through Our Culture of Caring, Innovation and Scholarship

1.
Enhancing a
Culture of
Caring

2.
Cultivating a
Culture of
Discovery

3.
Embedding
Clinical
Scholarship

4.
Creating a
Healthy Work
Culture by
Strengthening
Partnerships

5
Embracing
Technology and
Innovation in
Patient Care



Why Forecasting at St. Michael's?



Recruiting and Retaining Top Talent through Building a Healthy Work Environment



Project Overview – Addressing a Gap in HHR Planning

- Funding opportunity by the Nursing Secretariat as catalyst to move forward the HHR planning agenda
- Partnership of 6 health care organizations and an academic partner for evaluation
- The first project in Ontario to implement the Workforce Demand Forecaster Tool \$ evaluate its applicability across multiple settings to:
 - Assess the Tool's interface potential with existing HR processes
 - Assess the Tool's ability to increase interaction, collaboration, and communication between hospital operations and HR
 - Share learning/promote knowledge transfer
 - Make recommendations for system adoption in Ontario healthcare environment



Workforce Demand Forecasting Tool



Guidance	
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23	Definition of Inputs
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Inputs	
31	Defining Forecasting Groups & Sub-Groups
33	Workforce Forecaster
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Reporting	
38	12-Month Hiring Plan
40	Forecasting Group Summations

Workforce Forecasting: RNs

Start>>>>

Directly input turnover rates or utilize this tool's separations calculator? (Drop down) **Direct Input**

As of Date (mm/dd/yyyy): **7/1/2007**

RNs ~ I.C.U.							
Historical Data (as of July)			Forecasted Data (as of July)				
2005	2006	2007	2008	2009	2010	2011	
Beginning Headcount:							
17.0	17.0	18.0	20.0	15.5	16.2	15.6	
Beginning Vacancies (FTEs):							
Budgeted/Required FTEs							
18.0	17.0	18.0	18.0	19.5	21.0	26.5	
Vacancies							
3.0	5.0	2.0	2.0	7.1	8.1	14.0	
Calculated FTEs							
15.0	12.0	16.0	16.0	12.4	12.9	12.5	
Estimated future separations (FTEs)							
Turnover rate (percentage)							
10.0%	16.7%	15.6%	13.0%	12.0%	11.0%	10.5%	
Number of FTE separations (see selection box above)							
1.5	2.0	2.5	2.1	1.5	1.4	1.3	
Estimated future transfers into or out of this group (FTEs)							
Transfers into this subgroup from other group							
0.0	3.0	1.0	2.0	2.0	3.0	3.0	
Transfers out of this subgroup into other group							
0.0	2.0	4.0	3.0	2.0	2.0	2.0	
Replacement need from transfers into or out of this group							
0.0	-1.0	3.0	1.0	0.0	-1.0	-1.0	
Estimated future transfers within this group (FTEs)							

How Does the Tool Work?

The Tool is a data collection spreadsheet that:

- Stores historical HHR data
- Consolidates multiple quantitative variables that impact future workforce needs:
 - Budgeted FTE/headcounts
 - Turnover
 - Transfers
 - Leaves of absence etc.
- Enables forecasting for up to 10 employee groups and multiple subgroups



How Does the Tool Work?

Multiple Ways to Forecasting	
Top Down	Bottom Up
<ul style="list-style-type: none">Using historically driven trending data at macro-level	<p>Separations Calculator:</p> <ul style="list-style-type: none">using employee demographics and probability of separation of individual employeesManagers assign estimated separation probability to each employee based on given criteria



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 File Edit View Insert Format Tools Data Window Help

P48 Very Unlikely (5%) Type a question for help

Separations Model: Registered Nurse									
Step One: Basic Inputs									
As of Date (mm/dd/yyyy):						8/1/2008			
Hours per week used to define an FTE:						37.5			
Step Two: Input Employee Specific Information									
#	Sub-Group	Identifying Information (Name, Title, etc.)	Scheduled Hours per Week	Length of Service (years)	Birthdate (mm/dd/yyyy)	FTE Value	Age	Estimated probability of separation	Co
E-1	Emergency	E-1	37.5	0.1	1/8/1983	1.00	25	Very Unlikely (5%)	
E-2	Emergency	E-2	37.5	0.1	7/31/1985	1.00	23	Moderate Risk (20%)	
E-3	Emergency	E-3	37.5	0.1	10/12/1985	1.00	22	Moderate Risk (20%)	
E-4	Emergency	E-4	37.5	0.1	10/1/1985	1.00	22	Moderate Risk (20%)	
E-5	Emergency	E-5	37.5	0.1	4/7/1984	1.00	24	Low Risk (15%)	
E-6	Emergency	E-6	37.5	0.1	2/23/1977	1.00	31	Significant Risk (25%)	
E-7	Emergency	E-7	37.5	4.1	6/2/1975	1.00	33	Unlikely (10%)	
E-8	Emergency	E-8	37.5	0.5	4/29/1982	1.00	26	No Chance (0%)	
E-9	Emergency	E-9	37.5	1.1	4/25/1979	1.00	29	Significant Risk (25%)	
E-10	Emergency	E-10	37.5	22.3	4/27/1958	1.00	50	No Chance (0%)	
E-11	Emergency	E-11	37.5	0.2	5/27/1977	1.00	31	Moderate Risk (20%)	
E-12	Emergency	E-12	37.5	1.9	5/2/1979	1.00	29	Moderate Risk (20%)	
E-13	Emergency	E-13	37.5	3.9	10/16/1978	1.00	29	Moderate Risk (20%)	
E-14	Emergency	E-14	37.5	1.1	3/2/1973	1.00	35	Moderate Risk (20%)	
E-15	Emergency	E-15	37.5	1.1	8/19/1985	1.00	22	Moderate Risk (20%)	
E-16	Emergency	E-16	37.5	2.8	1/26/1976	1.00	31	Moderate Risk (20%)	
E-17	Emergency	E-17	37.5	4.2	1/6/1976	1.00	31	Moderate Risk (20%)	
E-18	Emergency	E-18	37.5	1.0	1/6/1980	1.00	27	Moderate Risk (20%)	
E-19	Emergency	E-19	37.5	6.1	7/4/1969	1.00	39	Moderate Risk (20%)	
E-20	Emergency	E-20	37.5	36.9	5/15/1950	1.00	58	No Chance (0%)	
E-21	Emergency	E-21	37.5	20.2	2/2/1952	1.00	56	No Chance (0%)	
E-22	Emergency	E-22	37.5	9.4	9/15/1971	1.00	36	Very Unlikely (5%)	
E-23	Emergency	E-23	37.5	0.8	6/16/1981	1.00	27	High Risk (50%)	
E-24	Emergency	E-24	37.5	6.1	1/15/1976	1.00	31	Low Risk (15%)	
E-25	Emergency	E-25	37.5	21.1	1/27/1960	1.00	47	No Chance (0%)	
E-26	Emergency	E-26	37.5	9.1	7/28/1969	1.00	39	No Chance (0%)	
E-27	Emergency	E-27	37.5	3.8	8/5/1979	1.00	28	No Chance (0%)	
E-28	Emergency	E-28	37.5	0.9	9/26/1976	1.00	31	Absolute Certainty (100%)	
E-29	Emergency	E-29	37.5	1.1	3/4/1977	1.00	31	Very Unlikely (5%)	
E-30	Emergency	E-30	37.5	1.1	2/25/1985	1.00	23	Moderate Risk (20%)	
E-31	Emergency	E-31	37.5	4.0	1/10/1973	1.00	34	Very Unlikely (5%)	

Project Approach



Project Approach

The team went through a rigorous upfront planning process of:

- Creating standard definitions:
 - Incompatibility between HRIS and Finance System (e.g., budgeted FTEs vs. headcounts)
 - Definition of vacancies varies by organization and across partners
 - No standard definition on transfer
- Determining assumptions to populate the Tool
- Selection and adaptation of the Tool's instruments to be used in project



Project Approach

Diverse partner settings enabled each to focus on their needs:

- Two teaching hospitals and rehabilitation hospital chose nursing and health disciplines focus
- The other teaching hospital and community hospital chose nursing only
- One teaching and the rehabilitation/CCC hospital used the Separations Calculator



Project Approach

The study used mixed quantitative and qualitative methodologies. Evaluation was completed by the NHSRU following REB approval.

Quantitative:

- Three years of historical data collected for select employee groups:
 - mandatory data collected plus recommended data where possible
 - all data entered into the Tool's spreadsheet
- The Separations Calculator approach utilized for 2008-09
- Accuracy Test



Project Approach

Qualitative:

- Conducted Clinical and Program Manager focus groups (minimum one per partner); Some partners met with nursing-HR leaders and applicable staff
- Semi-Structured Interviews to gain understanding of ease of implementation and the Tool's use
- Partner meeting to review process, outcomes and lessons learned by all
- Thematic analyses of notes taken during interviews and focus groups



Outcomes To Date

- Completed project and submitted report to MOHLTC in April 2009
- Integrated learning into an ongoing (2009 - 10) work plan with focus on attempting to improve quality of data and the data collection process, as well as evaluating accuracy of 2009-2010 forecast
- Knowledge dissemination: OHA Webcast on May 20, 2010



Project Learnings



Project Learnings

Our learnings are our findings. Working through the Forecasting Tool's process together has been an invaluable opportunity to:

- Learn about primary HR data collection
- Understand each organization's different employee data collection resources and approach
- Trial, learn and improve the process

First-year evaluation highlighted:

- Data availability and assessment
- Process issues
- Instrument issues
- Recommend an additional trial year



Project Learnings – the Tool's Strengths

The project team agrees the Forecasting Tool offers:

- A comprehensive data collection spreadsheet that capture all required data elements to develop forecasts
- A straightforward, step-by-step forecasting process (not necessarily the data gathering process)
- An opportunity to leverage forecasting to help managers to shift from reactive to proactive HR management
- User-friendly tools at each step and strong client support from vendor, the Advisory Board



Project Learnings – Understanding the Process

Upfront Planning & Indicator Definition	<ul style="list-style-type: none">• Creation of common assumptions/forecasting methodologies• Establishing a data dictionary (e.g. turnover)• Ensuring accuracy/consistency of data collection
Comprehensive Range of Indicators	<ul style="list-style-type: none">• Define “mandatory” data (essential for tool to work) and “recommended” data to reduce repeated collection/re-entry of data and improve forecast accuracy



Project Learnings – Understanding the Process

Separations Calculator	<ul style="list-style-type: none">• Useful tool if there is no historical data on turnover or lack of confidence in the data• Easier to use for smaller hospital (larger groups requires more rigorous process)• Required time from managers didn't equal value-add
System Level Planning	<ul style="list-style-type: none">• Compatible HRIS systems and software• Consistency of how HR data is defined across organizations



Project Learnings – Improvement Requirements

- FTE vs. Head Count
- Separate out employment status (full time, part time, casual and temporary)
- Excel vs. Web-based & data privacy
- Challenge for system level implementation due to variations across organizations related to complexity of data collection, data input process, HRIS system challenges, etc.



Project Learnings – Prerequisites

- Advisory Board Membership (annual fee)
- Human Resources Information System
- Designated HR analyst for data collection, input, analysis and maintenance; level of support required varies by sophistication of the HR System
- Availability of all required data elements
- Tool learning and implementation time



Workforce Demand Forecaster Tool: HHR's Crystal Ball?

- The Tool is a sophisticated tool to store data, project HR needs based on standardized projection assumptions, and report these projections;
- The Tool is not a magic bullet;
- Access to and quality of primary HR data key to the forecasting process and accuracy



Final Thoughts

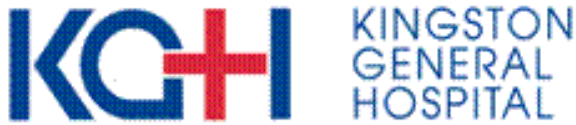
- Quantitative forecasting tool vs. expert knowledge
- Vision, Leadership
- Organization's commitment to a comprehensive workforce management approach:
 - HR and operations partnership
 - Use of forecasting information to evidence-based management decision making



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