

Delaware Health Resources Board
March 28, 2013

Nursing Home Bed Projections

Nursing Home Bed Projections: Overview

- Review summary projections, 2009 through 2012
- Walk through projection details
 - Step 1: Calculate average daily census (base year and prior year)
 - Step 2: Calculate projected average daily census, using population change factor
 - Step 3: Calculate projected bed need
 - Step 4: Calculate bed shortage / surplus

Nursing Home Bed Projections: Summaries

Interval	Approved Supply	Projected Need	Net Shortage / Surplus	Detailed Shortage / Surplus
2009-2015	5,200	5,309	-109	Kent: +38 NC: +35 Sussex: -182
2010-2015	5,210	5,830	-620	Kent: -82 NC: -314 Sussex: -224
2011-2016	5,148	5,494	-346	Kent: +28 NC: -178 Sussex: -196
2012-2017	5,105	4,973	+132	Kent: -121 NC: +169 Sussex: +84

Nursing Home Bed Projections: Summaries

- Examples of factors impacting number of total approved beds over time
 - Openings / Expansions
 - 2012: DE Veterans Home (+30 private beds)
 - Closures / Reductions
 - 2010: DE Psychiatric Center NH (-35 public beds)
 - 2012: Emily P. Bissell closed beds (-15 public beds)

Nursing Home Bed Projections: Summaries

- Examples of factors impacting approved beds per county over time:
 - Allocation of public beds based on county of residence of prior year's admissions to public NHs
 - %age of admissions from Sussex County 2010: 16.0%
 - %age of admissions from Sussex County 2011: 3.1%
 - Allocation 2010 = 100 beds
 - Allocation 2011 = 16 beds

Nursing Home Bed Projections: Details, Step 1 (Kent County Example)

- Step 1: Calculate average daily census (ADC)
 - Capture private days for base year
 - Table 1.0, Total Patient Days by Facility and County, DE Nursing Home Statistics

Delaware Nursing Home Statistics 2010

TABLES

Table 1.0 (continued)
Total Patient Days by Facility and County
with Percent of Change January-December, 2009-2010

Nursing Home	2009 Patient Days	2010 Patient Days	% Change 2009-2010
Kent County (Private Facilities)			
Capitol Healthcare	42,169	42,134	-0.1%
Courtland Manor	22,411	22,182	-1.0%
Delaware Veterans Home	40,110	40,857	1.9%
Pinnacle Rehab	52,265	51,928	-0.6%
Silver Lake Nursing Home	41,062	41,124	0.2%
Westminster Village	21,002	20,368	-3.0%
Kent County Total	219,019	218,593	-0.2%



Nursing Home Bed Projections: Details, Step 1 (Kent County Example)

- Capture public days from base year
 - Table 1.0: Total Patient Days by Facility and County (Public Facilities), DE Nursing Home Utilization and
 - Table 6.1: Percent of Admissions by County and State of Residence (Public Facilities), DE Nursing Home Utilization

Public Facilities			
DE Hosp for Chronically Ill	73,029	75,974	4.0%
DE Psychiatric Center	11,896	5,291	-55.5%
Emily P. Bissell Hospital	23,890	25,512	6.8%
Governor Bacon	28,769	31,047	7.9%
Public Total	137,584	137,824	0.2%



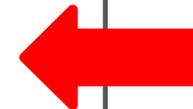
Nursing Home Bed Projections: Details, Step 1 (Kent County Example)

Table 6.1 (continued)
Percent of Admissions by County and State of Residence
January-December, 2010

Table 6.1

Nursing Home	NCC	Kent	Sussex	MD	NJ	PA	Other
Kent County (Private Facilities)							
Capitol Healthcare	0.0%	99.6%	0.0%	0.0%	0.4%	0.0%	0.0%
Courtland Manor	8.2%	84.9%	4.1%	0.0%	1.4%	1.4%	0.0%
Delaware Veterans Home	14.3%	37.1%	40.0%	2.9%	0.0%	2.9%	2.9%
Pinnacle Rehab	9.4%	85.0%	3.3%	0.5%	0.0%	1.6%	0.2%
Silver Lake Center	2.1%	89.4%	5.9%	1.9%	0.0%	0.5%	0.2%
Westminster Village	0.9%	96.4%	2.7%	0.0%	0.0%	0.0%	0.0%
Kent County Total	4.5%	89.1%	4.4%	0.8%	0.1%	0.8%	0.2%

Public Facilities							
DE Hospital Chron Ill	51.6%	23.4%	25.0%	0.0%	0.0%	0.0%	0.0%
DE Psychiatric Center	50.0%	0.0%	50.0%	0.0%	0.0%	0.0%	0.0%
Emily P. Bissell Hospital	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Governor Bacon	62.5%	31.3%	6.3%	0.0%	0.0%	0.0%	0.0%
Public Total	63.0%	21.0%	16.0%	0.0%	0.0%	0.0%	0.0%



Nursing Home Bed Projections: Details, Step 1 (Kent County Example)

- ADC calculation for base year 2010:
 - Private days: 218,593
 - Public days: $137,824 * 21\% = 28,943$
 - Total days: 247,536
 - $ADC = 247,536 / 365 = 678$
- Calculation is repeated for prior year (2009) using 2009 figures to calculate prior year ADC

Nursing Home Bed Projections: Details, Step 2 (Kent County Example)

- Step 2: Calculate projected ADC
 - Projected ADC = base year ADC * population change factor (PCF)
 - PCF may be 1.0 or
 - Calculated (weighted) value

Nursing Home Bed Projections: Details, Step 2 (Kent County Example)

- Calculate weighted population change factor
 - Capture age group populations (<65; 65-74; 75-84; 85+) from DE Population Consortium files
 - Current year – i.e., year in which projections are being calculated
 - Projection year – i.e., year for which projections are being done

Age Group	Year					
	2011	2012	2013	2014	2015	2016
Total <65	143825	144764	145793	146832	147886	148942
Total 65-74	11441	12095	12589	13178	13656	14121
Total 75-84	6914	7047	7290	7325	7425	7521
Total 85+	2568	2657	2719	2843	2957	3084
	164748	166563	168391	170178	171924	173668

Nursing Home Bed Projections: Details, Step 2 (Kent County Example)

- Calculate change in population, current year to projection year (i.e., 2016 figures / 2011 figures)

Age Group	2011	2016	Change
<65	143,825	148,942	1.04
65-74	11,441	14,121	1.23
75-84	6,914	7,521	1.09
85+	2,568	3,084	1.20

Nursing Home Bed Projections: Details, Step 2 (Kent County Example)

- Capture percentage of nursing home admissions falling into each age group
 - Table 4.1, Percent of Admissions by Age, County and Facility

Delaware Nursing Home Statistics 2010 TAB Table 4.1

Table 4.1 (continued)
Percent of Admissions by Age, County and Facility
January-December, 2010 (All Races)

Nursing Home	Under 65	65-74	75-84	85+
Kent County (Private Facilities)				
Capitol Healthcare	8.9%	19.6%	39.5%	32.0%
Courtland Manor	0.0%	28.8%	30.1%	41.1%
Delaware Veterans Home	14.3%	2.9%	17.1%	65.7%
Pinnacle Rehab	19.9%	27.2%	24.6%	28.3%
Silver Lake Center	21.9%	21.4%	32.9%	23.8%
Westminster Village	8.0%	19.6%	36.6%	35.7%
Kent County Total	16.0%	22.6%	31.4%	29.9%
Total Public Facilities	37.0%	34.5%	20.2%	8.4%
Total Private Facilities	13.7%	15.0%	24.1%	32.0%
Total All Facilities	13.9%	18.7%	34.4%	32.9%



Nursing Home Bed Projections: Details, Step 2 (Kent County Example)

- Multiply population change by age group by the percentage of admissions for each age group; sum the results; divide by 100 to obtain weighted PCF:

	%age		Change		Weights
<65	13.9	x	1.04	=	14.39
65-74	18.7	x	1.23	=	23.08
75-84	34.4	x	1.09	=	37.42
85+	32.9	x	1.20	=	39.51
					114.41
population change factor (PCF) = summed weights / 100:					1.14

Nursing Home Bed Projections: Details, Step 2 (Kent County Example)

- Determine which PCF value is to be used (i.e., 1.0 or weighted PCF [1.14 in this example])
 - Is base year ADC < or > prior year ADC?
 - Base year (2010) ADC = 678
 - Prior year (2009) ADC = 680
 - Base year ADC is < prior year ADC

Nursing Home Bed Projections: Details, Step 2 (Kent County Example)

- Is base year NH occupancy rate >95%?
 - Table 2.0, Number of Licensed Beds and Occupancy Rates by Facility, Type and County

Delaware Nursing Home Statistics 2010 TAB Table 2.0

Table 2.0 (continued)
Number of Licensed Beds and Occupancy Rates
by Facility, Type and County January-December 2010

Nursing Home	Billable Patient Days 2010	Licensed beds 2010	Months Facility open in 2010	Average days/month 2010	Total days facility open 2010	Licensed bed days in 2010	Occupancy rate 2010 (weighted)	Occupancy Rate 2009 (weighted)	% Change 2009-2010 Occupancy
Kent County (Private)									
Capitol Healthcare	42,134	120	12	30.42	365	43,805	96.2%	96.3%	-0.1%
Courtland Manor	22,182	70	12	30.42	365	25,553	86.8%	87.7%	-1.0%
Delaware Veterans Home	40,857	120	12	30.42	365	43,805	93.3%	91.6%	1.8%
Pinnacle Rehab	51,928	151	12	30.42	365	55,121	94.2%	94.8%	-0.6%
Silver Lake Center	41,124	120	12	30.42	365	43,805	93.9%	93.7%	0.2%
Westminster Village	20,368	61	12	30.42	365	22,267	91.5%		
Kent County Total	218,593	642	n/a	n/a	n/a	234,356	93.3%		



Nursing Home Bed Projections: Details, Step 2 (Kent County Example)

- As:
 - ADC for base year is < ADC for prior year (678 v. 680); and
 - Occupancy rate for base year is < 95%
- PCF of 1.0 is used to calculate projected ADC.

Nursing Home Bed Projections: Details, Step 2 (Kent County Example)

- Projected ADC = base year ADC * PCF
- Projected ADC = 678 * 1.0 = 678

Nursing Home Bed Projections: Details, Step 3 (Kent County Example)

- Calculate projected bed need by dividing projected ADC by 90% (desired occupancy rate)
 - $678 / 0.9 = 753$

Nursing Home Bed Projections: Details, Step 4 (Kent County Example)

- Calculate bed shortage / surplus
 - Capture approved private beds from most current DE Health Resources Management Plan (March 6, 2010 update in this example)

INVENTORY

	Current # Beds	Future # Beds Approved
<u>Kent County</u>		
Capitol	120	120
Courtland Manor	70	78
Delaware Veterans Home	120	120
Pinnacle Rehab	151	151
Silver Lake	120	120
Westminster Village	61	61
	642	650



Nursing Home Bed Projections: Details, Step 4 (Kent County Example)

- Calculate available public beds
 - Capture approved public beds from most current DE Health Resources Management Plan (n=626 in March 6, 2010 update)
 - Multiply public beds by percentage of admissions from county to public facilities in base year (2010, in this example; same percentage as used when allocating public days in Step 1) (n=21%)
 - $626 * 21\% = 131$

Nursing Home Bed Projections: Details, Step 4 (Kent County Example)

- Calculate total available beds by summing private beds and allocated public beds:

$$650 + 131 = 781 \text{ available beds}$$

Nursing Home Bed Projections: Details, Step 4 (Kent County Example)

- Compare projected bed need to available beds to obtain shortage / surplus:
 - Projected = 753
 - Available = 781
 - $781 - 753 = 28$ bed surplus

Nursing Home Bed Projections: Summaries

Interval	Net Shortage / Surplus	Detailed Shortage / Surplus
2009-2015	-109	Kent: +38 NC: +35 Sussex: -182
2010-2015	-620	Kent: -82 NC: -314 Sussex: -224
2011-2016	-346	Kent: +28 NC: -178 Sussex: -196
2012-2017	+132	Kent: -121 NC: +169 Sussex: +84



Nursing Home Bed Projections: Recent Changes in Bed Numbers

- Kent County:
 - 2012: DE Veterans Home: +30 licensed beds (pvt)
- New Castle County:
 - 2012: Emily P. Bissell: -15 licensed beds (public)
 - 2012: Cadia Silverside: +30 licensed beds (pvt)
 - 2012: ManorCare – Pike Creek: +10 licensed beds (pvt)
- Sussex County:
 - 2012: Harrison House: + 30 licensed beds (pvt)

Nursing Home Bed Projections: Licensed / Approved Beds

- Current licensed beds (private; n=4535):
 - Kent County: 672
 - New Castle County: 2599
 - Sussex County: 1264
- Current licensed beds (public; n=576):
 - County-based bed allocations vary by year

Nursing Home Bed Projections: Licensed / Approved Beds

- Total currently licensed beds: 5111
- Estimated potential additional beds
(approved; not currently licensed: n=56)
 - Kent County: 8 (Courtland Manor)
 - New Castle County: 20 (Cadia Broadmeadow)
 - Sussex County: 28 (Methodist Manor House)