

**Economic Impact
of Relocating Children's Memorial Hospital
in the City of Chicago, Illinois**

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Economic Impact of Relocating Children’s Memorial Hospital in the City of Chicago, Illinois

EXECUTIVE SUMMARY

The relocation of Children’s Memorial Hospital (CMH) from the Lincoln Park area (Zip Code 60614) to the Streeterville area (Zip Code 60611) will result in a potential loss of spending, personal income and employment in the Lincoln Park zip code area. The hospital will relocate to the Northwestern Medical Campus in the Streeterville zip code area. The relocation includes the hospital and the outpatient services related to the main hospital; the “Clark-Deming” outpatient facilities will remain in the Lincoln Park zip code area. The relocation of the hospital will result in the potential loss of employee spending, hospital vendor spending, and family/friend spending (from family and friends of the patients). This potential loss in spending could result in a loss of personal income (wages, salaries, and benefits and/or proprietor income) and employment in the Lincoln Park zip code area 60614. *These are potential losses, depending on replacement of the hospital. It is anticipated that the hospital will be replaced with a mixed-use development after the hospital moves from the Lincoln Park area.*

This study was commissioned from Dr. Gerald A. Doeksen at the National Center for Rural Health Works. The economic model, input-output analysis, was utilized to derive the impacts. The model was utilized to estimate the direct personal income and direct employment from the spending losses. The methodology utilized employment and income multipliers derived from IMPLAN data from Minnesota IMPLAN Group, Inc. Employment is defined as total full- and part-time employees. Income is defined as total wages, salaries, and benefits and/or proprietor income (when applicable).

Impact of Potential Loss from Employee Spending

Over 92 percent of the employees of CMH live outside the Lincoln Park zip code area 60614. Employees spend the majority of their income (wages, salaries, and benefits) in the area in which they live. Therefore, employee spending within the Lincoln Park zip code area 60614 includes the incidental daily spending while employees are at work or going to and from work. Employees are defined broadly as the total of employees, physicians, residents, fellows, and volunteers. CMH provided data showing 2,700 employees are working in the hospital every day. Based on 365 days per year, the total employee visits annually are estimated at 985,500. The potential spending loss from employees is estimated at three average daily levels of spending; \$5 average spending per daily visit, \$10 average spending per daily visit, and \$25 average spending per daily visit.

Impact of Potential Loss from Vendor Spending

CMH purchases equipment, goods, and services from a variety of vendors. The overall purchasing of the hospital will remain relatively the same after the relocation. The vendors that visit the hospital generate incidental daily spending in the Lincoln Park zip code area 60614.

CMH provided data that approximately 64 vendors visit the hospital each day, for estimated annual vendor visits of 23,360. These daily visits include nearly 12,500 truck deliveries to CMH annually. The potential spending loss from vendors is estimated at three average daily levels of spending; \$5 average spending per daily visit, \$10 average spending per daily visit, and \$25 average spending per daily visit.

Impact of Potential Loss from Family/Friend Spending

The impact of the potential spending losses related to visits from family and friends of the patients of CMH will be divided into three groups based on distance from the residences of the patients to CMH. The assumption was made that family and friends that are travelling further to visit CMH spend more while in the Lincoln Park zip code area 60614. The three groups identified include patients residing in the City of Chicago (**Group 1**), patients residing in Cook County (excluding Chicago) and in DuPage and Lake Counties (**Group 2**), and patients residing in all other areas outside of Cook, DuPage, and Lake Counties (**Group 3**). The percent of patients for each group were derived.

CMH provided data that an estimated 700 family and friends visit the children every day, resulting in estimated annual visits of 255,500. These were distributed to each family/friend group based on the percent of patients' residences. For **Group 1**, the potential loss impacts will be based on 137,895 total annual family/friend visits and average daily spending of \$5, \$10, and \$25. For **Group 2**, the potential loss impacts will be based on 81,112 total annual family/friend visits and average daily spending of \$25, \$50, and \$75. For **Group 3**, the potential loss impacts will be based on 36,493 total annual family/friend visits and average daily spending of \$65, \$95, and \$125.

Summary of Potential Spending Losses

The potential spending loss impacts presented are based on many assumptions and on different average daily spending amounts. If the assumptions or average daily spending amounts change, the results of the potential spending losses will change. Local decision makers will determine the best assumptions and alternatives based on their local knowledge of the area. Decision-makers may utilize any combinations of these potential spending losses based on their knowledge of spending patterns in the area.

For the lowest level of spending for all spending groups, the total potential income impact loss would be \$9.3 million, which is a potential loss of 334 jobs. For the mid-level of spending for all spending groups, the total potential income impact loss would be \$17.3 million, which is a potential loss of 619 jobs. For the highest level of spending for all spending groups, the total potential income impact loss would be \$35.1 million, which is a potential loss of 1,274 jobs.

At a minimum, the impact of relocating Children's Memorial Hospital is estimated to result in a potential loss of \$9.3 million in total income impact and a potential loss of 334 jobs in total employment impact. At a maximum, the impact of relocating Children's Memorial Hospital is estimated to result in a potential loss of \$35.1 million in total income impact and a potential loss of 1,274 jobs in total employment impact. The decision-makers should develop their best assumptions for each spending group and derive the potential estimated loss totals for the five groups based on their assumptions.

Relocating Children's Memorial Hospital will have a tremendous impact on the economy of the Lincoln Park zip code area 60614 from the potential loss of both income and employment. It is anticipated that the hospital will be replaced with a mixed-use development after the hospital moves from the Lincoln Park area. These new developments may possibly offset part or all of the losses sustained from the relocation of Children's Memorial Hospital.

Economic Impact of Relocating Children’s Memorial Hospital in the City of Chicago, Illinois

Background

The relocation of Children’s Memorial Hospital (CMH) from the Lincoln Park area (Zip Code 60614) to the Streeterville area (Zip Code 60611) will result in a potential loss of spending, personal income and employment in the Lincoln Park zip code area. The hospital will relocate to the Northwestern Medical Campus in the Streeterville zip code area. The relocation includes the hospital and the outpatient services related to the main hospital; the “Clark-Deming” outpatient facilities will remain in the Lincoln Park zip code area. The relocation of the hospital will result in the potential loss of employee spending, hospital vendor spending, and family/friend spending (from family and friends of the patients). This potential loss in spending could result in a loss of personal income (wages, salaries, and benefits and/or proprietor income) and employment in the Lincoln Park zip code area 60614. *These are potential losses, depending on replacement of the hospital. It is anticipated that the hospital will be replaced with a mixed-use development after the hospital moves from the Lincoln Park area.*

This study was commissioned from Dr. Gerald A. Doeksen at the National Center for Rural Health Works. The economic model, input-output analysis, was utilized to derive the impacts. The model was utilized to estimate the direct personal income and direct employment from the spending losses. The methodology utilized employment and income multipliers derived from IMPLAN data from Minnesota IMPLAN Group, Inc. An employment multiplier of 2.44 indicates that for each direct job lost in the zip code area, an additional 1.44 secondary jobs will be lost in other businesses and industries. Employment is defined as total full- and part-time employees. Income is defined as total wages, salaries, and benefits and/or proprietor income

(when applicable). **Appendix A** is attached, providing more detailed information on the methodology utilized.

Impact of Potential Loss from Employee Spending

Over 92 percent of the employees of CMH live outside the Lincoln Park zip code area 60614. Employees spend the majority of their income (wages, salaries, and benefits) in the area in which they live. Therefore, employee spending within the Lincoln Park zip code area 60614 includes the incidental daily spending while employees are at work or going to and from work. Employees are defined broadly as the total of employees, physicians, residents, fellows, and volunteers.

CMH provided data showing 2,700 employees are working in the hospital every day. Based on 365 days per year, the total employee visits annually are estimated at 985,500. The spending of employees is estimated at three average daily levels of spending; \$5 average spending per daily visit, \$10 average spending per daily visit, and \$25 average spending per daily visit. **Table 1** presents the potential losses in income and employment in the Lincoln Park zip code area 60614 from these average daily spending levels for employees.

Potential Impact from Loss of Employee Spending at \$5 Average per Daily Visit

Based on average daily spending of \$5 and total daily employee visits of 985,500, the estimated potential total spending loss from employees will be \$4.9 million. Utilizing IMPLAN data, this potential spending loss will result in potential direct income loss of \$1.8 million and potential direct employment loss of 69 jobs. Utilizing the income multiplier of 2.44, the potential direct income loss of \$1.8 million will generate potential secondary income losses of \$2.6 million, for a total potential income impact loss of \$4.3 million. Using the employment multiplier of 2.30, the potential direct employment loss of 69 jobs will generate potential

Table 1
Impact of Potential Loss from Employee Spending

	Employees* in Hospital Each Day	Days Per Year	Total Employee Visits	
	2,700	365	985,500	
Estimated Average Spending per Visit	Estimated Total Potential Spending Loss		Estimated Potential Direct Income	Estimated Potential Direct Employment
Daily Spending of (\$5)	(\$4,927,500)		(\$1,782,132)	(69)
Daily Spending of (\$10)	(\$9,855,000)		(\$3,564,264)	(138)
Daily Spending of (\$25)	(\$24,637,500)		(\$8,910,660)	(345)
Estimated Average Spending per Visit	Estimated Potential Direct Income	Income Multiplier	Estimated Potential Secondary Income Impact	Estimated Potential Total Income Impact
Daily Spending of (\$5)	(\$1,782,132)	2.44	(\$2,566,270)	(\$4,348,402)
Daily Spending of (\$10)	(\$3,564,264)	2.44	(\$5,132,540)	(\$8,696,804)
Daily Spending of (\$25)	(\$8,910,660)	2.44	(\$12,831,350)	(\$21,742,010)
Estimated Average Spending per Visit	Estimated Potential Direct Employment	Employment Multiplier	Estimated Potential Secondary Employment Impact	Estimated Potential Total Employment Impact
Daily Spending of (\$5)	(69)	2.30	(90)	(159)
Daily Spending of (\$10)	(138)	2.30	(179)	(317)
Daily Spending of (\$25)	(345)	2.30	(449)	(794)

* Employees includes employees, physicians, residents, fellows, and volunteers

SOURCES: Employee visits provided by Children's Memorial Hospital, 2011; multipliers and direct income and employment derived from IMPLAN, Minnesota IMPLAN Group, Inc.

secondary employment losses of 90 jobs, for a total potential employment impact loss of 159 jobs.

Potential Impact from Loss of Employee Spending at \$10 Average per Daily Visit

Based on average daily spending of \$10 and total daily employee visits of 985,500, the estimated potential total spending loss from employees will be \$9.9 million. Utilizing IMPLAN data, this potential spending loss will result in potential direct income loss of \$3.6 million and potential direct employment loss of 138 jobs. Utilizing the income multiplier of 2.44, the potential direct income loss of \$3.6 million will generate potential secondary income losses of \$5.1 million, for a total potential income impact loss of \$8.7 million. Using the employment multiplier of 2.30, the potential direct employment loss of 138 jobs will generate potential secondary employment losses of 179 jobs, for a total potential employment impact loss of 317 jobs.

Potential Impact from Loss of Employee Spending at \$25 Average per Daily Visit

Based on average daily spending of \$25 and total daily employee visits of 985,500, the estimated potential total spending loss from employees will be \$24.6 million. Utilizing IMPLAN data, this potential spending loss will result in potential direct income loss of \$8.9 million and potential direct employment loss of 345 jobs. Utilizing the income multiplier of 2.44, the potential direct income loss of \$8.9 million will generate potential secondary income losses of \$12.8 million, for a total potential income impact loss of \$21.7 million. Using the employment multiplier of 2.30, the potential direct employment loss of 345 jobs will generate potential secondary employment losses of 449 jobs, for a total potential employment impact loss of 794 jobs.

Impact of Potential Loss from Vendor Spending

CMH purchases equipment, goods, and services from a variety of vendors. The overall purchasing of the hospital will remain relatively the same after the relocation. The vendors that visit the hospital generate incidental daily spending in the Lincoln Park zip code area 60614.

CMH provided data that approximately 64 vendors visit the hospital each day, for estimated annual vendor visits of 23,360. These daily visits include nearly 12,500 truck deliveries to CMH annually. The spending of vendors is estimated at three average daily levels of spending; \$5 average spending per daily visit, \$10 average spending per daily visit, and \$25 average spending per daily visit. **Table 2** presents the potential losses in income and employment in the Lincoln Park zip code area 60614 from the potential loss of vendor spending.

Potential Impact Losses from Vendor Spending at \$5 Average per Daily Visit

Based on average daily spending of \$5 and total daily vendor visits of 23,360, the estimated potential total spending loss from vendors will be \$116,800. Utilizing IMPLAN data, this potential spending loss will result in potential direct income loss of \$51,656 and potential direct employment loss of two jobs. Utilizing the income multiplier of 2.44, the potential direct income loss of \$51,656 will generate potential secondary income losses of \$74,385, for a total potential income impact loss of \$126,041. Using the employment multiplier of 2.30, the potential direct employment loss of two jobs will generate potential secondary employment losses of three jobs, for a total potential employment impact loss of five jobs.

Potential Impact Losses from Vendor Spending at \$10 Average per Daily Visit

Based on average daily spending of \$10 and total daily employee visits of 23,360, the estimated potential total spending loss from employees will be \$233,600. Utilizing IMPLAN data, this potential spending loss will result in potential direct income loss of \$77,484 and potential direct employment loss of three jobs. Utilizing the income multiplier of 2.44, the

Table 2
Impact of Potential Loss from Hospital Vendor Spending

	Vendors* in Hospital Each Day	Days Per Year	Total Employee Visits	
	64	365	23,360	
Estimated Average Spending per Visit	Estimated Total Potential Spending Loss		Estimated Potential Direct Income	Estimated Potential Direct Employment
Daily Spending of (\$5)	(\$116,800)		(\$51,656)	(2)
Daily Spending of (\$10)	(\$233,600)		(\$77,484)	(3)
Daily Spending of (\$25)	(\$584,000)		(\$206,624)	(8)
Estimated Average Spending per Visit	Estimated Potential Direct Income	Income Multiplier	Estimated Potential Secondary Income Impact	Estimated Potential Total Income Impact
Daily Spending of (\$5)	(\$51,656)	2.44	(\$74,385)	(\$126,041)
Daily Spending of (\$10)	(\$77,484)	2.44	(\$111,577)	(\$189,061)
Daily Spending of (\$25)	(\$206,624)	2.44	(\$297,539)	(\$504,163)
Estimated Average Spending per Visit	Estimated Potential Direct Employment	Employment Multiplier	Estimated Potential Secondary Employment Impact	Estimated Potential Total Employment Impact
Daily Spending of (\$5)	(2)	2.30	(3)	(5)
Daily Spending of (\$10)	(3)	2.30	(4)	(7)
Daily Spending of (\$25)	(8)	2.30	(10)	(18)

SOURCES: Vendor visits provided by Children's Memorial Hospital, 2011; multipliers and direct income and employment derived from IMPLAN, Minnesota IMPLAN Group, Inc.

potential direct income loss of \$77,484 will generate potential secondary income losses of \$111,577, for a total potential income impact loss of \$189,061. Using the employment multiplier of 2.30, the potential direct employment loss of three jobs will generate potential secondary employment losses of four jobs, for a total potential employment impact loss of seven jobs.

Potential Impact Losses from Vendor Spending at \$25 Average per Daily Visit

Based on average daily spending of \$25 and total daily employee visits of 23,360, the estimated potential total spending loss from employees will be \$584,000. Utilizing IMPLAN data, this potential spending loss will result in potential direct income loss of \$206,624 and potential direct employment loss of eight jobs. Utilizing the income multiplier of 2.44, the potential direct income loss of \$206,624 will generate potential secondary income losses of \$297,539, for a total potential income impact loss of \$504,163. Using the employment multiplier of 2.30, the potential direct employment loss of eight jobs will generate potential secondary employment losses of ten jobs, for a total potential employment impact loss of 18 jobs.

Impact of Potential Loss from Family/Friend Spending

The impact of the potential spending losses related to visits from family and friends of the patients of CMH will be divided into three groups based on distance from the residences of the patients to CMH. The assumption was made that family and friends that are travelling further to visit CMH spend more while in the Lincoln Park zip code area 60614. The three groups identified include patients residing in the City of Chicago (**Group 1**), patients residing in Cook County (excluding Chicago) and in DuPage and Lake Counties (**Group 2**), and patients residing in all other areas outside of Cook, DuPage, and Lake Counties (**Group 3**).

Table 3 shows the number of patients' residences by location, as provided by CMH. Approximately 54.0 percent of the patients reside in the City of Chicago (**Group 1**). Another

31.7 percent of the patients reside in Cook County (excluding Chicago) and in DuPage and Lake Counties (**Group 2**). The remaining 14.3 percent of the patients reside outside Cook DuPage, and Lake Counties (**Group 3**).

Table 3
Location of Patients' Residences
for Children's Memorial Hospital

Children's Memorial Hospital Patients by Residence	Number of Patients	% of Total	% by Selected Areas	Selected Areas
City of Chicago	188,929	<u>54.0%</u>	54.0%	Group 1
Cook County (Excl. Chicago)	70,776	20.2%		
DuPage County	22,281	6.4%		
Lake County	18,074	<u>5.2%</u>	31.7%	Group 2
Will County	15,339	4.4%		
Out of State/Country	9,949	2.8%		
Kane County	7,744	2.2%		
McHenry County	5,941	1.7%		
Other Illinois	<u>11,025</u>	<u>3.1%</u>	<u>14.3%</u>	Group 3
Total	<u>350,058</u>	<u>100.0%</u>	<u>100.0%</u>	

SOURCE: Data from Children's Memorial Hospital, 2011.

CMH provided data that an estimated 700 family and friends visit the children every day. This results in estimated annual visits of 255,500. **Table 4** utilizes the patients' residence data to distribute the annual family/friends' visits to each patient resident group. **Group 1** represents patients with residences in the City of Chicago and will have 137,895 annual family/friend visits. **Group 2** represents patients with residences in Cook County (excluding Chicago) and Dupage and Lake Counties and will have 81,112 annual family/friend visits. **Group 3** represents patients with residences outside of Cook, DuPage, and Lake Counties and will have 36,493 annual family/friend visits.

Table 4
Family/Friend Visits to Patients
and Percent of Family/Friend Visits by Location of Patient Residence

	Percent Breakdowns	Total Daily Visits
Total Annual Visits from Family/Friends		255,500
Breakdown of Visits from Family/Friends by Location of Patient Residence		
Group 1 - Family/Friend Visits - City of Chicago	54.0%	137,895
Group 2 - Family/Friend Visits- Cook County (excl. Chicago),	31.7%	81,112
Group3 - Family/Friend Visits - All Other Locations outside of	<u>14.3%</u>	<u>36,493</u>
Total Annual Daily Visits from Family/Friends	<u>100.0%</u>	<u>255,500</u>

SOURCE: Annual family/friends' visits and location of patient residences provided by Children's Memorial Hospital, 2011.

For **Group 1**, the potential impact losses from family/friend spending will be presented based on average daily spending of \$5, \$10, and \$25 in **Table 5**.

Group 1 –Potential Impact Losses from Family/Friend Spending at \$5 Average per Daily Visit

Based on average daily spending of \$5 and total daily family/friend visits of 137,895, the estimated potential total spending loss from family/friends will be \$689,475. Utilizing IMPLAN data, this potential spending loss will result in potential direct income loss of \$258,280 and potential direct employment loss of ten jobs. Utilizing the income multiplier of 2.44, the potential direct income loss of \$258,280 will generate potential secondary income losses of \$371,923, for a total potential income impact loss of \$630,203. Using the employment multiplier of 2.30, the potential direct employment loss of ten jobs will generate potential secondary employment losses of 13 jobs, for a total potential employment impact loss of 23 jobs.

Table 5
Impact of Potential Losses from Group 1 Family/Friend Spending
(Family/Friends of Patients from City of Chicago)

Total Group 1 Family/Friend Visits				
137,895				
Estimated Average Spending per Visit	Estimated Total Potential Spending Loss	Estimated Potential Direct Income	Estimated Potential Direct Employment	
Daily Spending of (\$5)	(\$689,475)	(\$258,280)	(10)	
Daily Spending of (\$10)	(\$1,378,950)	(\$490,732)	(19)	
Daily Spending of (\$25)	(\$3,447,375)	(\$1,239,744)	(48)	
Estimated Average Spending per Visit	Estimated Potential Direct Income	Income Multiplier	Estimated Potential Secondary Income Impact	Estimated Potential Total Income Impact
Daily Spending of (\$5)	(\$258,280)	2.44	(\$371,923)	(\$630,203)
Daily Spending of (\$10)	(\$490,732)	2.44	(\$706,654)	(\$1,197,386)
Daily Spending of (\$25)	(\$1,239,744)	2.44	(\$1,785,231)	(\$3,024,975)
Estimated Average Spending per Visit	Estimated Potential Direct Employment	Employment Multiplier	Estimated Potential Secondary Employment Impact	Estimated Potential Total Employment Impact
Daily Spending of (\$5)	(10)	2.30	(13)	(23)
Daily Spending of (\$10)	(19)	2.30	(25)	(44)
Daily Spending of (\$25)	(48)	2.30	(62)	(110)

SOURCES: Family/friend visits provided by Children's Memorial Hospital, 2011; multipliers and direct income and employment derived from IMPLAN, Minnesota IMPLAN Group, Inc.

Group 1 – Potential Impact Losses from Family/Friend Spending at \$10 Average per Daily Visit

Based on average daily spending of \$10 and total daily family/friend visits of 137,895, the estimated potential total spending loss from family/friends will be \$1.4 million. Utilizing IMPLAN data, this potential spending loss will result in potential direct income loss of \$490,732 and potential direct employment loss of 19 jobs. Utilizing the income multiplier of 2.44, the potential direct income loss of \$490,732 will generate potential secondary income losses of \$706,654, for a total potential income impact loss of \$1.2 million. Using the potential employment multiplier of 2.30, the potential direct employment loss of 19 jobs will generate potential secondary employment losses of 25 jobs, for a total potential employment impact loss of 44 jobs.

Group 1 – Potential Impact Losses of Family/Friend Spending at \$25 Average per Daily Visit

Based on average daily spending of \$25 and total daily family/friend visits of 137,895, the potential estimated total spending loss from family/friends will be \$3.4 million. Utilizing IMPLAN data, this potential spending loss will result in potential direct income loss of \$1.2 million and potential direct employment loss of 48 jobs. Utilizing the income multiplier of 2.44, the potential direct income loss of \$1.2 million will generate potential secondary income losses of \$1.8 million, for a total potential income impact loss of \$3.0 million. Using the employment multiplier of 2.30, the potential direct employment loss of 48 jobs will generate potential secondary employment losses of 62 jobs, for a total potential employment impact loss of 110 jobs.

For **Group 2**, the potential impact losses from family/friend spending will be presented based on average daily spending of \$25, \$50, and \$75 in **Table 6**.

Table 6
Impact of Potential Losses from Group 2 Family/Friend Spending
(Family/Friends of Patients from Cook County [excl. City of Chicago], Dupage County, and Lake County)

Total Group 2				
Family/Friend Visits				
81,112				
Estimated Average Spending per Visit	Estimated Total Potential Spending Loss		Estimated Potential Direct Income	Estimated Potential Direct Employment
Daily Spending of (\$25)	(\$2,027,800)		(\$723,184)	(28)
Daily Spending of (\$50)	(\$4,055,600)		(\$1,472,196)	(57)
Daily Spending of (\$75)	(\$6,083,400)		(\$2,195,380)	(85)
Estimated Average Spending per Visit	Estimated Potential Direct Income	Income Multiplier	Estimated Potential Secondary Income Impact	Estimated Potential Total Income Impact
Daily Spending of (\$25)	(\$723,184)	2.44	(\$1,041,385)	(\$1,764,569)
Daily Spending of (\$50)	(\$1,472,196)	2.44	(\$2,119,962)	(\$3,592,158)
Daily Spending of (\$75)	(\$2,195,380)	2.44	(\$3,161,347)	(\$5,356,727)
Estimated Average Spending per Visit	Estimated Potential Direct Employment	Employment Multiplier	Estimated Potential Secondary Employment Impact	Estimated Potential Total Employment Impact
Daily Spending of (\$25)	(28)	2.30	(36)	(64)
Daily Spending of (\$50)	(57)	2.30	(74)	(131)
Daily Spending of (\$75)	(85)	2.30	(111)	(196)

SOURCES: Family/friend visits provided by Children's Memorial Hospital, 2011; multipliers and direct income and employment derived from IMPLAN, Minnesota IMPLAN Group, Inc.

Group 2 – Potential Impact Losses from Family/Friend Spending at \$25 Average per Daily Visit

Based on average daily spending of \$25 and total daily family/friend visits of 81,112, the estimated potential total spending loss from family/friends will be \$2.0 million. Utilizing IMPLAN data, this potential spending loss will result in potential direct income loss of \$0.7 million and potential direct employment loss of 28 jobs. Utilizing the income multiplier of 2.44, the potential direct income loss of \$0.7 million will generate potential secondary income losses of \$1.0 million, for a total potential income impact loss of \$1.8 million. Using the employment multiplier of 2.30, the potential direct employment loss of 28 jobs will generate potential secondary employment losses of 36 jobs, for a total potential employment impact loss of 64 jobs.

Group 2 – Potential Impact Losses from Family/Friend Spending at \$50 Average per Daily Visit

Based on average daily spending of \$50 and total daily family/friend visits of 81,112, the estimated potential total spending loss from family/friends will be \$4.1 million. Utilizing IMPLAN data, this potential spending loss will result in potential direct income loss of \$1.5 million and potential direct employment loss of 57 jobs. Utilizing the income multiplier of 2.44, the potential direct income loss of \$1.5 million will generate potential secondary income losses of \$2.1 million, for a total potential income impact loss of \$3.6 million. Using the employment multiplier of 2.30, the potential direct employment loss of 57 jobs will generate potential secondary employment losses of 74 jobs, for a total potential employment impact loss of 131 jobs.

Group 2 – Potential Impact Losses from Family/Friend Spending at \$75 Average per Daily Visit

Based on average daily spending of \$75 and total daily family/friend visits of 81,112, the estimated potential total spending loss from family/friends will be \$6.1 million. Utilizing IMPLAN data, this potential spending loss will result in potential direct income loss of \$2.2 million and potential direct employment loss of 85 jobs. Utilizing the income multiplier of 2.44, the potential direct income loss of \$2.2 million will generate potential secondary income losses of \$3.2 million, for a total potential income impact loss of \$5.4 million. Using the employment multiplier of 2.30, the potential direct employment loss of 85 jobs will generate potential secondary employment losses of 111 jobs, for a total potential employment impact loss of 196 jobs.

For **Group 3**, the potential impact losses of family/friend spending will be presented based on average daily spending of \$65, \$95, and \$125 in **Table 7**.

Group 3 – Potential Impact Losses from Family/Friend Spending at \$65 Average per Daily Visit

Based on average daily spending of \$65 and total daily family/friend visits of 36,493, the estimated potential total spending loss from family/friends will be \$2.4 million. Utilizing IMPLAN data, this potential spending loss will result in potential direct income loss of \$964,800 and potential direct employment loss of 36 jobs. Utilizing the income multiplier of 2.48, the potential direct income loss of \$964,800 will generate potential secondary income losses of \$1.4 million, for a potential total income impact loss of \$2.4 million. Using the employment multiplier of 2.30, the potential direct employment loss of 36 jobs will generate potential secondary employment losses of 47 jobs, for a potential total employment impact loss of 83 jobs.

Table 7
Impact of Potential Losses from Group 3 Family/Friend Spending
(Family/Friends of Patients from all other locations outside of Cook, DuPage, and Lake Counties)

Total Group 3				
Family/Friend Visits				
36,493				
Estimated Average Spending per Visit	Estimated Total Potential Spending Loss		Estimated Potential Direct Income	Estimated Potential Direct Employment
Daily Spending of (\$65)	(\$2,372,045)		(\$964,800)	(36)
Daily Spending of (\$95)	(\$3,466,835)		(\$1,393,600)	(52)
Daily Spending of (\$125)	(\$4,561,625)		(\$1,822,400)	(68)
Estimated Average Spending per Visit	Estimated Potential Direct Income	Income Multiplier	Estimated Potential Secondary Income Impact	Estimated Potential Total Income Impact
Daily Spending of (\$65)	(\$964,800)	2.48	(\$1,427,904)	(\$2,392,704)
Daily Spending of (\$95)	(\$1,393,600)	2.48	(\$2,062,528)	(\$3,456,128)
Daily Spending of (\$125)	(\$1,822,400)	2.48	(\$2,697,152)	(\$4,519,552)
Estimated Average Spending per Visit	Estimated Potential Direct Employment	Employment Multiplier	Estimated Potential Secondary Employment Impact	Estimated Potential Total Employment Impact
Daily Spending of (\$65)	(36)	2.30	(47)	(83)
Daily Spending of (\$95)	(52)	2.30	(68)	(120)
Daily Spending of (\$125)	(68)	2.30	(88)	(156)

SOURCES: Family/friend visits provided by Children's Memorial Hospital, 2011; multipliers and direct income and employment derived from IMPLAN, Minnesota IMPLAN Group, Inc.

Group 3 – Potential Impact Losses from Family/Friend Spending at \$95 Average per Daily Visit

Based on average daily spending of \$95 and total daily family/friend visits of 36,493, the estimated potential total spending loss from family/friends will be \$3.5 million. Utilizing IMPLAN data, this potential spending loss will result in potential direct income loss of \$1.4 million and potential direct employment loss of 52 jobs. Utilizing the income multiplier of 2.48, the potential direct income loss of \$1.4 million will generate potential secondary income losses of \$2.1 million, for a potential total income impact loss of \$3.5 million. Using the employment multiplier of 2.30, the potential direct employment loss of 52 jobs will generate potential secondary employment losses of 68 jobs, for a potential total employment impact loss of 120 jobs.

Group 3 – Potential Impact Losses from Family/Friend Spending at \$125 Average per Daily Visit

Based on average daily spending of \$125 and total daily family/friend visits of 36,493, the estimated potential total spending loss from family/friends will be \$4.6 million. Utilizing IMPLAN data, this potential spending loss will result in potential direct income loss of \$1.8 million and potential direct employment loss of 68 jobs. Utilizing the income multiplier of 2.48, the potential direct income loss of \$1.8 million will generate potential secondary income losses of \$2.7 million, for a potential total income impact loss of \$4.5 million. Using the employment multiplier of 2.30, the potential direct employment loss of 68 jobs will generate potential secondary employment losses of 88 jobs, for a potential total employment impact loss of 156 jobs.

Summary of Potential Spending Losses

The impacts from potential spending losses presented are based on many assumptions and on different average daily spending amounts. If the assumptions or average daily spending amounts change, the results of the potential spending losses will change. Local decision makers will determine the best assumptions and alternatives based on their local knowledge of the area.

Table 8 illustrates the potential total impact of all spending from employees, vendors, and family/friends to show the lowest level of spending, the mid-level of spending, and the highest level of spending. Decision-makers may utilize any combinations of these expenditures based on their knowledge of spending patterns in the area.

For the lowest level of spending for all spending groups, the potential total income impact loss would be \$9.3 million, which is a potential loss of 334 jobs. For the mid-level of spending for all spending groups, the potential total income impact loss would be \$17.3 million, which is a potential loss of 619 jobs. For the highest level of spending for all spending groups, the potential total income impact loss would be \$35.1 million, which is a potential loss of 1,274 jobs.

At a minimum, the impact of relocating Children's Memorial Hospital is estimated to result in a potential loss of \$9.3 million in total income impact and a potential loss of 334 jobs in total employment impact. At a maximum, the impact of relocating Children's Memorial Hospital is estimated to result in a potential loss of \$35.1 million in total income impact and a potential loss of 1,274 jobs in total employment impact. The decision-makers should develop their best assumptions for each spending group and derive the potential estimated loss totals for the five groups based on their assumptions.

Table 8
Summary Potential Impact Losses from Relocating Children's Memorial Hospital
at Lowest, Mid-Level, and Highest Levels of Spending

Potential Lowest Level Spending Losses		
Spending Group	Potential Income Impact Loss	Potential Employment Impact Loss
Employees (\$5 daily spending)	(\$4,348,402)	(159)
Vendors (\$5 daily spending)	(\$126,041)	(5)
Group 1 Family/Friends (\$5 daily spending)	(\$630,203)	(23)
Group 2 Family/Friends (\$25 daily spending)	(\$1,764,569)	(64)
Group 3 Family/Friends (\$65 daily spending)	(\$2,392,704)	(83)
Total Impact at Lowest Level of Spending	<u>(\$9,261,919)</u>	<u>(334)</u>
Potential Mid-Level Spending Losses		
Spending Group	Potential Income Impact Loss	Potential Employment Impact Loss
Employees (\$10 daily spending)	(\$8,696,804)	(317)
Vendors (\$10 daily spending)	(\$189,061)	(7)
Group 1 Family/Friends (\$10 daily spending)	(\$1,197,386)	(44)
Group 2 Family/Friends (\$50 daily spending)	(\$3,592,158)	(131)
Group 3 Family/Friends (\$95 daily spending)	(\$3,456,128)	(120)
Total Impact at Mid-Level of Spending	<u>(\$17,131,537)</u>	<u>(619)</u>
Potential Highest Level Spending Losses		
Spending Group	Potential Income Impact Loss	Potential Employment Impact Loss
Employees (\$25 daily spending)	(\$21,742,010)	(794)
Vendors (\$25 daily spending)	(\$504,163)	(18)
Group 1 Family/Friends (\$25 daily spending)	(\$3,024,975)	(110)
Group 2 Family/Friends (\$75 daily spending)	(\$5,356,727)	(196)
Group 3 Family/Friends (\$125 daily spending)	(\$4,519,552)	(156)
Total Impact at Highest Level of Spending	<u>(\$35,147,427)</u>	<u>(1,274)</u>

The impact of relocating Children's Memorial Hospital will have a tremendous impact on the economy of the Lincoln Park zip code area 60614. It is anticipated that the hospital will be replaced with a mixed-use development after the hospital moves from the Lincoln Park area. These new developments may possibly offset part or all of the losses sustained from the relocation of Children's Memorial Hospital.

APPENDIX A
**Model and Data Used to Estimate
Employment and Income Multipliers**

Appendix A Model and Data Used to Estimate Employment and Income Multipliers

A computer spreadsheet that uses state IMPLAN multipliers was developed to enable community development specialists to easily measure the secondary benefits of the health sector on a state, regional or county economy. The complete methodology, which includes an aggregate version, a disaggregate version, and a dynamic version, is presented in *Measuring the Economic Importance of the Health Sector on a Local Economy: A Brief Literature Review and Procedures to Measure Local Impacts* (Doeksen, et al., 1997). A brief review of input-output analysis and IMPLAN are presented here.

A Review of Input-Output Analysis

Input-output (I/O) (Miernyk, 1965) was designed to analyze the transactions among the industries in an economy. These models are largely based on the work of Wassily Leontief (1936). Detailed I/O analysis captures the indirect and induced interrelated circular behavior of the economy. For example, an increase in the demand for health services requires more equipment, more labor, and more supplies, which, in turn, requires more labor to produce the supplies, etc. By simultaneously accounting for structural interaction between sectors and industries, I/O analysis gives expression to the general economic equilibrium system. The analysis utilizes assumptions based on linear and fixed coefficients and limited substitutions among inputs and outputs. The analysis also assumes that average and marginal I/O coefficients are equal.

Nonetheless, the framework has been widely accepted and used. I/O analysis is useful when carefully executed and interpreted in defining the structure of a region, the interdependencies among industries, and forecasting economic outcomes. The I/O model

coefficients describe the structural interdependence of an economy. From the coefficients, various predictive devices can be computed, which can be useful in analyzing economic changes in a state, a region or a county. Multipliers indicate the relationship between some observed change in the economy and the total change in economic activity created throughout the economy.

MicroIMPLAN

MicroIMPLAN is a computer program developed by the United States Forest Service (Alward, et al., 1989) to construct I/O accounts and models. Typically, the complexity of I/O modeling has hindered practitioners from constructing models specific to a community requesting an analysis. Too often, inappropriate U.S. multipliers have been used to estimate local economic impacts. In contrast, IMPLAN can construct a model for any county, region, state, or zip code area in the United States by using available state, county, and zip code level data. Impact analysis can be performed once a regional I/O model is constructed.

Five different sets of multipliers are estimated by IMPLAN, corresponding to five measures of regional economic activity. These are: total industry output, personal income, total income, value added, and employment. Two types of multipliers are generated. Type I multipliers measure the impact in terms of direct and indirect effects. Direct impacts are the changes in the activities of the focus industry or firm, such as the closing of a hospital. The focus business changes its purchases of inputs as a result of the direct impacts. This produces indirect impacts in other business sectors. However, the total impact of a change in the economy consists of direct, indirect, and induced changes. Both the direct and indirect impacts change the flow of dollars to the state, region, or county's households. Subsequently, the households alter their consumption accordingly. The effect of the changes in household consumption on businesses in a

community is referred to as an induced effect. To measure the total impact, a Type II multiplier is used. The Type II multiplier compares direct, indirect, and induced effects with the direct effects generated by a change in final demand (the sum of direct, indirect, and induced divided by direct).

Minnesota IMPLAN Group, Inc. (MIG)

Dr. Wilbur Maki at the University of Minnesota utilized the input/output model and database work from the U. S. Forest Service's Land Management Planning Unit in Fort Collins to further develop the methodology and to expand the data sources. Scott Lindall and Doug Olson joined the University of Minnesota in 1984 and worked with Maki and the model.

As an outgrowth of their work with the University of Minnesota, Lindall and Olson entered into a technology transfer agreement with the University of Minnesota that allowed them to form MIG. At first, MIG focused on database development and provided data that could be used in the Forest Service version of the software. In 1995, MIG took on the task of writing a new version of the IMPLAN software from scratch. This new version extended the previous Forest Service version by creating an entirely new modeling system that included creating Social Accounting Matrices (SAMs) – an extension of input-output accounts, and resulting SAM multipliers. Version 2 of the new IMPLAN software became available in May of 1999. For more information about Minnesota IMPLAN Group, Inc., please contact Scott Lindall or Doug Olson by phone at 651-439-4421 or by email at info@implan.com or review their website at www.implan.com.