



MEMO: Methodological Problems with the Data on Bed Occupancy Used by the *Health Systems Redesign: Brooklyn Workgroup*, and Its Effect on the Workgroup Recommendations

Prepared by the Committee of Interns and Residents
February 3, 2012

On November 28, 2011, the *Health Systems Redesign: Brooklyn Workgroup* of the Medicaid Redesign Team released their final report, including recommendations on how to restructure care in the borough. While the committee's task is immense and their end goal is laudable; in some cases, the methodology employed to formulate these recommendations is questionable and most likely flawed. These flaws call into question some of the workgroup's final recommendations.

According to the report:

Almost 30 percent of Brooklyn's hospital beds are vacant on an average day. Given low occupancy levels, modest reductions in preventable hospitalizations and lengths of stay would permit the elimination of 1,235 beds, even after taking into account projected population growth.¹

These numbers suggest that the acute care landscape in the borough is ripe for right-sizing, and that over-bedding is one of the primary roadblocks to efficient provision of care. Within the report is a detailed chart displaying the breakdown of these occupancy numbers².

The figures quoted within this chart certainly support the oft-repeated contention that the borough is over-bedded. Based on the prominence of the work of this group, that statistic has found its way into editorials in the *New York Daily News* on the subject of healthcare restructuring in Brooklyn. However, the occupancy rates and length-of-stay statistics listed here contradict the statistics that we commonly see for these facilities.

For example, Interfaith is listed as having an overall occupancy of 64.5% of its 287 beds within the report³. In reality, Interfaith is significantly more crowded. While the number of discharges and patient days extrapolated from these statistics do approximate the hospital's total acute care discharges and patient days for 2010, they do not reflect the facilities' occupancy. Of Interfaith's 287 beds, 120 are allocated to psychiatric care. On average on any given day, 97% of those beds are full⁴. Therefore average daily occupancy of all beds at Interfaith is 93.3% not 64.5%. Even if one were to solely look at acute care beds, the rate would be 90.6%⁵.

¹ "At the Brink of Transformation: Restructuring the Healthcare Delivery System in Brooklyn", pg. 5

² Ibid, pg. 28

³ Ibid

⁴ 2010 Medicare Cost Report Data : W/S S-3, part I, col 1 and W/S S-3, part I, col 6

⁵ Ibid

What explains this discrepancy between the figure cited by the work group and the Medicare Cost Reports Data? Given the example of Interfaith, this different accounting is a function of which patient days were counted. Those who prepared the statistics for this report counted only acute care inpatient days, not psychiatric inpatient days, but compared that number to the combined number of acute care and psychiatric beds. Similarly, hospitals with rehabilitation programs only received credit for acute care days and not rehabilitation days, but both rehabilitation and acute care beds were counted. This methodology created a set of occupancy ratios where occupied beds counted as unoccupied.

Another perhaps larger flaw is the use of certified beds rather than staffed beds for the analysis. A hospital's certified bed count is the maximum number of inpatient beds they are licensed to operate. In many cases, this number is much greater than the number of beds a hospital staffs and can actually operate. While at Interfaith these two numbers are the same, at Long Island College Hospital, the certified bed count is 506 but only 366 of those beds are staffed. While certified bed count may be a useful tool in long term planning, it has little to do with actual occupancy. Therefore, counting certified beds as the basis for occupancy rates skews the results substantially. LICH's average occupancy rate is 72.1% for staffed beds, but using the certified number lowers the rate to 52.2%. When combined with the previously discussed methodology flaw relating to psychiatric beds, we can see that the report's figure of 45.2% paints a dramatically different picture than a correct accounting of which patient-ready beds are occupied on a given day.

If one is to look at average daily occupancy across all staffed beds and all patient types,⁶ the occupancy numbers differ greatly from what was cited within the report⁷. The highly questionable methodology within the report yields a surplus of 1,235 beds in the borough. That surplus serves as the basis for many of the work group's recommendations on restructuring hospital services. In reality, the number of patient-ready surplus beds is less than 200 and distributed across nearly every hospital in the borough such that none have more than 77.

The company hired to conduct this analysis is Welsch Analytics. Welsch was incorporated only two months prior to being given a \$65,000 grant from the DOH to provide "technical assistance to the Brooklyn working group⁸." While this company did not have any previous clients, its founder and sole employee, Jim Welsch Ph.D. is a former NYS Department of Health analyst. The company is headquartered at his home address in Schenectady. While one cannot question Dr. Welsch's credentials or his ability to conduct this analysis, the discrepancies suggest either that there was an error in his calculations, or that there may have been some bias introduced in terms of what was and was not counted to yield these flawed results.

⁶ See Chart 1

⁷ See Chart 2, taken from page 28 of "At the Brink of Transformation"

⁸ <http://www.nyshealthfoundation.org/content/grant/detail/13075/>

CHART 1

Hospital	Bed Days	ADC	Staffed Beds	Capacity	Occupancy	Extra Beds
Brookdale	128617	352	507	530	69.5%	78.6
Brooklyn	86979	238	312	464	76.4%	26.9
Coney Island	113488	311	371	371	83.8%	4.4
Interfaith	97760	268	287	287	93.3%	-23.9
Kings County	168306	461	634	700	72.7%	77.8
Kingsbrook	87061	239	283	343	84.3%	2.0
LICH	96376	264	366	506	72.1%	47.1
Lutheran	131628	361	384	468	93.9%	-34.2
Maimonides	214462	588	705	705	83.3%	11.7
New York Community	47819	131	134	134	97.8%	-17.1
New York Methodist	196904	539	591	591	91.3%	-37.1
University Hospital	100052	274	346	376	79.2%	20.0
Woodhull	100300	275	371	411	74.1%	40.6
Wyckoff	85372	234	276	324	84.7%	0.7
Boroughwide Totals	1655124	4535	5567	6210	81.5%	197.4

- *Bed Days are calculated as total patient days less Newborn Nursery Days*
- *ADC is the Average Daily Census*
- *Extra beds are calculated as 85% of staffed beds less the ADC*
- *All Data is taken from the 2010 De-Identified NYS SPARCS*

CHART 2**2010 Occupancy Rates and ALOS at Brooklyn Hospitals**

Hospital	Occupancy Rate	Average Length of Stay*
Beth Israel – Kings	89.5%	6.12
Brookdale	57.9%	6.22
Brooklyn Hospital Center	51.3%	5.51
Coney Island	83.7%	6.60
Interfaith	64.5%	7.13
Kings County	69.4%	7.82
Kingsbrook	63.5%	7.65
Long Island College	45.2%	5.36
Lutheran	78.4%	5.62
Maimonides	84.4%	5.68
New York Community	90.3%	6.19
New York Methodist	84.7%	5.60
University	74.8%	6.14
Woodhull	73.4%	7.12
Wyckoff	65.9%	4.77
Boroughwide	70.8%	6.12
National Average Length of Stay**		4.8

*Source: Compiled from NYS DoH SPARCS De-identified Inpatient File, obtained Aug. 2011 (ALOS figures exclude healthy newborns).

**Weighted national estimates from HCUP Nationwide Inpatient Sample (NIS), 2009, Agency for Healthcare Research and Quality (AHRQ), based on data collected by individual States and provided to AHRQ by the States.