



**VA-CASE**

*VISN 11 VA Center for  
Applied Systems Engineering*

*Acute Stroke Care Procedure Make/Buy*

## *User's Guide*

*June, 2012*

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## **Purpose of the tool**

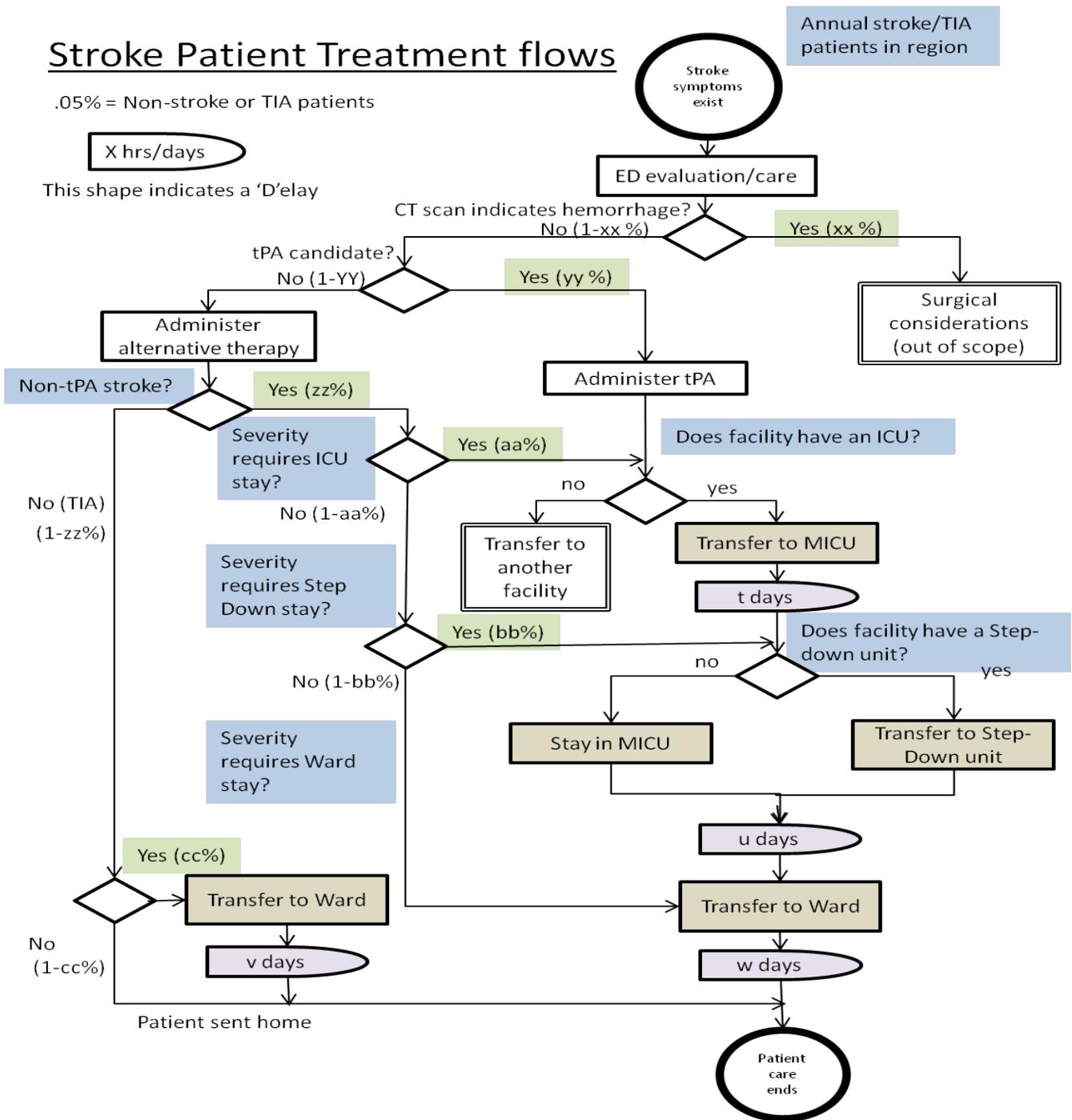
An Acute Stroke Care make buy model is developed by the VA Center for Applications Systems Engineering (VA-CASE) in conjunction with the VA Stroke Care Specialists. The purpose of the tool is to:

- Give guidance to VAMC concerning the cost of providing stroke care in each of the VHA Directive 2011-038 categories.
- Compare the cost of providing levels of stroke care internally to the cost of having external facilities provide stroke care.

## **Stroke Patient Treatment flows**

A team of stroke physicians assisted in the development of the treatment flowchart, shown in Figure 1. The elements that are colorful indicate input values that determine the percent of patients that follow each path.

Figure 1: Stroke Patient Treatment Flow



The tool requires six input percentages of patient treatment options, two inputs related to facility capability and four inputs for the median length of stay in each medical unit. Default values are included, but users should verify that the defaults are appropriate to their facility. The combination of input values determines overall internal cost per directive category. External cost of care is determined based on input values for external stroke and TIA care.

## Tool Use

**Required input data** - prior to using this tool, gather the following required information to confirm defaults included in the model.

- Input details of the selected facility.
  - Average yearly number of stroke and TIA patients.
  - Percent of patients missed when the facility is not open. This only applies to facilities that do not have 24/7 emergency department coverage.
  - Type of patients that are diverted when the emergency department is closed. The selection is either “tPA & severe stroke” or “All stroke patients”.
  
- Percent of patients that require each of the following initial treatments, on average. The percentages will add to 100% as the TIA Symptomatic patients are calculated as the remainder of patients.
  - Surgery (out of scope) – required when CT scan indicates a hemorrhage
  - tPA Stroke percent and the cost of tPA.
  - Non-tPA Stroke
  - TIA Symptomatic patients – the remainder of patients
  
- Percent of non-tPA stroke patients that require stays in each of the following units.
  - ICU
  - Step Down
  - Ward, including the median number of days they stay
  
- Facility-specific
  - Does facility plan to have 24/7 Head CT capability?
  - Does facility plan to Drip & Ship?
    - If yes, enter the average amount paid to fee out patients for care – The average fee paid to other facilities to care for patients that require ICU and other unit care when your facility will not care for them.
  - Does facility have an ICU?
    - If No, and the cost of an ICU is needed, enter the number of beds to plan.
  - Does facility have a step down unit?
    - If No, enter the number of bed unit to plan
  
- Median length of stay (days) of tPA stroke patients in each unit. Default values are based on data from the Office of Quality and Performance VA Stroke Special Project in FY 2007 (VA HSR&D RRP RRP-09-184).
  
- If building modifications and equipment purchases are needed, enter the number of years to finance this initial cost. Someone in the Fiscal area for each medical center can provide this value.

## Step 1: Select facility and enter data

Navigate to the “Input Values” worksheet and select the desired location. See Figure 2 for the area of the screen for the selection. To select the desired location, click on the down arrow to reveal the screen in Figure 3. Click on the desired facility to proceed with use of the tool.

**Figure 2: Acute stroke make/buy analysis initial screen**

*Default values are based on data collected from a variety of sources. See the "Data Sources" worksheet for details.  
Required fields are in colored cells.*

VA-CASE Acute Stroke Care Make/Buy Analysis Tool	
INPUT VALUES FOR (select facility of interest):	Indianapolis, IN

**Figure 3: Location selection for acute stroke make/buy analysis tool.**

*Default values are based on data collected from a variety of sources. See the "Data Sources" worksheet for details.  
Required fields are in colored cells.*

VA-CASE Acute Stroke Care Make/Buy Analysis Tool	
INPUT VALUES FOR (select facility of interest):	Albany, NY
Average number of yearly Stroke/TIA Patients =	include those not currently served by a VA facility, but within region)
Stroke patients diverted due to limited hours:	
Percent of stroke patients missed due to limited hours:	
Patient Initial Condition (add to 100%)	Additional Pharmaceutical Costs

Once the facility is selected, the screen in Figure 4 is displayed. Refer to the “Data Sources” worksheet for an explanation of the sources for default and site specific values. Site specific values are:

- A. Average number of yearly Stroke/ TIA patients
- B. Existence of 24/7 Head CT capability
- C. Does facility have an ICU?
- D. Does the facility have a Step Down unit (Days)?
- E. If the facility does not have a step down unit, enter the number of bed unit to plan
- F. Cost per ED encounter and Bed Day of Care in each unit
- G. Average Fee-basis for stroke and TIA patients (External care)

If the default values are inaccurate, change them to represent your facility. To evaluate results if patient demand or facility configuration changes, modify the input values to reflect alternatives.

Figure 4: Initial data entry screen with default values

Default values are based on data collected from a variety of sources. See the "Data Sources" worksheet for details. Required fields are in colored cells.

### VA-CASE Acute Stroke Care Make/Buy Analysis Tool

**INPUT VALUES FOR (select facility of interest)** Albany, NY (include those not currently served by a VA facility, but within region)

Average number of yearly Stroke/TIA Patients = 29  
 Stroke patients diverted due to limited hours: A & severe stroke  
 Percent of stroke patients missed due to limited hours: 10%

Patient Initial Condition (add to 100%)	Percentage of Dem	Additional Pharmaceutical
Surgery (out of scope)	1%	N/A
tPA Stroke	3%	\$ 2,200
Non-tPA Stroke	64%	N/A
TIA symptomatic patients	32.0%	

**non-tPA Stroke care after initial therapy (add to 100%):**

% of non-tPA Stroke Patients requiring ICU stay	10%
% of non-tPA Stroke Patients admitted to Step Down	15%
Remaining non-tPA Stroke Patients (straight Ward)	75%

**TIA patient care after initial therapy (add to 100%):**

% of TIA Patients admitted to Ward	55%
Remaining TIA Patients (sent home)	45%

Buttons: Input complete - review results, Evaluate Stroke Center Personnel

Facility-specific	Response	Lead CT cost (each)
Does facility plan to have 24/7 Head CT capability?	Yes	\$ 379
Does facility plan to Drip & Ship?	No	
If Yes, enter the ave. amount paid to fee out patients for	\$ 8,841	
Does facility have an ICU?	Yes	
If No, enter the number of bed unit to plan	4	
Does facility have a Step Down unit?	Yes	
If No, enter the number of bed unit to plan	0	

Buttons: Plan Radiology, Plan ICU, Plan Step Down Unit

Median Length of Stay and other duration values	Response	Care Unit	BDOC Cost
Median length of stay in MICU (days)?	2.00	ED	\$ 719
Median length of stay in Step Down unit (days)?	3.00	MICU	\$ 6,253
Median length of stay in Ward for Stroke patients (days)?	4.00	Step Down	\$ 3,619
Median length of stay in Ward for TIA patients (days)?	2.00	Ward	\$ 3,083

Average cost per encounter

Patient Care Cost Comparison (\$\$/patient)	Average Fee-basis (External care)	Average WERA reimbursement per patient stay (Internal care)
Stroke patient	\$ 7,841	\$ 13,574
TIA patient	\$ 5,176	\$ 2,131

**Startup costs for facility needs**

Response
Number of years to amortize startup costs? 5

Gather from Fiscal

Buttons: Input complete - review results

## Step 2: Review results based on input values

Once the input values are entered, select the “input complete – review results” button at the bottom or at the right of the screen. This displays the results screen, as shown in Figure 5.



**Figure 6: View results screen - select input values displayed**

VA-CASE Acute Stroke Care Make/Buy Analysis Tool	
<i>for review only - grey cells are input values. Make changes to them on the "Input Values" sheet</i>	
Albany VAMC: Samuel S. Stratton	Albany, NY
Average number of yearly Stroke/TIA Patients = (include those in region not currently served)	29
Stroke patients diverted due to limited hours:	tPA & severe stroke
Percent of patients missed by reduced LHSC hours	10%

Selecting the “Return to Input Sheet” button displays the worksheet where modifying the following input values are possible.

Figure 7 lists the annual overall cost comparisons to treat patient demand for each of the directive options - Primary Stroke Center (PSC), limited hour stroke facility (LHSF) cost, and annual stroke support facility cost (SSF) for in-house and external patient treatments.

**Figure 7: Results screen – total cost of care for each category of VHA Directive 2011-038**

VA-CASE Acute Stroke Care Make/Buy Analysis Tool	
<i>for review only - grey cells are input values. Make changes to them on the "Input Values" sheet</i>	
Albany VAMC: Samuel S. Stratton	Albany, NY
Average number of yearly Stroke/TIA Patients = (include those in region not currently served)	29
Stroke patients diverted due to limited hours:	11 stroke patients
Percent of patients missed by reduced LHSC hours	46%

**RESULTS - values reflect total calculated cost for each directive option:**

	Annual \$ (PSC)	Annual \$ (LHSF)	Annual \$ (SSF)
<b>In-house patients:</b>	29	17	0
Annualized Startup Costs (building & equipment):	\$0	\$0	\$0
Stroke Center Personnel:	\$0	\$0	\$0
tPA Cost:	\$2,200	\$2,200	\$0
Head CT Cost:	\$10,991	\$6,443	\$0
Other stroke patient care (time in units):	\$326,650	\$200,368	\$0
Other TIA patient care (time in units):	\$37,296	\$22,090	\$0
Internal - Total	\$377,137	\$231,101	\$0
Internal - no startup costs	\$377,137	\$231,101	\$0
VERA reimbursement - stroke patients*:	\$271,470	\$162,882	\$0
VERA reimbursement - TIA patients*:	\$61,785	\$10,653	\$0
Total VERA reimbursement:	\$333,255	\$173,535	\$0
<b>External patients:</b>	0	12	29
Stroke patient care:	\$0	\$62,730	\$156,825
TIA patient care:	\$0	\$20,702	\$46,580
Transfer to external ICU (Drip & Ship):	\$0	\$0	\$0
External - Total	\$0	\$83,432	\$203,405
Total cost for each stroke center designation:	\$377,137	\$314,533	\$203,405
Add'l cost due to stroke minus VERA reimbursement:	-\$320,064	-\$164,892	\$0
Internal cost minus VERA reimbursement:	\$43,883	\$140,999	\$203,405

\*VERA dollars are reimbursed for patient care provided in house. This figure is subtracted from the internal cost calculation.  
PSC=Primary Stroke Center (24/7); LHSF=Limited Hours Stroke Facility (normal business hours); SSF=Stroke Support Facility (plan for emergent transfers only)

The top section of the table contains the internal costs, separated into the main cost elements. The middle section contains the Veterans Equitable Resource Allocation (VERA) reimbursement. The next section contains the cost incurred by sending stroke/TIA patients to non-VA facilities. The bottom section contains total cost values with and without VERA reimbursement.

#### Cost involved in in-house treatment

- Annualized Startup Costs (building and equipment) - If building modifications and equipment purchases are needed, this number represents the cost divided by the number of years to amortize this initial cost.
- Stroke Center Personnel – cost of additional personnel as indicated on the Stroke Center Personnel worksheet.
- tPA Cost – the cost of tPA, which is given only to eligible stroke patients.
- Head CT cost – Each patient will have a head CT.
- Other stroke patient care (time in units) – Bed Day of Care (BDOC) cost based on expected stroke patient demand.
- Other TIA patient care (time in units) – BDOC cost based on expected TIA patient demand.
- Internal - Total cost of care including initial building and equipment costs.
- Internal – no startup costs – cost of care excluding initial building and equipment costs.
- VERA reimbursement – stroke patients – amount of refund expected for stroke patients once proper paperwork submitted.
- VERA reimbursement – TIA patients - amount of refund expected for TIA patients once proper paperwork submitted.
- Total VERA reimbursement - sum of VERA reimbursement for stroke and TIA patients.

#### Cost involved in treating patients externally

- Stroke patient care – Stroke patient care of Veteran population who are provided treatment in other facilities.
- TIA patient care - TIA patient care of Veteran population who are provided treatment in other facilities.
- Transfer to external ICU (Drip & Ship) - The average fee paid to other facilities to care for patients that require ICU and other unit care when your facility does not care for them.
- External – sum of external costs based on the patient care for each Directive category.
- Total cost for each stroke center designation – cost depending on where patient care takes place, either at the VAMC or at a non-VA facility.
- Add'l cost due to stroke minus VERA reimbursement – cost incurred by caring for stroke/TIA patients less the amount of VERA reimbursement. A negative number indicates that more money is reimbursed than is spent on care. A positive number indicates the amount of patient care that is not reimbursed.

- Total cost minus VERA reimbursement – total internal and external cost minus the amount reimbursed through VERA.

The remainder of the screen contains detailed data that support the values in the Results table. This data is categorized into “Initial patient condition-specific”, “Facility-specific Units/Capability” and “Median Length of Stay and other duration values”. The input values are indicated by a grey cell background. These tables contain numbers related to patient care.

**Figure 8: View Results screen - display of data that supports the overall results**

SUPPORTING DATA					
Initial patient condition-specific	Percent of Demand	PSC Demand	LHSF Demand	SC Per Patient	External Care
Surgery (out of scope)	1%	0	0	N/A	0
tPA Stroke	3.0%	0	0	\$ -	0
Non-tPA Stroke	64.0%	6	7	\$ 4,829	-1
TIA symptomatic patients	32%	3	3	\$ 4,829	0
<b>non-tPA Stroke care after initial therapy (add to 100%):</b>					
% of non-tPA Stroke Patients requiring ICU stay	10%	1	1	\$ 719	0
% of non-tPA Stroke Patients admitted to Step Down	15%	1	1	\$ 719	0
Remaining non-tPA Stroke Patients (straight Ward)	75%	5	5	\$ 13,049	0
<b>TIA patient care after initial therapy (add to 100%):</b>					
% of TIA Patients admitted to Ward	55%	2	2	\$ 6,884	0
Remaining TIA Patients (sent home)	45%	1	1	\$ 719	0

Facility-specific Units/Capability	Response	PSC Demand Results		Per unit cost	Total Cost
Radiology - Head CT capable or planned?	Yes	No. of CT's	10	\$ 379	\$ 3,790
MICU currently or number of beds planned	0	No. of ED encounters	10	\$ 719	\$ 7,190
Step Down currently or number of beds planned	0	No. of tPA doses	0	\$ 2,200	\$ -

Median Length of Stay and other duration value	Response	Unit	Required Days	BDOC cost	Total Unit cost
Median length of stay in MICU (days)?	2.00	MICU	0	\$ 6,253	\$ -
Median length of stay in Step Down unit (days)?	3.00	Step Down	0	\$ 3,619	\$ -
Median length of stay in Ward for Stroke patients (days)?	4.00	Ward: Stroke	20	\$ 3,083	\$ 61,651
Median length of stay in Ward for TIA patients (days)?	2.00	TIA	4	\$ 3,083	\$ 12,330

Patient Care Cost Comparison (\$\$/patient)	Fee-basis (External care)	VERA reimbursement per patient stay (Internal care)	BDOC Calculated Cost (Internal)
Average Stroke patient care	\$ 7,841	\$ 13,574	\$ 6,668.38
Average TIA patient	\$ 2,500	\$ 2,131	\$ 4,829

Startup costs for facility needs	Results
Renovate existing space	\$ -
Equipment needed to fill renovated space	\$ -
Total Startup Cost (Facility-related)	\$ -
Number of years to amortize startup costs?	5
Annualized Amount (amortized over indicated # of years)	\$ -

Plan Radiology

Plan ICU

Plan Step-Down Unit

- Patient Care Cost Comparison

The table contains the input values of external care and VERA reimbursement per patient along with the calculated BDOC cost when care is given at VAMC.

- Startup costs for facility needs

This table details the initial costs required to provide stroke/TIA patient care. These costs are incurred if modifications to units (Radiology, ICU, Step Down) are indicated. The costs include the cost to renovate selected rooms as well as equipment costs.

These startup costs are amortized over a number of years. The annualized amount is the total cost divided by the number of years, since the interest rate charged for this cost is 0%.

### **Step 3: Modify values**

Default values are included for needed personnel, facility and equipment. If determining the cost after changing these values is desired, modification is possible. Changes to the facility and equipment are reflected in the startup costs, while changes to personnel are incorporated into the overall treatment cost. Once the personnel and facility values are modified, return to the “Summary Sheet” for revised results based on the changes.

#### **3.1 Modify personnel needed to provide stroke care**

The “Evaluate Stroke Center Personnel” button is available from either the “Input Screen” or “Input Complete – review result” screen. This screen provides personnel cost details specific to stroke patient care. The combination of input values determines overall fulltime employee equivalent (FTEE) salary based on the directive category. Selecting the “Evaluate Stroke Center Personnel” displays the following screen as shown in Figure 9.

The number of staff recommended by the model is displayed. Users may indicate the number of employees to hire for each staff type. The salary expected to pay for each staff type defaults, but users may modify them. The total salary increases with increase in the number of employees to hire.

The “Enter FTE Utilization rate” value indicates the average percent of availability for FTE personnel. As described, a rate of 95 percent includes two weeks of vacation plus two weeks of sick time taken per year. As this value changes, the “No. of FTEE Recommended” values change to reflect the increase or decrease in FTE availability.

**Figure 9: Evaluate Stroke Personnel Center screen**

Positions - specified in Houston stroke care documentation		Staffing Requirements	Number to Hire	No. of FTEE Recommended		Total Salary \$\$			
				PSC (247, 365)	LHSF (8,575, 355)	Base Salary (\$ (1))	Total Cost* (\$ (1FTEE))	PSC (247, 365)	LHSF (8,575, 355)
Stroke Center Assistant Director (Nurse)		1 total	0.0	1	1	\$ 75,000	\$ 114,056	\$ -	\$ -
<b>Indicate the combination of staff to hire for desired coverage</b>				5	2	Enter annual base pay			
Neurology Attending Physician			0			\$ 125,000	\$ 190,093	\$ -	\$ -
Neurology Resident			0			\$ 40,000	\$ 60,830	\$ -	\$ -
Telemedicine Neurologist			0			\$ 30,000	\$ 45,622	\$ -	\$ -
Contract/Moonlighting Staff (enter total pay/year)			0			\$ 40,000	-	\$ -	\$ -
<b>Radiology - added if new Radiology unit or additional staff p</b>				5	2	Enter annual base pay			
Radiology Technician			0			\$ 75,000	\$ 114,056	\$ -	\$ -
Radiologist			0			\$ 125,000	\$ 190,093	\$ -	\$ -
Telemedicine Radiologist			0			\$ 125,000	-	\$ -	\$ -
<b>Neurosurgery - added if add'l staff planned to prevent Drip &amp;</b>				5	2	Enter annual base pay			
Neurosurgery Attending Physician			0			\$ 150,000	\$ 228,111	\$ -	\$ -
Neurosurgery Resident			0			\$ 60,000	\$ 91,244	\$ -	\$ -
Contract/Moonlighting Staff (enter total pay/year)			0			\$ 50,000	-	\$ -	\$ -
<b>Personnel - added if new unit(s) plann</b> Select "No" on input sheet to plan unit						Enter annual base pay			
Nurse - MICU		1:2 beds	0	0	0	\$ 75,000	\$ 114,056	\$ -	\$ -
Nurse - Step Down unit		1:4 beds	0	0	0	\$ 75,000	\$ 114,056	\$ -	\$ -
*includes benefits and locality pay increase						<b>Totals:</b>		\$ -	\$ -
Enter FTE Utilization rate: 95%						Use FTE utilization of 95% if 2 weeks of vacation and 2 weeks of sick time expected.			
% of annual hours (2,080) each FTE is available to work						2,080 - 80 = 2,000 / 2,080 = 95%			
						Use FTE utilization rate of 90% if educational time of 2 weeks plus vacation and sick time expected			
						2,080 - 80 - 80 = 1,920 / 2,080 = 90%			
						Use other values if circumstances warrant.			
<b>The following values are used in the FTEE requirement calculations.</b>									
Benefits rate of salary:	30%	percent of base salary + locality pay, based on national norm							
Locality pay increase is:	16.98%	based on government publications for each location							
Number of FTEE hours per year:	1,976	Based on utilization rate (specified above)							
Number of operational hours PSC	8,760	247, 365 days							
Number of operational hours LHSF	3,018	~8,575, 355 days							

### 3.2 Plan unit renovations needed to provide stroke care – Radiology, MICU and Step Down wards.

Planning these units involves specifying the rooms selected for renovation and the level of renovation needed to provide the care. Once the rooms are identified, selecting the “Specify Equipment” button displays a list of rooms and equipment needed. Additions increase the startup costs.

Users indicate rooms to include in the plan and the level of renovation required. The cost of renovation for each room added changes to reflect renovation level costs. The levels of renovation are specified in the VAMC Cost Guide for each VISN. They are:

- Total – all finishes and backbone systems (mechanical, electrical, etc.) are removed, space is taken down to the structural elements and exterior skin of the building, in essence, only the shell of the building remains.

- Medium - roughly two thirds (67%) of the finishes and systems are demolished and replaced, this is only appropriate for space whose function is not changing significantly, i.e. Medical Administration Service being renovated for Director’s Suite – similar space requirements – not MAS being converted to Research Laboratories.
- Light - removes and replaces approximately thirty percent (30%) of the finishes and systems. Again, the unit costs shown for each VAMC do not include any items that were once part of the activation process, such as movable equipment, ice machines, office equipment, etc., or moving costs, and the like, only construction costs as would be received from a general contractor. Through the CEA, the other mandatory VA markups, such as, construction contingencies, design fees, construction management, etc... are accounted for appropriately.

### 3.2.1 Plan Radiology Unit

Since every patient that presents with stroke symptoms initially receives a Head CT, if the facility does not have CT capability, they should plan to add one to determine the cost of providing stroke care. If a facility that does not have Head CT ability and would like to determine the effect of adding it, they should select “Yes” in cell C22 after “Does facility plan to have 24/7 Head CT capability?” on the “Input Values” worksheet. After that change, select the “Plan Radiology” button from either the “Input Values” or “Summary Sheet” worksheets. This displays the “Head CT Planning” screen, as shown in Figure 10 below.

**Figure 10: Portion of the "Head CT Planning" screen that enables users to specify needed renovation to provide Head CT capability**

Return to Input Sheet		Space required for CT Scanning								Return to Summary Sheet	
Indicate 'No' next to rooms already available			Indicate the level of renovation needed for each room included to determine cost of renovation.								
Function	Include (Y/N)	Level of Renovation Needed	Minimum # of Rooms Req'd	Minimum Sq. Ft. Req'd (each)	Additional Sq. Ft.	Est. Sq. Ft. Req'd	# Additional Rooms	Total Rooms Req'd	Renovation Cost		
Specify Equipment		Radiology needs for Head CT scan capability - 1 CT Scanning Room configured*							NTDG Factor: 0.6		
WRC01 - Sub-waiting	No	Light	1	45	0	0	0	0	\$ -		
XCTS1 - CT Scanning Room	No	Light	1	400	0	0	0	0	\$ -		
XCTC1 - Control Room	No	Light	1	120	0	0	0	0	\$ -		
XMRE1 - Power & Equipment Room	No	Light	1	120	0	0	0	0	\$ -		
XCTL1 - Physician Viewing Room	No	Light	1	120	0	0	0	0	\$ -		
TLTU1 - Patient Toilet	No	Light	1	50	0	0	0	0	\$ -		
WRL01 - Patient Stretcher Holding Bay	Yes	Total	1	80	0	80	0	1	\$ 17,440		
MEDP1 - Medication Prep	Yes	Medium	1	60	0	60	0	1	\$ 8,520		
SRS01 - Equipment Storage Room	Yes	Light	1	80	0	80	0	1	\$ 5,920		
Specify Equipment		Radiology Staff and Administrative Areas									
OFDR1 - Office, Chief Radiologist	No	Light	1	150	0	0	0	0	\$ -		
OFDR1 - Office, Assistant Chief Radiologist	No	Light	1	120	0	0	0	0	\$ -		
SEC01 - Office, Secretary & Waiting Area	No	Light	1	120	0	0	0	0	\$ -		
OFDR1 - Office, Staff Radiologist	No	Light	1	120	0	0	0	0	\$ -		
OFA01 - Office, Administrative Assistant	No	Light	1	120	0	0	0	0	\$ -		

Select the “Specify Equipment” button to display the screen shown in Figure 11. This enables adding the cost of needed furnishings and equipment.

**Figure 11: Portion of the "Radiology Furnishings & Equip" screen that enables users to specify needed furnishings and equipment to provide Head CT capability**

Equipment/furnishings required for Radiology room type(s)				
<a href="#">Return to Head CT Planning Sheet</a>				
Room	Equipment	Include (Y/N)	Count	Cost*
	Distribution System, Medication, Automatic	No		\$ -
	Refrigerator, U/C or F/S, 5 Cu Ft	No		\$ -
<b>SRS01 - Equipment Storage Room</b>				
	Standard furnishings	No		\$ -
<b>Radiology Staff and Administrative Areas - standard furnishings include workstations</b>				
<b>OFRD1 - Office, Chief Radiologist</b>	Standard furnishings	No		\$ -
<b>OFRD1 - Office, Assistant Chief Radiologist</b>	Standard furnishings	No		\$ -
<b>SEC01 - Office, Secretary &amp; Waiting Area</b>	Standard furnishings	No		\$ -
<b>OFRD1 - Office, Staff Radiologist</b>	Standard furnishings	No		\$ -
<b>OFA01 - Office, Administrative Assistant</b>	Standard furnishings	No		\$ -
<b>OFA01 - Office, Chief Technician</b>	Standard furnishings	No		\$ -
<b>OFA01 - Office, Physicist</b>	Standard furnishings	No		\$ -
<b>OFA03 - Cubicle, Data Processing Admin.</b>	Standard furnishings	No		\$ -
<b>OFRD1 - Office, Quality Assurance</b>	Standard furnishings	No		\$ -
	Console, PACS, Remote View, 2k X 2k, 2 Monitors	No		\$ -
		<b>Total:</b>	0	\$ -

\*cost is based on MSRP cost gathered by VHA and contained in the VA-SEPS system. It does not include any government discount.

FTEE Listing and Salaries | Head CT Planning | **Radiology Furnishings & Equip** | EQP - 276 RA

Adding furnishings and equipment is only possible for rooms that were included in the “Head CT Planning” screen. The cost associated are derived from the “EQP – 276 RADIOLOGY” screen. The list of needed furnishings and equipment are supplied by the Office of Construction & Facilities Management. The cost values were valid as of January 2012.

The total cost of renovation, furnishings and equipment are included in the startup costs on the “Summary Sheet” results.

### 3.2.2 Plan Intensive Care Unit

According to the flowchart, initial care is provided by a facility regardless of whether they have an Intensive Care Unit. If either tPA is administered or the severity of a non-tPA stroke requires an ICU and one is not available, the patient is transferred to another facility. If a facility that does not have a MICU would like to determine the effect of adding one, they should modify the following values on the “Input Values” worksheet:

<u>Cell</u>	<u>Description</u>	<u>Response to add MICU</u>
C23	Does facility plan to Drip & Ship?	No
C25	Does facility have an ICU?	No
C26	If No, enter the number of bed unit to plan	## - range from 0 - 20

After that change, select the “Plan ICU” button from either the “Input Values” or “Summary Sheet” worksheets. This displays the “MICU Planning” screen, as shown in Figure 12 below.

**Figure 12: Portion of the "MICU Planning" screen that enables users to specify needed renovations to provide a medical intensive care unit**

Return to Input		Space required for MICU room type(s)								Return to Summary Sheet	
Function	Include (Y/N)	Level of Renovation Needed	Min. # of Rooms Req'd	Min. Sq. Ft. Req'd (each)	Add'l Sq. Ft.	Est. Sq. Ft. Req'd	# Add'l Rooms	# of Rooms Req'd	Renovation Cost		
Specify Equipment Medical Intensive Care Unit (MICU) - min. number of beds is 7, max is 13 (user input) NTDG Factor: 0.65											
A. Patient Care Unit: Reception Areas											
WFR01 - Waiting/Lounge	No	Light	1	180	0	0	0	0	\$ -		
TLTU1 - Patient Toilet - one for each gender	No	Light	2	50	0	0	0	0	\$ -		
OFDC2 - Consultation Room	No	Light	1	120	0	0	0	0	\$ -		
Specify Equipment B. Patient Areas Number: 0 Remaining: 0											
BRIC1 - Patient Room, Intensive Care	No	Medium	0	230	0	0	0	0	\$ -		
BR1I1 - Patient Room, Intensive Care Isolati	No	Light	0	190	0	0	0	0	\$ -		
BR1I2 - Patient Room, Intensive Care Isolati	No	Light	0	190	0	0	0	0	\$ -		
BRAR1 - Anteroom, Isolation, Negative Press	No	Light	0	54	0	0	0	0	\$ -		
BRAR2 - Anteroom, Isolation, Positive Press	No	Light	0	54	0	0	0	0	\$ -		
TLTS2 - Bathroom, Isolation, Open Shower	No	Light	0	60	0	0	0	0	\$ -		
TLTS2 - Bathroom, Isolation, Enclosed Show	No	Light	0	68	0	0	0	0	\$ -		
Specify Equipment C. Patient Care Unit: Support Areas											
NCWD1 - Nourishment Station	No	Light	1	80	0	0	0	0	\$ -		
UCCL1 - Utility Room, Clean	No	Light	1	100	0	0	0	0	\$ -		

Select the “Specify Equipment” button to display the screen to specify needed equipment and furnishings to add to the renovation cost.

### 3.2.3 Plan Step-Down Unit

A Step Down Unit is an area that provides a level of care in between ICU and Ward, resulting in a less expensive option than when a patient remains in an ICU. If a facility that does not have a Step Down Unit and would like to determine the effect of adding one, they should modify the following values on the “Input Values” worksheet:

Cell	Description	Response to add MICU
C27	Does facility have a Step Down unit?	No
C28	If No, enter the number of bed unit to plan	## - range from 0 - 20

After that change, select the “Plan Step Down Unit” button from either the “Input Values” or “Summary Sheet” worksheets. This displays the “Step-Down Planning” screen, as shown in Figure 13 below.

Select the “Specify Equipment” button to display the screen to specify needed equipment and furnishings to add to the renovation cost.

**Figure 13: Portion of the "Step-Down Planning" screen that enables users to specify needed renovation to provide a step down unit**

Return to Input Sheet		Space required for Step Down Unit room type(s)							Return to Summary Sheet	
Function	Include (Y/N)	Level of Renovation Needed	Min. # of Rooms Req'd	Min. Sq. Ft. Req'd (each)	Add'l Sq. Ft.	Est. Sq. Ft. Req'd	# Add'l Rooms	# of Rooms Req'd	Renovation Cost	
Specify Equipment		Step Down Unit - indicate 'No' if incorporating into MICU beds. NTDG Factor: 0.65								
A. Patient Care Unit: Reception Areas										
WFR01 - Waiting/Lounge	No	Light	1	180	0	0	0	0	\$ -	
TLTU1 - Patient Toilet - one for each gender	No	Light	2	50	0	0	0	0	\$ -	
OFDC2 - Consultation Room	No	Light	1	120	0	0	0	0	\$ -	
Specify Equipment		B. Patient Care: Patient Areas		Number:	0	Remaining:	0			
BRIT1 - Patient Room, Isolation, Negative Pressu	No	Light	0	185	0	0	0	0	\$ -	
BRIT2 - Patient Room, Isolation, Positive Pressu	No	Light	0	190	0	0	0	0	\$ -	
BRAR1 - Anteroom, Isolation, Negative Pressure	No	Light	0	54	0	0	0	0	\$ -	
BRAR2 - Anteroom, Isolation, Positive Pressure	No	Light	0	54	0	0	0	0	\$ -	
BRMS1 - Patient Room	No	Light	0	160	0	0	0	0	\$ -	
LOB02 - Patient Room, Entrance Vestible	No	Light	0	60	0	0	0	0	\$ -	
TLTS2 - Bathroom, Open Shower	No	Light	0	60	0	0	0	0	\$ -	
NCWD1 - Nourishment Station	No	Light	0	80	0	0	0	0	\$ -	
Specify Equipment		C. Patient Care Unit: Support Areas								
UCCL1 - Utility Room, Clean	No	Light	1	80	0	0	0	0	\$ -	
USCL1 - Utility Room, Soiled	No	Light	1	80	0	0	0	0	\$ -	
UCCL1 - Linen Room, Clean	No	Light	1	50	0	0	0	0	\$ -	
MMRP1 - Materials Handling Terminal, Clean	No	Light	1	80	0	0	0	0	\$ -	

## Use of Results

This tool is useful in determining the cost of providing stroke care if minor modifications are implemented in a facility. For example, if personnel are added to allow for around the clock care instead of stroke care only during business hours.

It also determines the cost of providing stroke care if major modifications are needed, such as renovating the medical center to add a Radiology, ICU or Step Down unit and hiring personnel to staff the new units.

In order to compare the costs, users must print out the results, since the Excel™ spreadsheet displays one set at a time without preserving the results.