

2008 Ontario Hospital Labour Market Survey: e-Health Supplement

Findings Report

Ontario Hospital Association

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OVERVIEW

This report provides results gathered from an e-Health supplement to the Ontario Hospital Association's (OHA's) Labour Market Survey. The supplement was sent online to 154 hospitals in Ontario in the spring of 2008.

The purpose of the survey was to gather labour market data specifically on e-Health professions across Ontario's hospitals. The OHA defines e-Health as "the practical use of information and communications technologies (ICTs) in the delivery of health care." As such, e-Health professions are defined as those professions that contribute to the planning, implementation, use, and sustainability of e-Health technologies and applications in health care settings. e-Health professions stem from an array of disciplines – most commonly information technology/systems, business and management, and clinical.

The e-Health supplement is the first survey in Ontario to gather data on the e-Health workforce. Defining the roles in this workforce has been challenging given the dynamic nature of the field and the rapid pace of technological change. However, this survey report presents data that can be used to encourage discussion and further examination of the existing resources for e-Health. In the future, the OHA hopes to refine its methodology and the list of professions and incorporate this into the larger, bi-annual Labour Market Survey.

Survey Details

- Similar to the OHA's Labour Market Survey, the e-Health supplement survey is comprised of two parts: a qualitative questionnaire that examines the e-Health Human Resource capacity, and a quantitative portion, where respondents fill in data tables for the number of e-Health employees at their organization.
- Data captured from the survey reflects activities occurring from April 1, 2007 to March 31, 2008.
- 55% (84/154 hospitals) completed the survey in its entirety. There were a portion of respondents who partially completed the survey.

To consider these results as representative of the entire Ontario hospital population, the margin of error is $\pm 7\%$, 19 times out of 20. This margin of error likely becomes larger for any sub-sample population (e.g., a LHIN or hospital peer group).

METHODOLOGY

The main goal of the Labour Market Survey's e-Health Supplement is to gather baseline data on e-Health professions across Ontario's hospitals. e-Health professions are defined as roles that involve the planning, implementation, analysis, use, and sustainability of e-Health technologies and systems with the goal of improving health service delivery.

Findings from this survey will also be used to provide evidence supporting an OHA policy paper on e-Health human resources, titled *Supporting Transformation: A Vision for e-Health Human Resources*. This policy paper has been written with the advice of a working group comprised of 12 senior level executives.

To create the survey, a small working group was formed from the members of the policy paper working group. This group provided advice on survey development and the list of e-Health professions to be used. The survey working group was comprised of three individuals representing the academic, informatics, and hospital sectors, and two OHA staff members representing the e-Health and the Provincial Health Human Resources Strategy departments.

Survey Development and Launch

The methodology to create the survey involved the following steps:

1. Establishing a list of e-Health professions – The survey working group created an initial list of e-Health professions and descriptions, which they then asked the larger working group to review. This process helped to identify, as much as possible, the current e-Health professions across Ontario's hospitals.
2. Identifying the questions to be asked in the survey – The survey working group looked at the larger OHA Labour Market Survey and selected questions that were relevant for the purposes of this e-Health supplement. Again, these questions were vetted by the larger working group.
3. Technically developing the survey – The survey working group provided advice to the technical staff at the OHA on the development of the online survey. This survey was created by using the Labour Market Survey as a framework.
4. Launching the survey – The survey was sent online to the Chief Human Resource Officers across Ontario's hospitals via e-mail on May 7, 2008. The closing date for the survey was officially June 6, 2008, but participants were able to contact the OHA to have the deadline extended until the beginning of July 2008.

Data Edits

To ensure reliability, some data was edited for the analysis. Edits to the data mainly occurred in the "Current Staffing" section of the survey to reflect a more consistent way to report Headcount and Full-time Equivalent (FTE) data. For example, if a respondent indicated "0.5" for Headcount, and blank for "FTE," this was edited to show HC = 1, and FTE = 0.5, that is, one person occupying 0.5 FTE.

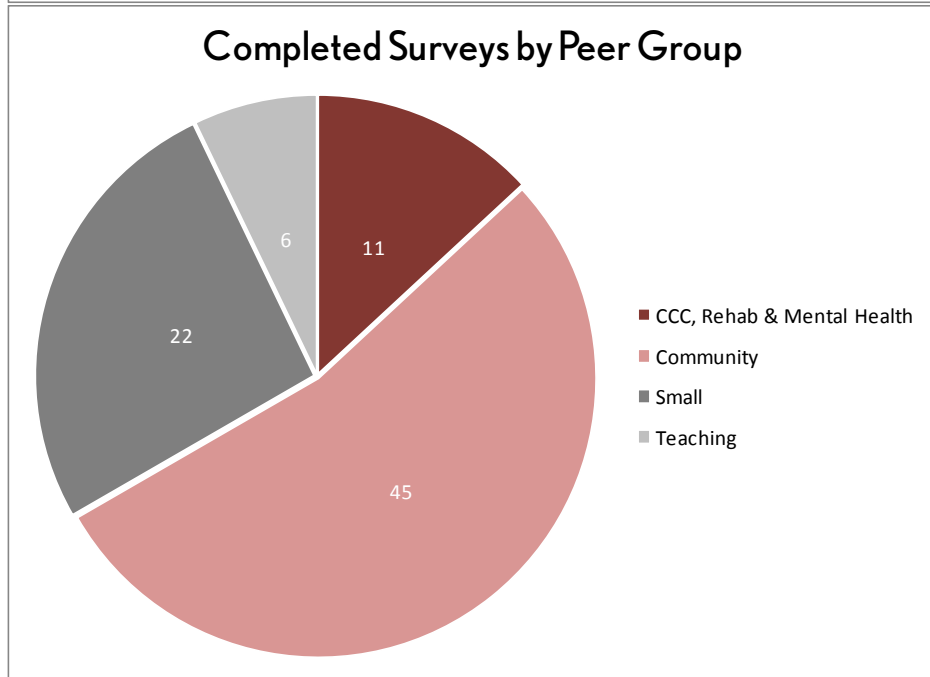
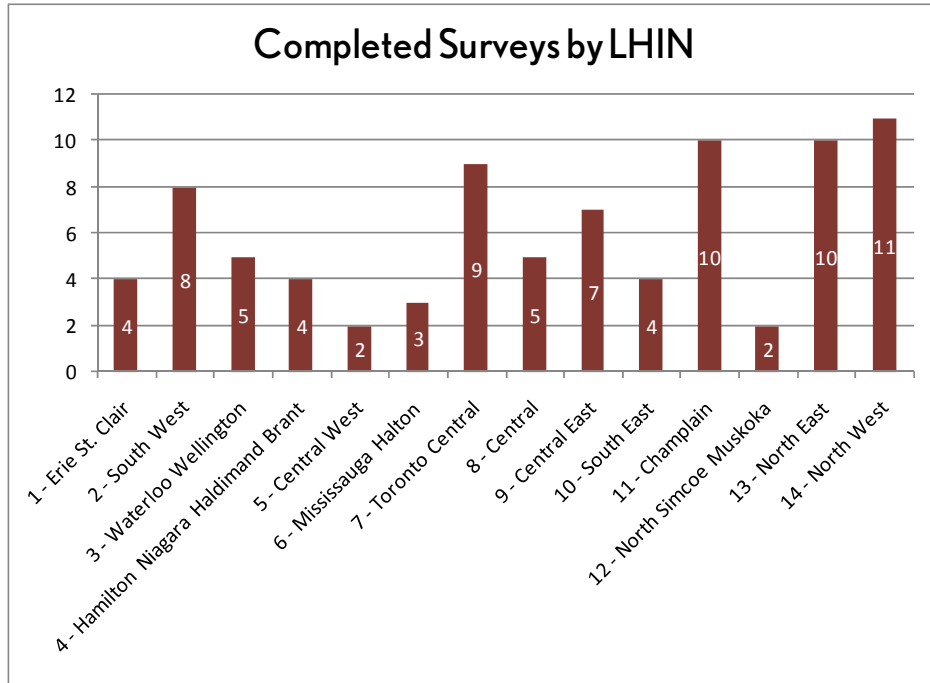
Participants with No Data to Report

For some sections, there was a portion of respondents who left the data fields blank. Though more research is needed to clarify reasons why some organizations chose not to report any data, early consultation with some respondents has revealed that the survey may be challenging to complete, given their e-Health human resources capacity. For instance:

- The e-Health human resource capacity at the reporting hospital is too small to warrant the time it would take to complete the survey;
- The reporting hospital uses outsourcing to meet e-Health requirements, but is unable to provide data that would be relevant for the survey ; or,
- The reporting hospital uses a shared service model to meet e-Health requirements, but is unable to provide data that would be relevant for the survey.

SURVEY PARTICIPANTS

84 hospitals completed the survey in its entirety. However, there was a portion of survey respondents who completed the survey partially.



Again, the completion rate of the survey renders a margin of error of ± 7 per cent, 19 times out of 20, when considering the representation of the entire Ontario hospital population.

CURRENT STAFFING

Current State of the e-Health Workforce in Ontario Hospitals

This section identifies the number of employees in Ontario's hospitals who are working in an e-Health role¹. Headcount refers to a person filling an e-Health role, regardless of the time dedicated to that role.

- Across the 86 hospitals that answered this portion of the survey, there are 1498 employees working in an e-Health role.
- Three of the 86 hospitals indicated that they share resources with other hospitals.
- Most of the reported e-Health professions are those considered to be founded in a technical discipline (65.29%). This suggests that Ontario hospitals are currently focusing on the 'build' of e-Health, ensuring that the hardware, software, and connections are in place to facilitate e-Health adoption.
- The majority of staff members in an e-Health role are full-time regular employees (1336). It was also found that these full-time workers dedicate 1317.63 FTE hours to e-Health. The gap between head count and FTE may mean that some full-time workers have responsibilities outside of e-Health at the hospital.

¹ No. of respondents = 89; No. of respondents with reportable data = 86

Number of e-Health Employees by Profession

e-Health Profession	FT	PT	FT Casual	PT Casual	Job Share	Total HC	% of Employees Reported
Applications Analyst/Specialist	257	9	12	1	0	279	18.62%
Change Management Expert	5	1	0	0	0	6	0.40%
Chief Information Officer	29	2	0	0	0	31	2.07%
Chief Medical Information Officer	1	3	0	1	0	5	0.33%
Chief Technology Officer	4	0	0	0	0	4	0.27%
Clinical Informatics Specialist	98	10	9	0	2	119	7.94%
Clinical Systems Instructor	23	4	0	1	0	28	1.87%
Computer Support Technician	228	32	10	4	2	276	18.42%
Database Analyst	26	2	0	0	0	28	1.87%
Decision Support Analyst	96	4	2	2	0	104	6.94%
Departmental-IS Liaison	44	5	0	1	0	50	3.34%
Director of Clinical Informatics	20	0	0	0	0	20	1.34%
Director of Information Systems	38	1	0	0	0	39	2.60%
Enterprise Architect	22	0	0	0	0	22	1.47%
Help Desk Manager	14	2	1	0	0	17	1.13%
Interface/Reporting Analyst	20	0	1	0	1	22	1.47%
Manager of Applications Development	36	1	0	0	0	37	2.47%
Manager of Systems Development	10	0	0	0	0	10	0.67%
Manager of Systems Support	27	1	0	0	1	29	1.94%
Network Manager	29	1	0	0	0	30	2.00%
Network Technician	95	8	1	0	1	105	7.01%
Process Analyst/Re-engineering Specialist	4	0	0	0	0	4	0.27%
Programmer/Analyst	76	6	1	1	0	84	5.61%
Project Analyst	42	0	1	0	0	43	2.87%
Project Manager	35	2	4	1	0	42	2.80%
Other Administrative	5	0	1	0	2	8	0.53%
Other Business/Clinical	15	1	1	0	0	17	1.13%
Other Technical	37	1	1	0	0	39	2.60%
Grand Total	1336	96	45	12	9	1498	100.00%

Number of e-Health Employees by Discipline

Discipline/e-Health Profession	FT	PT	FT Casual	PT Casual	Job Share	Total HC	% of Employees Reported
Leadership	34	5	0	1	0	40	2.67%
Chief Information Officer	29	2	0	0	0	31	2.07%
Chief Medical Information Officer	1	3	0	1	0	5	0.33%
Chief Technology Officer	4	0	0	0	0	4	0.27%
Business/Management	86	3	5	1	0	95	6.34%
Change Management Expert	5	1	0	0	0	6	0.40%
Process Analyst/Re-engineering Specialist	4	0	0	0	0	4	0.27%
Project Analyst	42	0	1	0	0	43	2.87%
Project Manager	35	2	4	1	0	42	2.80%
Clinical	281	23	11	4	2	321	21.43%
Clinical Informatics Specialist	98	10	9	0	2	119	7.94%
Clinical Systems Instructor	23	4	0	1	0	28	1.87%
Decision Support Analyst	96	4	2	2	0	104	6.94%
Departmental-IS Liaison	44	5	0	1	0	50	3.34%
Director of Clinical Informatics	20	0	0	0	0	20	1.34%
Technical	878	63	26	6	5	978	65.29%
Applications Analyst/Specialist	257	9	12	1	0	279	18.62%
Computer Support Technician	228	32	10	4	2	276	18.42%
Database Analyst	26	2	0	0	0	28	1.87%
Director of Information Systems	38	1	0	0	0	39	2.60%
Enterprise Architect	22	0	0	0	0	22	1.47%
Help Desk Manager	14	2	1	0	0	17	1.13%
Interface/Reporting Analyst	20	0	1	0	1	22	1.47%
Manager of Applications Development	36	1	0	0	0	37	2.47%
Manager of Systems Development	10	0	0	0	0	10	0.67%
Manager of Systems Support	27	1	0	0	1	29	1.94%
Network Manager	29	1	0	0	0	30	2.00%
Network Technician	95	8	1	0	1	105	7.01%
Programmer/Analyst	76	6	1	1	0	84	5.61%
Other Administrative	5	0	1	0	2	8	0.53%
Other Administrative	5	0	1	0	2	8	0.53%
Other Business/Management/Clinical	15	1	1	0	0	17	1.13%
Other Business/Clinical	15	1	1	0	0	17	1.13%
Other Technical	37	1	1	0	0	39	2.60%
Other Technical	37	1	1	0	0	39	2.60%
Grand Total	1336	96	45	12	9	1498	100.00%

Number of e-Health Employees by Hospital Peer Group

Hospital Peer Group	FT	PT	FT Casual	PT Casual	Job Share	Total HC	% of Employees Reported
CCC, Rehab & Mental Health	200	4	2	0	1	207	13.82%
Community	735	67	30	10	5	847	56.54%
Small	31	4	0	1	2	38	2.54%
Teaching	370	21	13	1	1	406	27.10%
Grand Total	1336	96	45	12	9	1498	100.00%

Number of e-Health Employees by LHIN

LHIN	FT	PT	FT Casual	PT Casual	Job Share	Total HC	% of Employees Reported
1- Erie St. Clair	83	1	1	0	0	85	5.67%
2 - South West	101	2	1	0	1	105	7.01%
3 - Waterloo Wellington	56	2	0	1	0	59	3.94%
4 - Hamilton Niagara Haldimand Brant	82	3	5	1	0	91	6.07%
5 - Central West	41	17	0	0	0	58	3.87%
6 - Mississauga Halton	109	7	2	0	0	118	7.88%
7 - Toronto Central	212	5	14	4	0	235	15.69%
8 - Central	108	18	1	1	1	129	8.61%
9 - Central East	106	15	1	0	0	122	8.14%
10 - South East	45	0	1	1	0	47	3.14%
11 - Champlain	175	17	0	0	3	195	13.02%
12 - North Simcoe Muskoka	30	2	2	2	1	37	2.47%
13 - North East	92	3	6	0	1	102	6.81%
14 - North West	96	4	11	2	2	115	7.68%
Grand Total	1336	96	45	12	9	1498	100.00%

Number of e-Health Employees by Total Number of FTEs

Hospital FTEs	FT	PT	FT Casual	PT Casual	Job Share	Total HC	% of Employees Reported
Less than 100	10	3	0	0	2	15	1.00%
100-200	29	3	1	1	0	34	2.27%
200-400	82	0	0	0	0	82	5.47%
400-700	98	0	1	1	1	101	6.74%
700-1000	126	10	7	2	2	147	9.81%
Greater than 1000	924	79	31	8	4	1046	69.83%
Unknown	67	1	5	0	0	73	4.87%
Grand Total	1336	96	45	12	9	1498	100.00%

Recruitment of Current Staffing for e-Health

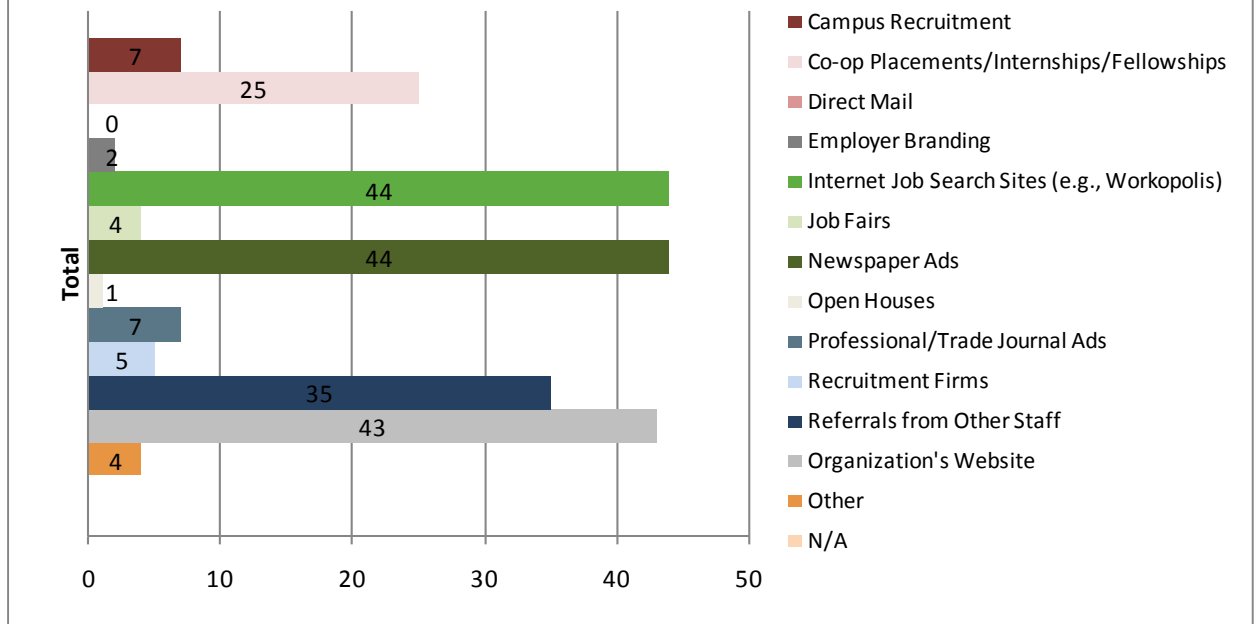
In the qualitative section of the Labour Market Survey's e-Health Supplement, participants were asked to reflect on the e-Health staff employed in their organization during the fiscal year 2007-08, and identify the most effective recruitment methods, the pools of candidates that represented the primary sources for external hires, and the sources of internal transfers into e-Health.

Understanding *how* employees are recruited into an organization, and *who* becomes an e-Health worker may help hospitals understand the mechanisms for recruitment as well as the composition of the e-Health workforce.

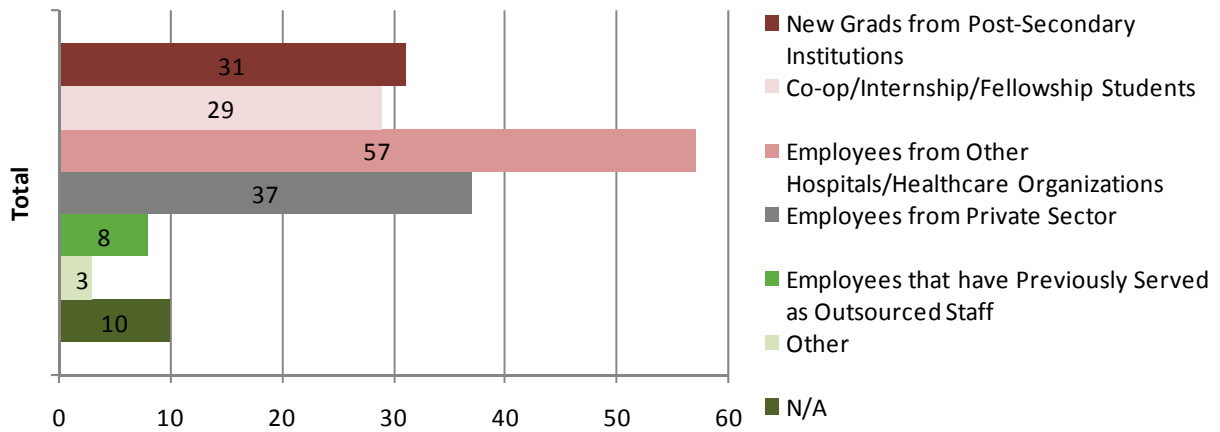
- According to the reported data², the top three recruitment methods used to hire e-Health workers into an organization were: Internet job search sites such as Workopolis, newspaper ads, and through the organization's own website. Referrals from other staff also ranked highly as an effective recruitment method.
- For the fiscal year 2007-08, the top three pools of applicants that represented the primary sources for external hires into e-Health were: employees from other hospitals/health care organizations, employees from the private sector, and new graduates from a post-secondary educational institution. Students who were on a co-op placement/internship/fellowship were also high on the list.
- In terms of internal transfers into e-Health, the top three sources were: nursing, information technology, and administrative/operational support. Allied health also ranked fairly high as a source for internal transfers.

² No. of respondents = 85; No. of respondents with reportable data = 85

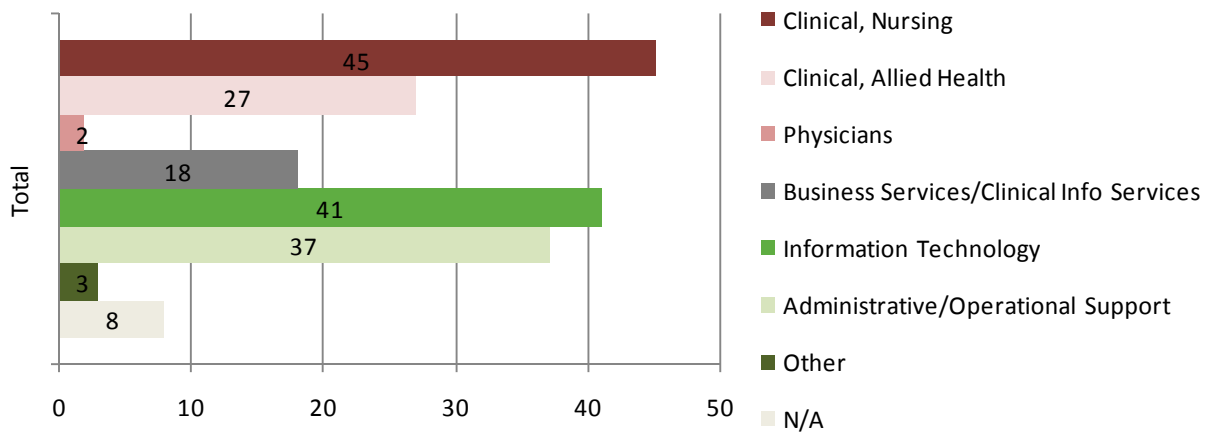
Most Effective Recruitment Methods



Primary Sources for External Hires



Internal Transfers into e-Health



e-HEALTH VACANCIES

A vacancy is an unfilled position in a hospital for which the hospital is actively recruiting. The vacancy rate for a profession is the measure to which demand exceeds supply. The following data reflects vacancies as of March 31, 2008.

The overall average vacancy rate (OAVR) is the combined vacancy rate for full- and part-time positions only. Casual staff members are excluded from the calculation.

The formula is as follows:

$$\text{Number of Vacant Positions} \div \text{Number of Staff in Organizations} \times 100\%$$

$$\text{*Staff in organization} = \text{headcount} + \text{vacant positions}$$

The results of the e-Health Supplement of the Labour Market Survey show that the OAVR for reported e-Health professions is 5.32%³.

- The e-Health OAVR is slightly lower than the OAVR found in the 2007 OHA Labour Market Survey, which was 6.08%.
- According to the reported data, the e-Health professions experiencing the highest vacancies are: Database Analyst (12.50%), Clinical Informatics Specialist (10.57%), and Network Manager (9.09%).
- Across disciplines with defined e-Health roles, the vacancy rates are fairly even, with the Clinical discipline having a slightly higher OAVR than Business/Management and Technical. However, given the high rate of vacancy for professions in the “Other Technical” category, the Technical discipline may actually have a much higher vacancy rate.
- Analysis of the reported data shows that small hospitals collectively seem to be facing the highest rate of vacancy (36.21%). However, this figure may be influenced by the high margin of error for sub-population data.

³ No. of respondents = 85; No. of respondents with reportable data = 43

Number of Vacancies by e-Health Profession

e-Health Profession	FT	PT	Temp FT	Temp PT	Job Share	Temp Job Share	Total Vacancy	OAVR
Applications Analyst/Specialist	11	0	2	0	0	0	13	4.66%
Change Management Expert	0	0	0	0	0	0	0	0.00%
Chief Information Officer	2	0	0	0	0	0	2	6.06%
Chief Medical Information Officer	0	0	0	0	0	0	0	0.00%
Chief Technology Officer	0	0	0	0	0	0	0	0.00%
Clinical Informatics Specialist	6	1	6	0	0	0	13	10.57%
Clinical Systems Instructor	0	0	2	0	0	0	2	6.90%
Computer Support Technician	5	2	1	0	0	0	8	2.96%
Database Analyst	2	0	1	1	0	0	4	12.50%
Decision Support Analyst	6	0	1	0	0	0	7	6.54%
Departmental-IS Liaison	0	0	0	0	0	0	0	0.00%
Director of Clinical Informatics	0	0	0	0	0	0	0	0.00%
Director of Information Systems	2	1	0	0	0	0	3	7.14%
Enterprise Architect	0	0	0	0	0	0	0	0.00%
Help Desk Manager	1	0	0	0	0	0	1	5.88%
Interface/Reporting Analyst	0	0	0	0	0	0	0	0.00%
Manager of Applications Development	0	0	0	0	0	0	0	0.00%
Manager of Systems Development	1	0	0	0	0	0	1	9.09%
Manager of Systems Support	1	0	0	0	0	0	1	3.33%
Network Manager	2	0	1	0	0	0	3	9.09%
Network Technician	3	0	0	0	0	0	3	2.80%
Process Analyst/Re-engineering Specialist	0	0	0	0	0	0	0	0.00%
Programmer/Analyst	6	0	0	0	0	0	6	6.82%
Project Analyst	0	0	0	0	0	0	0	0.00%
Project Manager	4	0	0	0	0	0	4	9.76%
Other Administrative	1	0	0	0	0	0	1	12.50%
Other Business/Clinical	1	1	0	0	0	0	2	11.11%
Other Technical	7	0	0	0	0	0	7	15.56%
Grand Total	61	5	14	1	0	0	81	5.32%

Number of Vacancies by e-Health Discipline

Discipline/e-Health Profession	FT	PT	Temp FT	Temp PT	Job Share	Temp Job Share	Total Vacancy	OAVR
Leadership	2	0	0	0	0	0	2	4.88%
Chief Information Officer	2	0	0	0	0	0	2	6.06%
Chief Medical Information Officer	0	0	0	0	0	0	0	0.00%
Chief Technology Officer	0	0	0	0	0	0	0	0.00%
Business/Management	4	0	0	0	0	0	4	4.30%
Change Management Expert	0	0	0	0	0	0	0	0.00%
Process Analyst/Re-engineering Specialist	0	0	0	0	0	0	0	0.00%
Project Analyst	0	0	0	0	0	0	0	0.00%
Project Manager	4	0	0	0	0	0	4	9.76%
Clinical	12	1	9	0	0	0	22	6.71%
Clinical Informatics Specialist	6	1	6	0	0	0	13	10.57%
Clinical Systems Instructor	0	0	2	0	0	0	2	6.90%
Decision Support Analyst	6	0	1	0	0	0	7	6.54%
Departmental-IS Liaison	0	0	0	0	0	0	0	0.00%
Director of Clinical Informatics	0	0	0	0	0	0	0	0.00%
Technical	34	3	5	1	0	0	43	4.35%
Applications Analyst/Specialist	11	0	2	0	0	0	13	4.66%
Computer Support Technician	5	2	1	0	0	0	8	2.96%
Database Analyst	2	0	1	1	0	0	4	12.50%
Director of Information Systems	2	1	0	0	0	0	3	7.14%
Enterprise Architect	0	0	0	0	0	0	0	0.00%
Help Desk Manager	1	0	0	0	0	0	1	5.88%
Interface/Reporting Analyst	0	0	0	0	0	0	0	0.00%
Manager of Applications Development	0	0	0	0	0	0	0	0.00%
Manager of Systems Development	1	0	0	0	0	0	1	9.09%
Manager of Systems Support	1	0	0	0	0	0	1	3.33%
Network Manager	2	0	1	0	0	0	3	9.09%
Network Technician	3	0	0	0	0	0	3	2.80%
Programmer/Analyst	6	0	0	0	0	0	6	6.82%
Other Administrative	1	0	0	0	0	0	1	12.50%
Other Administrative	1	0	0	0	0	0	1	12.50%
Other Business/Management/Clinical	1	1	0	0	0	0	2	11.11%
Other Business/Clinical	1	1	0	0	0	0	2	11.11%
Other Technical	7	0	0	0	0	0	7	15.56%
Other Technical	7	0	0	0	0	0	7	15.56%
Grand Total	61	5	14	1	0	0	81	5.32%

Number of Vacancies by Hospital Peer Group

Hospital Peer Group	FT	PT	Temp FT	Temp PT	Job Share	Temp Job Share	Total Vacancy	OAVR
CCC, Rehab & Mental Health	20	0	0	0	0	0	20	8.89%
Community	21	4	1	5	0	0	31	3.70%
Small	12	1	0	8	0	0	21	36.21%
Teaching	8	0	0	1	0	0	9	2.24%
Grand Total	61	5	1	14	0	0	81	5.32%

Number of Vacancies by LHIN

LHIN	FT	PT	Temp FT	Temp PT	Job Share	Temp Job Share	Total Vacancy	OAVR
1- Erie St. Clair	2	0	0	0	0	0	2	2.33%
2 - South West	1	0	0	0	0	0	1	0.95%
3 - Waterloo Wellington	5	2	0	0	0	0	7	10.77%
4 - Hamilton Niagara Haldimand Brant	3	0	7	0	0	0	10	10.53%
5 - Central West	2	0	1	1	0	0	4	6.45%
6 - Mississauga Halton	5	0	1	0	0	0	6	4.92%
7 - Toronto Central	20	0	0	0	0	0	20	8.44%
8 - Central	9	0	4	0	0	0	13	9.29%
9 - Central East	1	2	0	0	0	0	3	2.42%
10 - South East	2	0	0	0	0	0	2	4.26%
11 - Champlain	1	0	0	0	0	0	1	0.51%
12 - North Simcoe Muskoka	4	0	0	0	0	0	4	10.81%
13 - North East	6	1	1	0	0	0	8	7.69%
14 - North West	0	0	0	0	0	0	0	0.00%
Grand Total	61	5	14	1	0	0	81	5.32%

Challenges to Recruitment

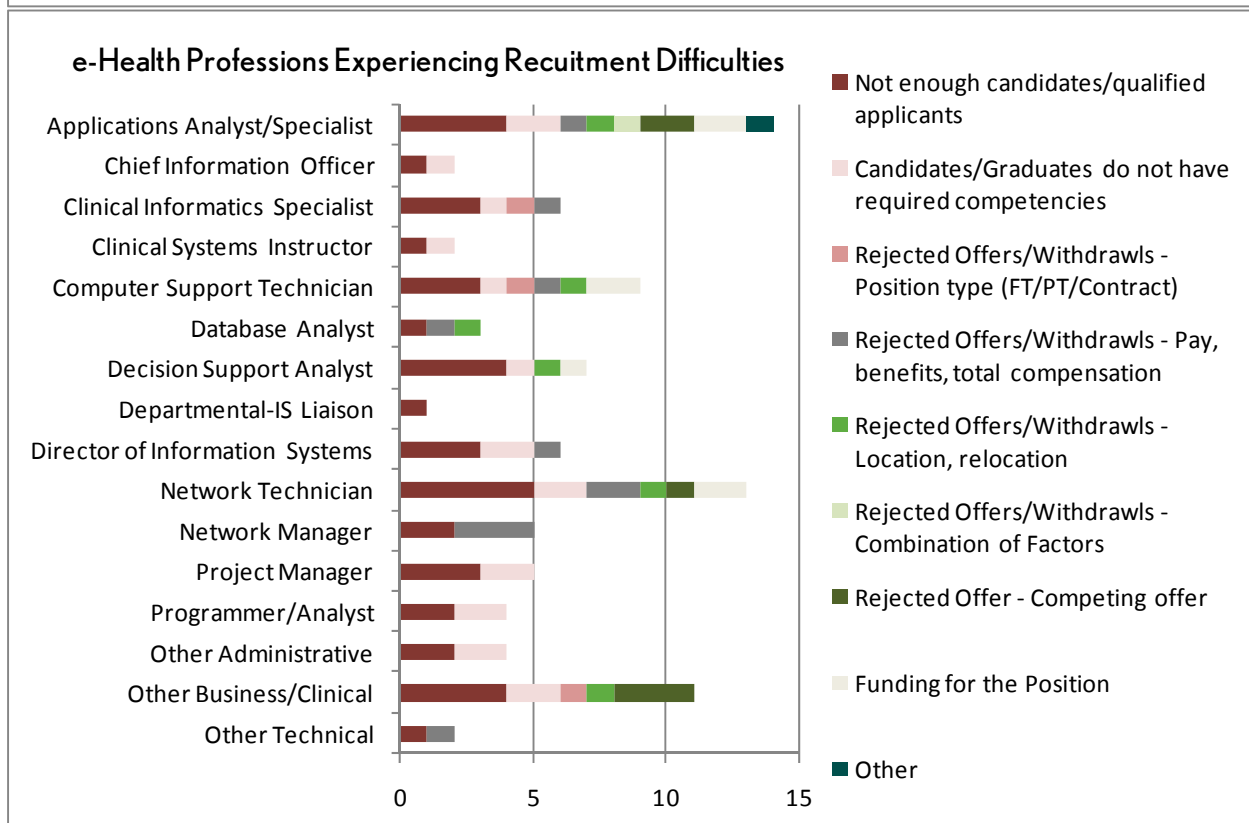
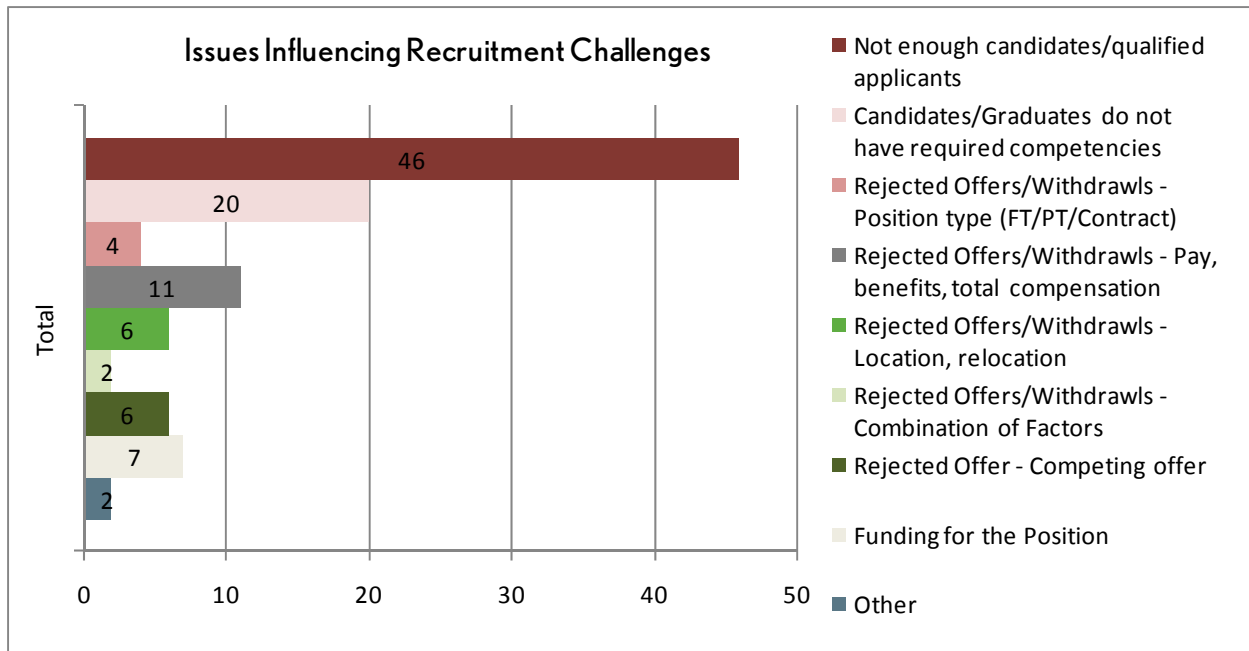
The qualitative portion of the survey also asked participants to identify the e-Health professions that they felt were difficult to recruit for, and the issues that influenced their recruiting challenges. While there needs to be more research conducted, the reported survey results present a starting point in identifying which professions are experiencing the recruitment challenges most acutely, along with the reasons why⁴.

- The graphs below show that there are a number of e-Health professions facing recruitment difficulties, many of which are considered to be part of the technical discipline. The three most commonly cited professions facing recruitment challenges are: Applications Analyst/Specialist, Network Technician, and Computer Support Technician.

⁴ No. of respondents = 85; No. of respondents with reportable data = 39

- When respondents were asked about the issues that influenced the extended ‘time to fill’ for the identified professions, the top three reported issues were:
 - Not enough candidates/qualified applicants;
 - Candidates/graduates do not have the required competencies; and,
 - The compensation offered for the e-Health position.

The first issue – not having enough candidates/qualified applicants – was cited for all professions that were reported as difficult to recruit for.

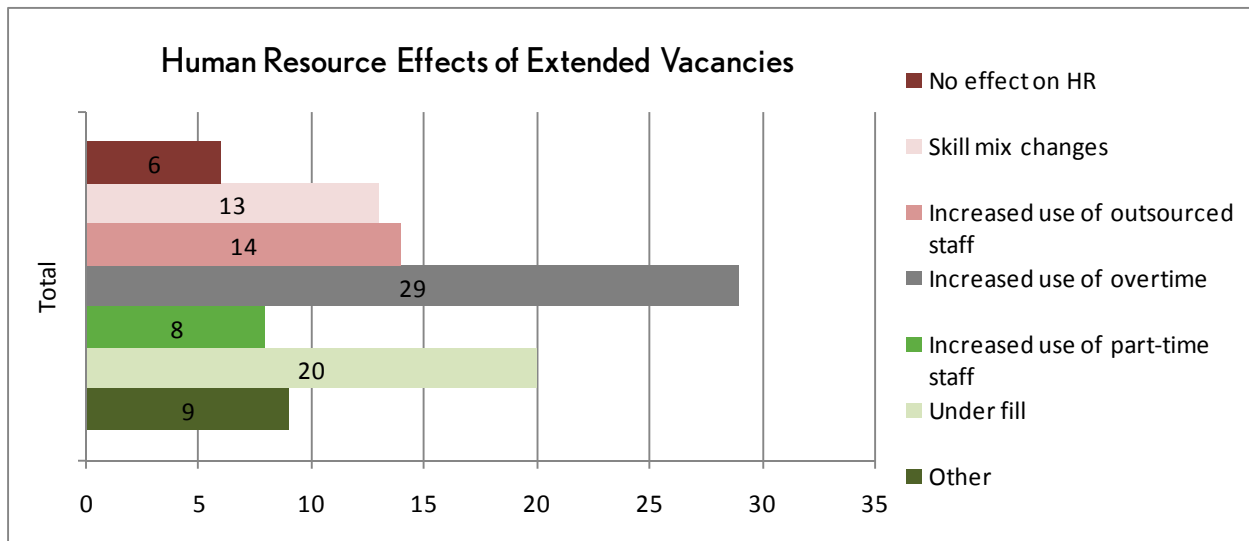


Effects of Extended Vacancies

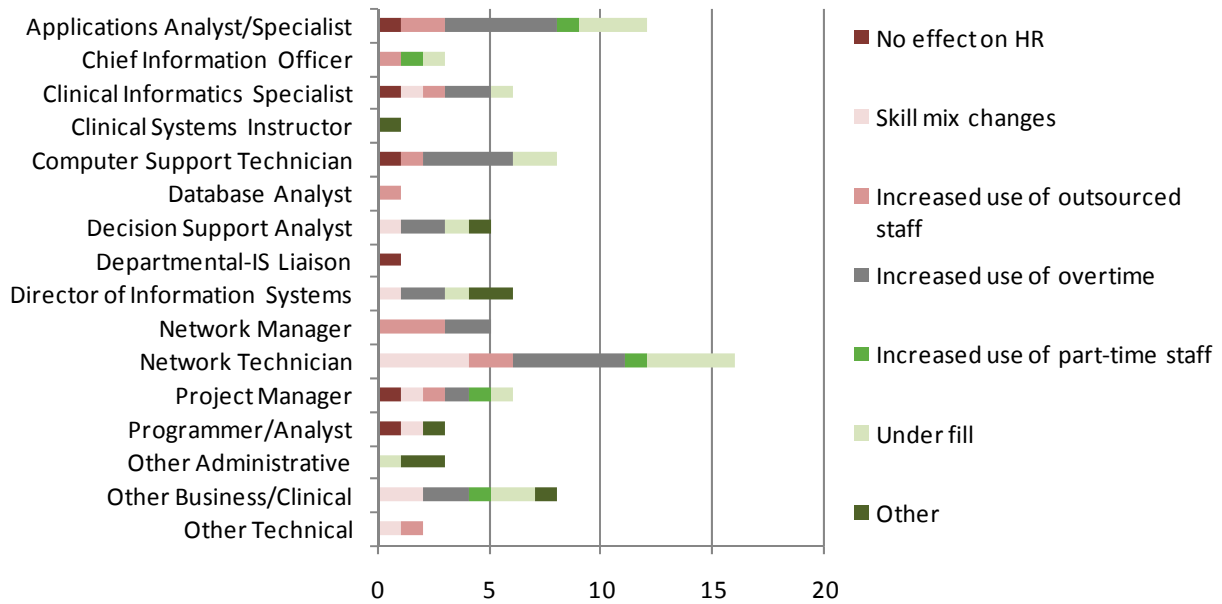
Human Resource Impacts

When there are extended vacancies, there are also human resource impacts faced by the organization. The following charts show the HR impacts broken down by professions experiencing recruitment difficulties, and aggregate results of those impacts.

- The three most cited impacts on human resources are: increased use of overtime, under fill the position, and increased use of outsourcing. These impacts were felt as a result of nearly all professions identified as difficult to recruit for.



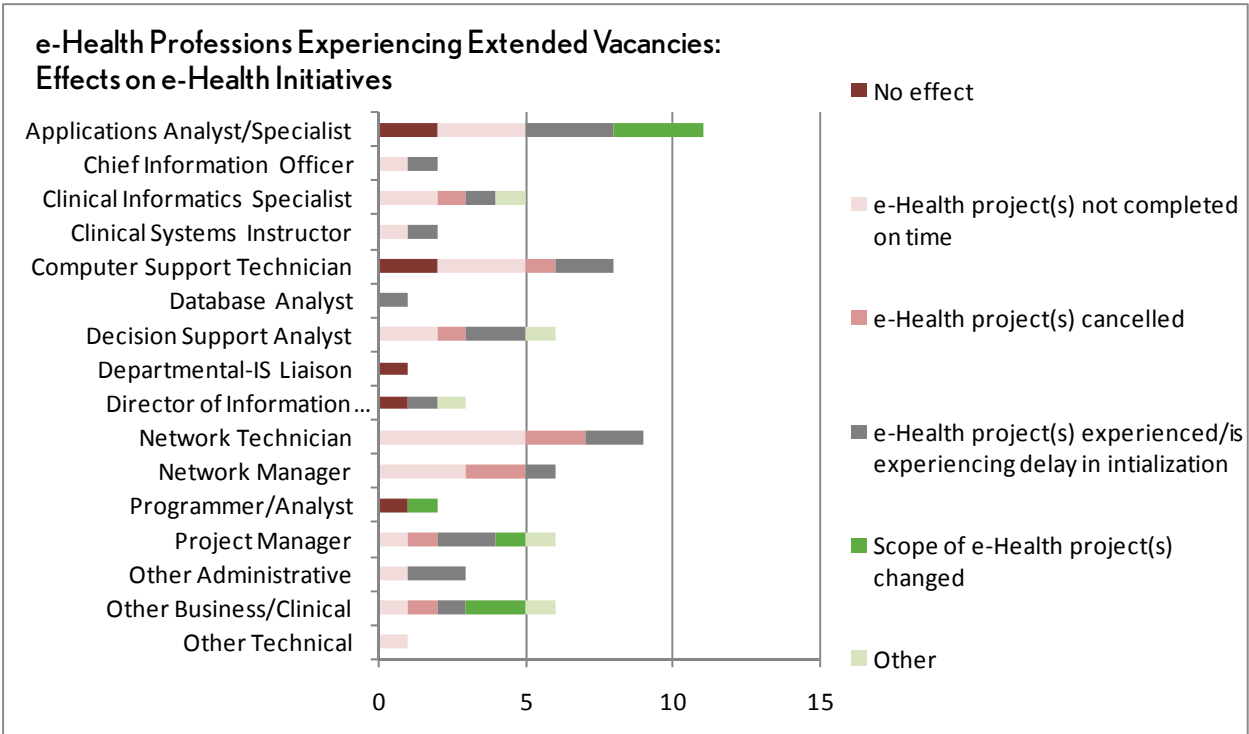
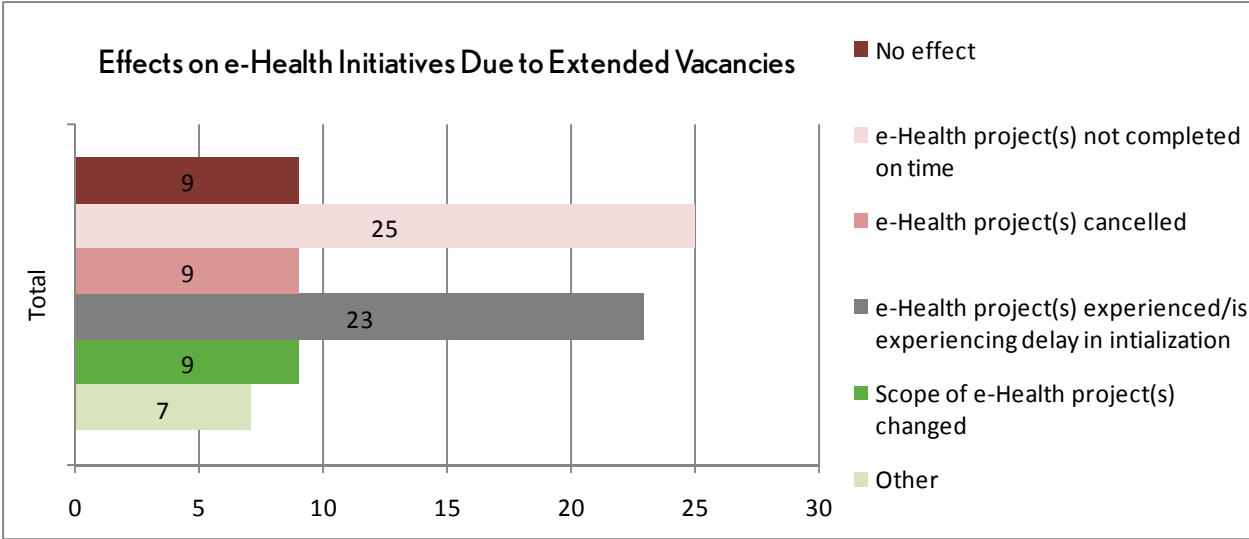
e-Health Professions Experiencing Extended Vacancies: Human Resource Impacts



e-Health Project Impacts

Extended vacancies may influence the ability for an organization to implement e-Health applications and solutions. Respondents were also asked about how their e-Health initiatives were impacted in light of the recruitment challenges for the identified professions.

- According to the reported data, the two most common impacts stemming from extended e-Health vacancies are a delay in e-Health project completion date, and a delay in e-Health project initialization. Further research needs to be conducted on how these delays may influence other elements, such as cost and adoption of technologies.



e-HEALTH STAFF TURNOVERS

Employee turnover is a ratio comparison of the number of employees a company must replace in a given time period to the average number of total employees. The overall average turnover rate (OATR) is a calculation of the combined turnover for full- and part-time positions.

The formula is as follows:

$$\text{Number of Staff Departures} \div \text{Headcount} \times 100\%$$

The results from the Labour Market Survey's e-Health Supplement show that the OATR for reported e-Health professions is 8.47%⁵.

- The reported data shows that the three e-Health professions that have the highest turnover rates are: Chief Medical Information Officer (25.00%), Help Desk Manager (18.75%), and Chief Information Officer (16.13%).
- According to the results, the Leadership discipline has the highest OATR (15.38%), followed by the Technical discipline (8.77%). However, given the very high turnover for the Other Technical category (31.58%), the Technical discipline may have a much higher OATR overall.
- Among the reporting hospitals, Small hospitals and CCC, Rehab and Community hospitals are experiencing the highest turnover rates for e-Health professions, as shown by the survey results.
- Of the reported data, the OATR across LHINs is quite varied, with North West LHIN experiencing a rate of 16.67%, and Champlain LHIN experiencing a low turnover rate of 1.03%.

⁵ No. of respondents = 86; No. of respondents with reportable data = 59

e-Health Turnovers by Profession

e-Health Profession	Voluntary Turnover	Involuntary Turnover	Total Turnover	Total HC	OATR
Applications Analyst/Specialist	18	14	32	266	12.03%
Change Management Expert	0	0	0	6	0.00%
Chief Information Officer	3	2	5	31	16.13%
Chief Medical Information Officer	1	0	1	4	25.00%
Chief Technology Officer	0	0	0	4	0.00%
Clinical Informatics Specialist	6	0	6	110	5.45%
Clinical Systems Instructor	0	0	0	27	0.00%
Computer Support Technician	14	11	25	262	9.54%
Database Analyst	2	1	3	28	10.71%
Decision Support Analyst	4	2	6	100	6.00%
Departmental-IS Liaison	1	0	1	49	2.04%
Director of Clinical Informatics	1	0	1	20	5.00%
Director of Information Systems	2	2	4	39	10.26%
Enterprise Architect	0	0	0	22	0.00%
Help Desk Manager	3	0	3	16	18.75%
Interface/Reporting Analyst	0	0	0	21	0.00%
Manager of Applications Development	0	0	0	37	0.00%
Manager of Systems Development	1	0	1	10	10.00%
Manager of Systems Support	0	0	0	29	0.00%
Network Manager	0	1	1	30	3.33%
Network Technician	5	6	11	104	10.58%
Process Analyst/Re-engineering Specialist	0	0	0	4	0.00%
Programmer/Analyst	2	1	3	82	3.66%
Project Analyst	0	0	0	42	0.00%
Project Manager	4	0	4	37	10.81%
Other Administrative	0	0	0	7	0.00%
Other Business/Clinical	2	1	3	16	18.75%
Other Technical	7	5	12	38	31.58%
Grand Total	76	46	122	1441	8.47%

e-Health Turnovers by Discipline

Discipline/e-Health Profession	Voluntary Turnover	Involuntary Turnover	Total Turnover	Total HC	OATR
Leadership	4	2	6	39	15.38%
Chief Information Officer	3	2	5	31	16.13%
Chief Medical Information Officer	1	0	1	4	25.00%
Chief Technology Officer	0	0	0	4	0.00%
Business/Management	4	0	4	89	4.49%
Change Management Expert	0	0	0	6	0.00%
Process Analyst/Re-engineering Specialist	0	0	0	4	0.00%
Project Analyst	0	0	0	42	0.00%
Project Manager	4	0	4	37	10.81%
Clinical	12	2	14	306	4.58%
Clinical Informatics Specialist	6	0	6	110	5.45%
Clinical Systems Instructor	0	0	0	27	0.00%
Decision Support Analyst	4	2	6	100	6.00%
Departmental-IS Liaison	1	0	1	49	2.04%
Director of Clinical Informatics	1	0	1	20	5.00%
Technical	47	36	83	946	8.77%
Applications Analyst/Specialist	18	14	32	266	12.03%
Computer Support Technician	14	11	25	262	9.54%
Database Analyst	2	1	3	28	10.71%
Director of Information Systems	2	2	4	39	10.26%
Enterprise Architect	0	0	0	22	0.00%
Help Desk Manager	3	0	3	16	18.75%
Interface/Reporting Analyst	0	0	0	21	0.00%
Manager of Applications Development	0	0	0	37	0.00%
Manager of Systems Development	1	0	1	10	10.00%
Manager of Systems Support	0	0	0	29	0.00%
Network Manager	0	1	1	30	3.33%
Network Technician	5	6	11	104	10.58%
Programmer/Analyst	2	1	3	82	3.66%
Other Administrative	0	0	0	7	0.00%
Other Administrative	0	0	0	7	0.00%
Other Business/Management/Clinical	2	1	3	16	18.75%
Other Business/Clinical	2	1	3	16	18.75%
Other Technical	7	5	12	38	31.58%
Other Technical	7	5	12	38	31.58%
Grand Total	76	46	122	1441	8.47%

e-Health Turnovers by Hospital Peer Group

Peer Group	Voluntary Turnover	Involuntary Turnover	Total Turnover	Total HC	OATR
CCC, Rehab & Mental Health	15	7	22	205	10.73%
Community	37	33	70	807	8.67%
Small	5	1	6	37	16.22%
Teaching	19	5	24	392	6.12%
Grand Total	76	46	122	1441	8.47%

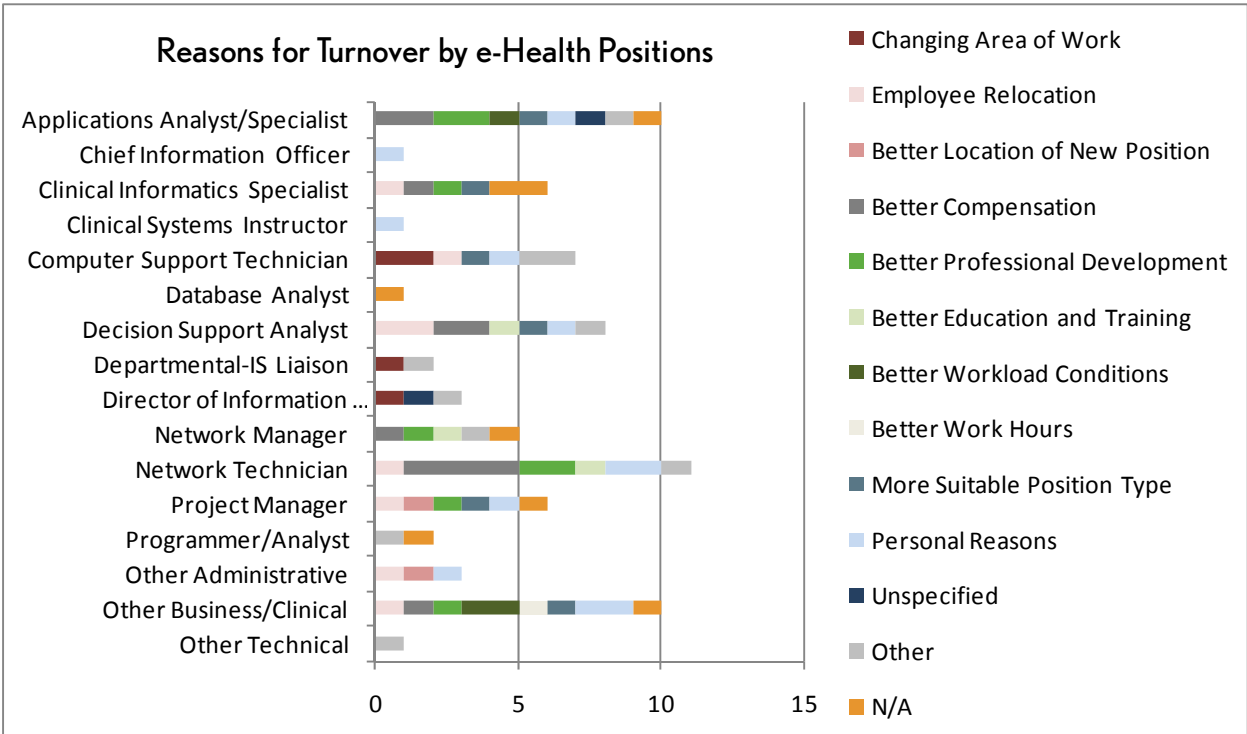
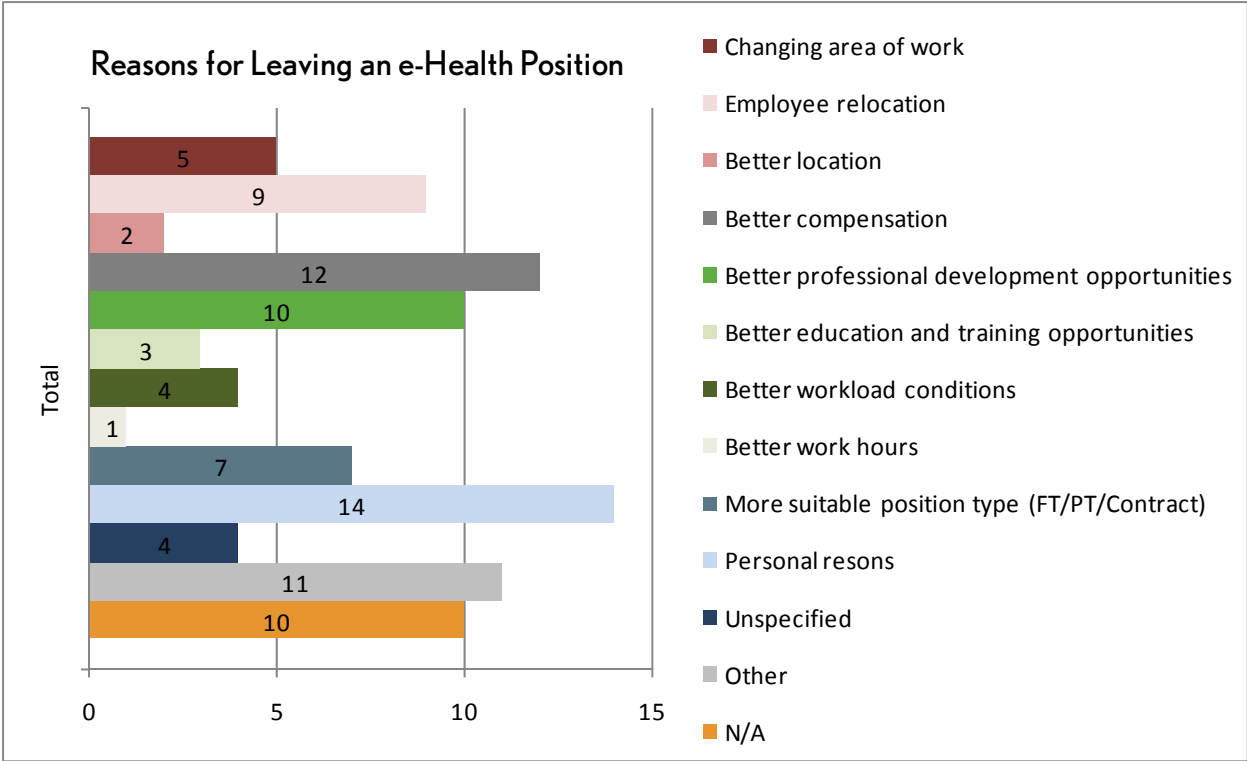
e-Health Turnovers by LHIN

LHIN	Voluntary Turnover	Involuntary Turnover	Total Turnover	Total HC	OATR
1- Erie St. Clair	3	3	6	84	7.14%
2 - South West	4	1	5	104	4.81%
3 - Waterloo Wellington	6	1	7	58	12.07%
4 - Hamilton Niagara Haldimand Brant	4	0	4	85	4.71%
5 - Central West	4	0	4	58	6.90%
6 - Mississauga Halton	3	9	12	116	10.34%
7 - Toronto Central	24	7	31	217	14.29%
8 - Central	5	5	10	127	7.87%
9 - Central East	7	2	9	121	7.44%
10 - South East	1	4	5	45	11.11%
11 - Champlain	1	1	2	195	1.03%
12 - North Simcoe Muskoka	2	2	4	33	12.12%
13 - North East	3	3	6	96	6.25%
14 - North West	9	8	17	102	16.67%
Grand Total	76	46	122	1441	8.47%

Reasons for Turnover

The survey asked participants to reflect on the list of e-Health professions they found challenging to keep filled and the reasons why employees left these positions. Understanding why people leave their jobs at an organization can help to identify potential initiatives for staff retention.

- There are a range of explanations as to why staff members have left e-Health positions. The top four reasons cited by survey participants were:
 - Personal reasons (15% of responses)
 - Better compensation (13% of responses)
 - Better professional development opportunities (11% of responses)
 - Other (11% of responses)
- There were a number of e-Health professions on the list below that did not experience turnover. This is represented by “N/A.” Some of the explanations for this included that the position had been vacant for more than a year, or that the position was newly created, and thus, turnover was not an issue.



USE OF OUTSOURCED STAFFING

Another portion of the e-Health supplement of the Labour Market Survey examined the use of outsourcing by hospitals to fulfill their e-Health requirements⁶. Understanding the reliance on e-Health vendors may provide insight to the skills/knowledge hospitals may lack in their human resources capacity.

- The reported data shows that systems implementation and project management are areas of expertise that hospitals outsource the most.
- A few hospitals indicated that they are not able to define their use of e-Health outsourcing for the survey. For example, a lump sum is allocated for outsourcing services, rather than an allocation of FTE hours for particular areas of expertise.
- Most hospitals relied on contractors for more than 12 months, but there were also many who used outsourcing for less than three months.
- Hypothetically, if the 143.35 FTE were incorporated as regular full-time employees, this would constitute almost 10% of the total FTE hours for e-Health.

Specialty Area	< 3 months	3-5 months	6-8 months	9-12 months	> 12 months	Unable to define	Total Outsourced FTE
Change Management	0	0	0	2	0	0	2
IT/Systems Training	4	2	1	0	2.5	1	9.5
Process Re-engineering	0	0	0	0	0	0	0
Procurement	0	1	0	1	0	0	2
Project Management	9	2	2.1	5	12	0	30.1
Replacement	0	0	3	1	2	0	6
Systems Implementation	10	4	1	5.5	12	1	32.5
Systems Maintenance	2.2	0	0	1	14.9	1	18.05
Other Administrative	0	0	0	1	0	0	1
Other Business/Management/Clinical	0	0	0	2	1.2	0	3.2
Other Technical	11	1	0	8	3	1	23
Other Undefined	1	14	0	1	0	0	16
Grand Total	37.2	24	7.1	27.5	47.6	4	143.35

⁶ No. of respondents = 88; No. of respondents with reportable data = 84

e-HEALTH HUMAN RESOURCE CAPACITY FORECASTING

The purpose of the forecasting section of the e-Health supplement is to understand the project need for e-Health personnel across hospitals in the next fiscal year. Respondents were asked to identify whether they anticipate an increase or decrease in their e-Health HR capacity. In addition, they were asked to project growth for beyond 2009.⁷

Increase/Decrease of e-Health FTEs for Fiscal Year 2008-09

- Generally speaking, survey respondents anticipate an overall increase in FTE hours for e-Health professions in the next fiscal year (2008-09).
- Of the responses received for each profession, a small percentage of participants (8.5%) cited decreases in the FTE for the next fiscal year.
- The greatest FTE projections are for those e-Health professions in the Technical discipline (117.08 FTE increase).

Projections Beyond 2008-09

- Participants were asked to state, for each profession, whether they anticipated growth, reduction, or no change for beyond the fiscal year 2008-09. For the most part, many participants said that they felt there would be no change. There is a portion of respondents who indicated that growth beyond 2008-09 is unknown. More investigation is needed to understand what elements are influencing this uncertainty.

⁷ No. of respondents = 86; No. of respondents with reportable data = 63

Discipline/e-Health Profession	Projected FTE Increase
Leadership	2.7
Chief Information Officer	2.5
Chief Medical Information Officer	0.2
Chief Technology Officer	0
Business/Management	3.5
Change Management Expert	0
Process Analyst/Re-engineering Specialist	0
Project Analyst	0
Project Manager	3.5
Clinical	36.91
Clinical Informatics Specialist	19.41
Clinical Systems Instructor	5
Decision Support Analyst	7.5
Departmental-IS Liaison	1
Director of Clinical Informatics	4
Technical	117.08
Applications Analyst/Specialist	29
Computer Support Technician	35.76
Database Analyst	2.47
Director of Information Systems	3
Enterprise Architect	3
Help Desk Manager	0.1
Interface/Reporting Analyst	2
Manager of Applications Development	1
Manager of Systems Development	0
Manager of Systems Support	2
Network Manager	2
Network Technician	28.75
Programmer/Analyst	8
Other Administrative	0
Other Administrative	0
Other Business/Clinical	0
Other Business/Clinical	0
Other Technical	1
Other Technical	1
Grand Total	161.19

Discipline/e-Health Profession	Growth	No Change	Reduction	Unknown	Grand Total
Leadership	2	29	0	4	35
Chief Information Officer	1	19	0	1	21
Chief Medical Information Officer	1	5	0	1	7
Chief Technology Officer	0	5	0	2	7
Business/Management	3	21	0	8	32
Change Management Expert	0	3	0	2	5
Process Analyst/Re-engineering Specialist	0	4	0	2	6
Project Analyst	0	7	0	2	9
Project Manager	3	7	0	2	12
Clinical	14	42	0	11	67
Clinical Informatics Specialist	6	9	0	3	18
Clinical Systems Instructor	1	6	0	2	9
Decision Support Analyst	5	11	0	2	18
Departmental-IS Liaison	1	4	0	3	8
Director of Clinical Informatics	1	12	0	1	14
Technical	41	152	2	26	221
Applications Analyst/Specialist	8	16	1	3	28
Computer Support Technician	10	18	0	4	32
Database Analyst	4	8	1	2	15
Director of Information Systems	0	21	0	1	22
Enterprise Architect	3	5	0	2	10
Help Desk Manager	0	11	0	1	12
Interface/Reporting Analyst	3	7	0	2	12
Manager of Applications Development	0	12	0	1	13
Manager of Systems Development	0	7	0	1	8
Manager of Systems Support	0	10	0	2	12
Network Manager	2	14	0	2	18
Network Technician	6	15	0	3	24
Programmer/Analyst	5	8	0	2	15
Other Administrative	0	6	0	1	7
Other Administrative	0	6	0	1	7
Other Business/Clinical	0	8	0	1	9
Other Business/Clinical	0	8	0	1	9
Other Technical	0	12	1	1	14
Other Technical	0	12	1	1	14
Grand Total	60	270	3	52	385

CONCLUSION

This report has provided an overview of the results gathered from an e-Health Supplement of OHA's Labour Market Survey. Though more research needs to be conducted to truly understand the nature of the e-Health workforce, this report offers a preliminary glance at its current state.

Of the hospitals responding to this e-Health supplement, results indicate that:

- Current staffing is mainly comprised of e-Health professionals who fall under the Technical discipline.
- The overall average vacancy rate across the reporting hospitals is 5.32%. Across disciplines, the vacancy rates are fairly even.
- Professions in the Leadership and Technical disciplines are experiencing the highest rate of turnover.
- Systems implementation and project management are two where hospitals outsource the most when it comes to e-Health initiatives.
- Generally speaking, the hospital respondents foresee an increase in FTE dedicated to e-Health in the future.

Some results from this survey have been used to provide evidence for the OHA's forthcoming policy paper on e-Health Human Resources, entitled, *Supporting Transformation: A Vision for e-Health Human Resources*. The aim of the paper is to advocate for an Ontario health human resource (HHR) strategy that is inclusive of e-Health.

Moreover, the OHA intends to conduct further research on the e-Health workforce beyond the labour market capacity. Some examples of research may include:

- Investigating the correlation between e-Health human resources capacity and level of e-Health adoption; and
- Understanding how different e-Health human resource models might influence the progress of e-Health adoption.

For further information about this survey, or about the OHA's work on e-Health human resources, please contact Elise Chien at echien@oha.com or 416-205-1497.

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- Alison Gardner, Program Director, COACH