



# *Sample Hospital Finance for Front Line RNs*

Hospital Finance

## Why discuss how hospital finances work?

- ▶ In healthcare, there is a delicate balance between providing the highest quality of patient care and ensuring the financial health of the organization.
- ▶ The ANA has identified knowledge of health care finance as a Leadership Competency. As Registered Nurses (RNs) engage with hospital leadership in our collaborative staffing committee efforts, the VHHA is sharing the following information and context to help understand the fundamentals of the healthcare finances and business.
- ▶ Almost every decision a leader makes has a financial component. While RNs are focused and deeply knowledgeable about frontline care, we are sharing the operational side of healthcare to help provide clarity on what drives financial decisions in healthcare.



Hospital Finance for RNs

## Core Topics

- ▶ Key financial terms & definitions
- ▶ Operating Budget and Staffing: The Direct Connection
- ▶ Operating Budget Building Blocks: Volume, HPPD/Workload & Coverage Factor
- ▶ Importance of data collection
- ▶ Calculating Coverage Factor / Benefit Relief / Backfill / Replacement Factor
- ▶ Census Driven Cost Centers: Review FTE calculations and skill mix
- ▶ Converting FTEs into shift-by-shift staffing guidelines

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## Important Financial Elements to Know

- ▶ **Financial Terms:** Understanding to advocate effectively for resources
- ▶ **Budget Calculations:** Factors and inputs include FTEs, \$\$\$, and number of patients
- ▶ **Quantitative Data:** Collect and analyze data to support acquisition of resources
- ▶ **Key Current Trends:** Impact of nursing practice (HCAPHS, HACs, Patient Experience Measures) on reimbursement / revenue
- ▶ **Mutual Understanding:** Articulate clinical experiences into narratives finance can understand



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## Financial Terms

- ▶ Cost Center
- ▶ Volume, Patient Days, Average Daily Census (ADC vs Beds), Cases, Deliveries
- ▶ Hours Per Patient Day (HPPD)
- ▶ Caregiver
- ▶ Benchmark
- ▶ Full time Equivalent (FTE)
- ▶ Productive / Non-Productive Time
- ▶ Coverage Factor / Benefit Relief, Replacement Factor
- ▶ Skill Mix
- ▶ Position Control

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## What Quantitative Data Tells Us

- ▶ **Volume:** Including by area, ADC, cases, visits, deliveries
- ▶ **Seasonality of volume:** Burn, Pediatrics Units
- ▶ **Key Measurements:** HPPD / Workload / Productivity (both actual and budget), units with blended acuity
- ▶ **Coverage Factor:** What is included, how it varies by unit / organization
- ▶ **Shift Length Variables:** 7.5 hr., 11.5 hr., staggered shifts, hours of operation (HOO)
- ▶ **Position Control:** Vacancies, turnover
- ▶ **Current staffing guidelines,** including indirect roles
- ▶ **Number of 1:1s**
- ▶ **Average number** of sick calls, LOAs, orientees
- ▶ **Geographic** factors and considerations

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# Foundations of Budget Development

<i>Starting Point</i> Budget Parameter: <b>Volume</b>	<ul style="list-style-type: none"><li>• Number of patients or encounters monitored over a period of time</li></ul>
Budget Parameter <b>HPPD / Productivity / Workload</b>	<ul style="list-style-type: none"><li>• Intensity of work, measured in a variety ways</li></ul>
Budget Parameter <b>Volume Budget Parameter</b>	<ul style="list-style-type: none"><li>• Calculation of non-productive time plus days off to maintain consistent care levels</li></ul>

## Hospital Finance for RNs

# Key Measurements: Acuity, Workload, & Productivity

<p><b>Measuring Acuity</b></p>	<p><b>Patient Classification System:</b></p> <ul style="list-style-type: none"> <li>Measures broad indicators: ADLs, O2 needs, medications, IVs, treatments and assigns points</li> <li>Frequency of tasks are included</li> <li>Patients are assigned to classification type</li> </ul> <p><b>Workload Measurement:</b></p> <ul style="list-style-type: none"> <li>Measures work performance and required resource levels</li> <li>Captures census, care hours, patient acuity and patient activity</li> <li>Assign mathematical value to patient care needs</li> </ul>																																																
<p><b>Calculating HPPD: Two Methods</b></p>	<p><b>Method 1:</b> <b>Nursing Caregiver Hours worked in 24 hours</b> (example)</p> <table border="1" data-bbox="1220 938 1740 1076"> <thead> <tr> <th>Census 24</th> <th colspan="2">Caregivers</th> <th>Shift Worked</th> <th>Total Hrs Worked</th> <th>HPPD</th> </tr> <tr> <th>Shift</th> <th>RN</th> <th>NA,PCT</th> <th></th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td>7:30 am - 3:30 pm</td> <td></td> <td>2.38</td> <td>8</td> <td>17.85</td> <td></td> </tr> <tr> <td>7:30 am - 7:30 pm</td> <td>5.5</td> <td></td> <td>11.5</td> <td>63.25</td> <td></td> </tr> <tr> <td>3:30pm - 11:30 pm</td> <td></td> <td>2.38</td> <td>8</td> <td>17.85</td> <td></td> </tr> <tr> <td>7:30 pm - 8:00 am</td> <td>5.5</td> <td></td> <td>11.5</td> <td>63.25</td> <td></td> </tr> <tr> <td>11:30 pm- 7:30am</td> <td></td> <td>2.38</td> <td>8</td> <td>17.85</td> <td></td> </tr> <tr> <td></td> <td></td> <td>6.98</td> <td></td> <td>183.43</td> <td>7.6</td> </tr> </tbody> </table> <p><b>Method 2: Known FTEs, ADC, Coverage Factor and Shift Length</b></p> <ul style="list-style-type: none"> <li>FTEs = 40.92, ADC= 24, Coverage Factor x shift length</li> <li><b>Equation:</b> <math>40.92 \text{ FTEs} / 24 / 2.58 * 11.5 = 7.6</math></li> </ul>	Census 24	Caregivers		Shift Worked	Total Hrs Worked	HPPD	Shift	RN	NA,PCT				7:30 am - 3:30 pm		2.38	8	17.85		7:30 am - 7:30 pm	5.5		11.5	63.25		3:30pm - 11:30 pm		2.38	8	17.85		7:30 pm - 8:00 am	5.5		11.5	63.25		11:30 pm- 7:30am		2.38	8	17.85				6.98		183.43	7.6
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Hospital Finance for RNs

$$\text{Paid Time} = \text{Productive Time} + \text{Non-Productive Time}$$

<b>Productive Time</b>	Worked hours including regular and overtime hours
<b>Non-Productive Time</b>	<ul style="list-style-type: none"><li>• Vacation</li><li>• Holiday</li><li>• Sick</li><li>• Continuing education</li></ul>

## Hospital Finance for RNs

# Coverage Factor by Shift Length

7.5 Hr. Shifts 24/7	11.5 Hr. Shifts (+13 <sup>TH</sup> SHIFT)
<ul style="list-style-type: none"> <li>Days Off (5 x 52 =260) 365-260 = 105</li> <li>Total non-productive days 44</li> <li>Days working 365 -149 = 216</li> </ul> <p style="text-align: right;"><b>Coverage Factor: 149/216 = .69</b></p>	<ul style="list-style-type: none"> <li>Days Off (4 x 52-13) 195</li> <li>Total non-productive days 28.6</li> <li>Days working: 365-223.6 = 141.4</li> </ul> <p style="text-align: right;"><b>Coverage Factor: 223.6/141.4 = 1.58</b></p>
<ul style="list-style-type: none"> <li>For each RN on grid must have 0.69 FTEs to cover non-productive* time plus days off</li> </ul> <p style="text-align: right;"><b>1 RN – Budget 1.69 FTEs</b></p>	<ul style="list-style-type: none"> <li>For each RN on grid must have 1.58 FTEs to cover non-productive* time plus days off</li> </ul> <p style="text-align: right;"><b>1 RN – Budget 2.58 FTEs</b></p>

**\*Note:** Non-Productive hours may vary by organization.

## Hospital Finance for RNs

# Staffing Guidelines Calculation: FTEs

<b>Volume</b>	24 patients
<b>HPPD</b>	7.6
<b>Coverage Factor</b>	2.58
<b>Shift Length</b>	11.5 hours
<b>Equation:</b>	$24 \times 7.6 \times 2.58 / 11.5 = 40.92 \text{ FTEs}$
<b>Skill Mix:</b>	<ul style="list-style-type: none"><li>• Percentage of total FTEs that are licensed and non-licensed caregivers</li><li>• <b>Example – Applying Skill mix:</b><ul style="list-style-type: none"><li>○ <b>70% licensed RNs:</b> <math>40.92 \times 70\% = 28.64 \text{ FTEs}</math></li><li>○ <b>30% non-licensed:</b> <math>40.92 \times 30\% = 12.28 \text{ FTEs}</math></li></ul></li></ul>

## Hospital Finance for RNs

# Staffing Guidelines Calculation: All Staff working 11.5-hour shifts

<b>Skill Mix:</b>	<ul style="list-style-type: none"> <li>• Percentage of total FTEs that are licensed and non-licensed caregivers</li> <li>• <b>Example – Applying Skill mix:</b> <ul style="list-style-type: none"> <li>○ <b>70% licensed RNs:</b> <math>40.92 \times 70\% = 28.64</math> FTEs)</li> <li>○ <b>30% non-licensed:</b> <math>40.92 \times 30\% = 12.28</math> FTEs</li> </ul> </li> </ul>
<b>RN Caregivers: 28.64</b>	<ul style="list-style-type: none"> <li>• <b>RN Caregivers per 24 hrs.</b>  <math>28.64</math> divided by Coverage Factor 2.58  <math>28.64/2.58 = 11.1</math> RN caregivers in 24 hrs.</li> <li>• <b>RN Caregiver per shift</b>  <math>11.1</math> FTEs divided by 2 (shifts in 24 hrs.)  <math>11.1/2 = 5.5^*</math> RNs per shift</li> </ul>
<b>Non-Licensed Caregivers: 12.27</b>	<ul style="list-style-type: none"> <li>• <b>Non-Licensed Caregivers per 24 hrs</b>  <math>12.27</math> divided by Coverage Factor 2.58  <math>12.27/2.58 = 4.76</math> non-licensed caregiver in 24 hrs.</li> <li>• <b>Non-Licensed caregiver per shift</b>  <math>4.76</math> FTEs divided by 2 (shifts in 24 hrs.)  <math>4.76/2 = 2.4^*</math> non-licensed caregivers per shift</li> </ul>

\* Note: What to do with the fraction...

## Hospital Finance for RNs

### Staffing Guidelines Calculation: Staff working 11.5-hour and 7.5-hour shifts

<b>Skill Mix:</b>	<ul style="list-style-type: none"> <li>• Percentage of total FTEs that are licensed and non-licensed caregivers</li> <li>• <b>Example – Applying Skill mix:</b> <ul style="list-style-type: none"> <li>○ <b>70% licensed RNs:</b> <math>40.92 \times 70\% = 28.64</math> FTEs)</li> <li>○ <b>30% non-licensed:</b> <math>40.92 \times 30\% = 12.28</math> FTEs</li> </ul> </li> </ul>
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<b>Non-Licensed Caregivers: 12.27</b>	<ul style="list-style-type: none"> <li>• <b>Non-Licensed Caregivers per 24 hours</b>  <math>12.27</math> divided by Coverage Factor 1.69  <math>12.27/1.69 = 7.3</math> non-licensed caregiver in 24 hrs.</li> <li>• <b>Non-Licensed caregiver per shift</b>  <math>7.3</math> FTEs divided by 3 (shifts in 24 hrs.)  <math>7.3/3 = 2.4^*</math> non-licensed caregivers per shift</li> </ul>

\* Note: What to do with the fraction...

## Hospital Finance for RNs

# Staffing Grids: Based on either ADC and HPPD or ADC and Ratio

### ADC and HPPD

Budgeted ADC 24, HPPD 7.6

RNs work 11.5 hr shift, NAs 7.5 hr. shift

Staffing Guidelines							
Census	Day Shift		Evening Shift		Night Shift		Direct HPPD
	RN	NA	RN	NA	RN	NA	
24	5.5	3		2	5.5	2	7.46
23	5.5	2		2	5.5	2	7.46
22	5	3		3	5	2	7.95
21	5	2		2	4	2	7.07
20	5	2		2	4	2	7.43
18	4	2		2	4	2	7.61
17	4	2		2	4	1	7.62
16	4	1		1	4	1	7.16
15	4	1		1	4	1	7.63
14	3	2		2	3	1	7.61

### ADC and Ratio

Budgeted ADC 24, HPPD 7.6

RNs work 11.5 hr shift, NAs 7.5 hr. shift

Staffing Guidelines							
Census	Day Shift		Evening Shift		Night Shift		Ratio
	RN	NA	RN	NA	RN	NA	
24	5.5	3		3	5.5	2	1:4.4
23	5.5	2		2	5.5	2	1:4.2
22	5	2		2	5	1	1:4.4
21	5	2		2	4	1	1:4.7
20	4	2		2	4	2	1:5
18	4	2		1	4	1	1:4.5
17	4	1		1	4	1	1:4.3
16	4	1		1	4	1	1:4
15	4	1		1	3	1	1:4.3
14	3	1		1	3	1	1:4.7

- Other members of the care team that contribute to patient care:
- ▶ Float pool
  - ▶ Lift team
  - ▶ Respiratory therapist
  - ▶ Phlebotomist

## Hospital Finance for RNs

# Census Drive Unit Staffing: FTEs converted to Staffing Guidelines

<b>Known Data:</b>	<ul style="list-style-type: none"><li>• <b>ADC</b> 21</li><li>• <b>HPPD</b> 6.83</li><li>• <b>Coverage Factor</b> 2.58</li><li>• <b>11.5 Hr shift</b></li><li>• <b>Skill mix</b> 70 / 30</li></ul>
<b>FTE Calculation</b>	<ul style="list-style-type: none"><li>• <math>ADC \times HPPD \times Coverage\ Factor / Shift = FTEs</math></li><li>• <math>21 \times 6.83 \times 2.58 / 11.5 = \mathbf{32.18\ FTEs}</math></li></ul> <p><b>Skill mix</b></p> <ul style="list-style-type: none"><li>• RN: <math>32.18 \times 70\% = 22.52\ RN\ FTEs</math></li><li>• NA/PCT: <math>32.18\ FTEs \times 30\% = 9.65\ FTEs</math></li></ul> <p><b>Staffing</b></p> <ul style="list-style-type: none"><li>• RN <math>22.52 / 2.58 / 11.5 = 4.3\ RN\ per\ shift</math></li><li>• NAs/PCT <math>9.65 / 1.69 / 3 = 1.9\ per\ shift</math></li></ul>

A change in acuity 9 beds converted to Step-down...

## Hospital Finance for RNs Blended Acuity Units

<b>Budget for 21 Bed M / S Unit</b>	<ul style="list-style-type: none"><li>• <b>ADC</b> = 21</li><li>• <b>HPPD</b> = 6.83</li><li>• <b>Coverage Factor</b> 2.58</li><li>• <b>Shift</b> 11.5</li></ul> <p><b>Equation:</b> <math>21 \times 6.83 \times 2.58 / 11.5 = 32.18</math> FTEs</p>
<b>Complexity of Unit Change</b>	<ul style="list-style-type: none"><li>• <b>ADC</b> = 21 (12 M/S and 9 Step-down)</li><li>• <b>HPPD M/S</b> 6.83 <b>SD</b> 9.06<ul style="list-style-type: none"><li>○ <math>12 \times 6.83 \times 2.58 / 11.5 = 18.39</math> FTEs</li><li>○ <math>9 \times 9.06 \times 2.58 / 11.5 = 18.29</math> FTEs</li></ul></li></ul> <p><b>Total FTEs</b> 36.68</p> <ul style="list-style-type: none"><li>• 4.5 RN FTEs increase = <b>\$360,000</b></li></ul>

## Hospital Finance for RNs

# Blended Acuity Units: Revised Staffing Plan per Shift

<b>Revised Budget</b> <b>12 MS + 9 SD</b>	<ul style="list-style-type: none"><li>• <b>ADC</b> = 21 12 M/S and 9 Step-down (SD)</li><li>• <b>HPPD</b> = 6.83 SD 9.06</li></ul> <ul style="list-style-type: none"><li>• <math>12 \times 6.83 \times 2.58 / 11.5 = 18.39</math></li><li>• <math>9 \times 9.06 \times 2.58 / 11.5 = 18.29</math></li></ul> <p><b>Total FTEs:</b>36.68</p>
<b>Revised Staffing Guidelines</b>	<p><b>Skill mix 71/ 29</b></p> <ul style="list-style-type: none"><li>• <math>36.68 \text{ FTEs} \times 71\% = 26.04 \text{ RN FTEs}</math></li><li>• <math>\text{FTEs} \times 29\% = 10.64 \text{ NA, PCT FTEs}</math></li></ul> <p><b>RN Staffing:</b></p> <ul style="list-style-type: none"><li>• <math>26.04 \text{ FTEs} / 2.58 \text{ (CF)} = 10.09 \text{ FTEs}</math></li><li>• <math>10.09 / 2 = 5 \text{ RNs per shift}</math></li></ul> <p><b>NA/PCT Staffing:</b></p> <ul style="list-style-type: none"><li>• <math>10.64 \text{ FTEs} / 1.69 \text{ (CF)} = 6.29 \text{ FTEs}</math></li><li>• <math>6.29 / 3 \text{ shift} = 2 \text{ per shift}</math></li></ul>

## Hospital Finance for RNs

### Blended Acuity: Revised HPPD

Med/Surg Step-down Blended Unit:

- ▶ 21 Bed Unit
- ▶ 12 Med/Surg
- ▶ 9 Step-down

	Original Budget			Revised Budget		
	ADC	HPPD	CGVRs	ADC	HPPD	CGVRs
<b>Med / Surg</b>	21.0	6.83		12.00	6.83	
<b>Step-down</b>	-	-		9.00	9.06	
<b>Blended HPPD</b>	21.0	6.83	32.18	21.00	7.79	36.68

## Hospital Finance for RNs

### ICU Staffing 12 hours RN Care per Day

**FTE Calculations:** Based on Number of Patients per Shift

**Desired staffing: 10 RNs, ADC 20**

- ▶ 10 RNs x 2 (shifts) x 2.58 (Coverage Factor)
- ▶  $10 \times 2 \times 2.58 = 51.6$  RN FTEs

**ICUs often have higher acuity pts that require 1:1 RN care.** This is a data element to track.

**Example:** 2 pts. on average require 1:1 RN care

- ▶ **ADC 20:** 18 pts. on 2:1, 2 pts. on 1:1
- ▶ 18 pts. require 9 RNs per shift ( 2:1)
- ▶ 2 pts. on 1:1 require 2 RNs per shift
- ▶ **Total RNs per shift** =  $11 \times 2.58 = 28.38$  RN FTEs
- ▶ For 24/7  $28.38 \times 2 = 56.76$
- ▶ **Additional RNs FTEs 5.18 (\$414,400)**

## Hospital Finance for RNs

### Non-RN Staffing per Shift

**FTE Calculations:** Based on Number of Patients per Shift

**Desired staffing: 2 NA/PCT per 7.5 hr shift**

- ▶  $2 \times 3$  (shifts)  $\times 1.69$  (Coverage Factor)
- ▶  $10 \times 2 \times 3 \times 1.69 = 10.1$  FTEs/24 hours

**Desired Staffing: 1 Unit Secretary per 7.5 shift**

- ▶  $1 \times 3$  (shifts)  $\times 1.69$  (Coverage Factor)
- ▶  $1 \times 3 \times 1.69 = 5.1$  FTEs/24 hours

**Note:** Same formula if you are using ratios

# Hospital Finance for RNs

## FTE and Staffing Calculations for Multiple Locations

<b>Level IV Neonatal ICU</b> <ul style="list-style-type: none"> <li>• 3 Locations</li> <li>• Staffing Challenges</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Main location:</b> 30 beds</li> <li>• <b>Second location:</b> 4 beds</li> <li>• <b>Third location:</b> Transition from L+D (2 beds)</li> <li>• 1 NICU RN will attend all deliveries</li> </ul>	
<b>Level IV Neonatal ICU Budget Information</b>	<b>Budgeted ADC</b>	34
	<b>HPPD</b>	12.59
	<b>Coverge Factor</b>	2.58
	<b>Shift Length</b>	11.5
	<b>Skill Mix</b>	100%
<b>Budgeted FTEs</b>	<ul style="list-style-type: none"> <li>• <math>ADC \times HPPD \times Coverage\ Factor / Shift\ Length</math></li> <li>• <math>34 \times 12.59 \times 2.58 / 11.5 = 96.03\ FTEs</math></li> </ul>	
<b>Per Day Staffing</b>	<ul style="list-style-type: none"> <li>• <math>FTEs / 2.58</math></li> <li>• <math>96.03 / 2.58 = 37.22\ FTEs\ in\ 24\ Hrs</math></li> </ul>	
<b>Per Shift Staffing</b>	<ul style="list-style-type: none"> <li>• <math>37.33 / 2 = 18.61</math></li> <li>• <math>34 / 18.61 = 1.8\ or\ 1:2\ staffing\ ratio</math></li> </ul>	

## Hospital Finance for RNs

### Staffing Issues: 3 Locations plus RN Floats to L+D

<b>Additional Requirements</b>	<ul style="list-style-type: none"><li>• <b>2<sup>nd</sup> RN</b> needed in second location</li><li>• <b>2<sup>nd</sup> RN</b> needed in transition area</li><li>• <b>Float RN</b> to L+D for deliveries</li></ul>
<b>Additional RN FTEs</b>	<ul style="list-style-type: none"><li>• 1 additional RN for 2<sup>nd</sup> location and transition area (Total of 2)</li><li>• 1 additional RN to float to L+D to evaluate infant post delivery</li><li>• 3 additional RNs x 2.58 = 7.74 FTEs</li><li>• 7.74 FTEs x 2 (shifts) = 15.48 additional RN FTEs</li></ul> <p>* <b>Do not include FTEs in HPPD</b></p>

Hospital Finance for RNs

## Hospital Financial Management: A Constant Priority & Compelling Opportunity

- ▶ Huge opportunity to cross-inform and work together
- ▶ **Staffing Solutions:** Partnership between hospital leadership and frontline staff to discuss patient care issues and collaborate. Additional FTEs means additional \$\$\$ is needed
- ▶ **Staffing Committee:** Judicious review of data will be required to support adding resources

Hospital Finance for RNs

## Forecasting for the future – What are we forecasting?

- ▶ **Declining federal funding** - Medicaid, social services, etc.
- ▶ **Increased uncompensated care** – decreased funding = more ED volume
- ▶ **Increased demand for services** - Aging population and illness complexity
- ▶ **Continued workforce challenges** - Anticipate nursing shortage through 2030
- ▶ **Economic changes** – forecasting economic depression impacting costs of supplies, drugs, potential patients delaying care needs,

Hospital Finance for RNs

## Forecasting for the future – How are we preparing for the forecasted change?

- ▶ Anticipating and planning for changing service demands
- ▶ Workforce planning
- ▶ Efficiency while maintaining quality and safety
- ▶ Networking and engaging with law makers at the state and national level to preserve and protect necessary services and funding to support providing care demands of our community



Thank you.