NorthWest Telemedicine Program Summary:

**fictional case*

Background:

You developed a great reputation in your previous role as Program Manager of the Endoscopy Unit. You are offered a new job as the Manager, Telemedicine Service, for a large teaching hospital in Seattle. You take it - a nice raise and a great location! Your hard work and educational background are paying off! Congratulations!

Your program, the NorthWest Telemedicine Program (NWT) is a collaborative effort between a large Level 1 trauma and teaching hospital (Seattle Health – 700 beds) located in Seattle, Washington and several "member" hospitals located in the geographical area of North West / Western US.

NWT member hospitals are either located in rural areas on the northwest, or are small community based hospitals. They don't have the financial or staffing resources of a large hospital like Seattle Health. These organizations need sustainable solutions to carry out their mission and support their patients. Telemedicine is an excellent solution for many smaller, remote hospitals.

These member hospitals joined NWT to help bring scarce Intensive Care Unit (ICU) physicians (called intensivists) and experienced ICU nursing expertise to their patients. Intensivists are highly trained physicians who are educated and skilled in treating very sick patients in the ICU. Most remote and smaller community based hospitals cannot recruit this resource to their geographical location, or cannot afford to staff their hospital with this resource other than in a limited way. Telemedicine programs have become viable solutions to expand the reach of scarce clinical resources and expertise to where they are needed, at any time of the day/night. At NWT, these well trained clinicians are

able to provide care for the sickest patients at their members' hospitals. They direct the members hospitals bedside team in treating these ill patients, they order medications, and manage the overall treatment plan on those patients, all from hundreds of miles away. These services help decrease mortality rates for member hospitals, offer great satisfaction and extra confidence for families of the sick patients, and bring much needed support to the member hospitals clinical staff (RNs, PA's. and Hospitalists). The members rely on the expertise from NWT to help support patient care at vulnerable times.

Expectations from Member hospitals:

In order to join the NWT as a member hospital, the members agree to install all necessary telemedicine equipment in their ICU patient rooms, participate in the steering committee, and pay fees for the service. Currently, the fees paid are based on actual usage. For example, each day a patient receives care from NWT, it is referred to as a "Patient Day". Each Patient Day is charged a fixed fee of $98.50 dailly. If one patient is in the care of NWT for 5 days, the member hospital pays 5 days X $98.50 for that patient's stay. Throughout the course of the year, the Patient Days are recorded and payable at the end of the year. If a member hospital has 1000 total Patient Days, they would pay Seattle Health/NWT 1000 X $98.50 = $98,500 for that year.

Seattle Health has built a high tech telemedicine hub (referred to as the NWT command center) across town from the hospital. The NWT command center has all the equipment, audio/speakers, camera control, eMR interfaces, and workstations needed to deliver the telemedicine service. It is staffed with one intensivist physician and 3 experienced ICU nurses every shift. The team is available 24/7 to manage ICU patients at member hospitals. This is especially important in the evening hours when remote member hospitals are particularly vulnerable and don't have the clinical resources on site to manage the care of very sick patients.

The management team of the NWT consists of a Medical Director, a Nursing Director, and the Program Manager.

Seattle Health partners with a vendor to specify and oversee all equipment, data management, report generation, troubleshooting, education, and general technology services. The vendor is "eICU Telemedicine Organization". This innovative organization developed the technical platform, the interfaces between the member's eMR (electronic medical record) system to the Hub's systems. They also specified all the equipment needed for the Hub, as well as the equipment needed in the member's individual ICU patient rooms. They oversee the technical needs for the entire system. eICU Telemedicine Organization is well paid for offering this innovative service, and they charge Seattle Health various fees based on the number of total patient beds within the entire NWT system. There are currently 120 patient beds in NWT, but the system is growing and more hospital members will be joining.

The Seattle NWT intensivist team never leaves the command center, yet they treat patients hundreds of miles away. For example, it is 2 AM and the Seattle Washington based NWT team gets an emergency call from a member hospital in a remote area of Alaska. A very sick patient has been admitted to the Alaskan hospital in the middle of the night. The Alaskan hospital needs an intensivist physician to treat their patient, and fortunately, the Alaskan hospital is a member of NWT. They call the Seattle based NWT team and request service for their patient. The NWT team then instructs the Alaskan clinical bedside team on what is needed to stabilize the sick patient. Because of the technology, it is almost as if they Settle experts were there in person. It has been a lifesaving initiative for many smaller rural based hospitals in the northeast.

Your assignment:

It is summer 2018. The Hospital's fiscal year (FY) runs Oct thru Sept, and it is budgeting time at the hospital. You need to create a budget for top management and Finance at Seattle Health, showing all the projected expenses and revenues for the NWT program in FY2019. You will need to ensure the program breaks even, with no financial losses, and adjust the members annual fees as necessary. A breakeven occurs when expenses equal revenues.

You begin to research so you can prepare the FY2019 operating budget. You speak to your boss, to the vendor (e-ICU Telemedicine Organization), and you make many calls to various department heads at the Hospital (Finance, Accounting, Human Resources), all in an effort to collect information for the budget.

You a lot and are now able to create the assumptions for the FY2019 budget.

ASSUMPTIONS:

Membership Updates for 2019:

- 2 new member hospitals will be joining NWT in October, bringing 11 more beds in total to the census as follows:
    - Hawaii South will join and add 7 beds on Oct 1, 2018. Their expected Average Daily Census (ADC) for the service is 5.
    - Tahoe Community Hospital will join and add 4 beds on Oct 1, 2018. They expect an ADC of 2.
    - The current number of beds is 120. It will be 131 in FY2019.

e-ICU Telemedicine fee structure for 2020:

- The e-ICU Telemedicine Organization fees are remaining constant for FY2019. They are:

- e-Tele Support Fees - $2600 per bed, paid quarterly
- e-Tech interface Fees - $600 per bed, paid annually in January
- e-Data Analysis Fees – $312.50 per bed, paid annually in January

NWT Staffing:

- Salaries for employed clinical staff and management staff (RNs, Nursing Director, Program Manager) will increase 2% next June.
- Salaries for administrative staff will increase 3% (Administrative Assistants) next June.
- Salaries for IT support staff will increase 4% next June.
- The Physician contract is expiring and an increase of 3% is expected starting in January. The Medical Director stipend will also increase by 5%, starting in January. No physician is directly employed by the hospital. They belong to an external physician organization that has long-term contracts with the hospital. Benefits are not paid for physicians by the hospital.
- Human Resources reports that Health Benefit costs are increasing in January to 24.5% of each salary per Hospital employed staff. (From 20.12%).
- The current Seattle based NWT team, (one intensivist and 3 nurses per shift), will not be able to handle the additional growth in the number of beds (120 to 131) without adding another RN to the daily staffing. The unit will need one intensivist and 4 nurses per shift.
- Assume there are 34 days of nonproductive time for nurses and the Administrative Assistant.

Finance:

- Finance reports inflation is 3% (impacting the cost of general supplies and catering services) starting Jan 1.

- You were below budget in FY2018 for telephone, and marketing by 12%. You decide to record an 8% decrease in these 2 line items for FY2019.
- The staff education budget needs to be reviewed. You want to be sure it includes the same amount as last year for staff training, plus you want to attend a workshop on Telehealth Management for yourself. You research and calculate $800 airfare and $400 hotel charge for the workshop is in March.
- You decide that only one manager will need to attend each of the conferences next year, and will cut the travel budget in half.
- Finance reports the annual Depreciation Expense is decreasing to a total of $250,000, broken down to monthly increments throughout the FY2019, starting Oct.1.

Capital Equipment needs:

- The IT consultant informs you they need to replace 2 IT servers. The Cisco server quote is $30,000 and Tele-server quote is $25,000.
- The office needs 3 new task chairs, quoted by vendor as each at $325 each. You decide to include these in the **Capital budget** rather than the operating budget.
- The Command Center needs 2 new adjustable workstations, quoted by vendor at at $1500 each. Plus, due to the addition of another nurse, another workstation, chair, and PC/software will be required. The IT Dept. informs you that the PC with software cost is $2500.
- Finance has requested that you calculate and include additional depreciation expense for this new equipment, with that each piece of equipment will last 5 years.

At this point, I recommend you construct the FY2019 Operating Expense Budget. Once that is completed you can move on to the revenue analysis.

REVENUE ANALYSIS:

You learn that the NWT needs to break even. Seattle Health expects to recover 100% of the costs of the service through the members annual fees. Currently, the fees payable by member hospitals are based on their actual usage of the service. If a member uses the service 100 times over the year, they pay 100 X $98.50 = $9,850.00 to NWT.

NWT and Seattle Health assumed the census projections by members were solid and not subject to wide variations. However FY2018 is proving to be a year of surprises. The actual census (usage) is far lower than what had been projected by member hospitals. The sensitivity of the census swings was not expected and all are quite surprised.

Because most of the expenses of the program are fixed, ie) it is staffed 24/7 with expensive clinical resources, regardless of actual sage, Seattle Health will see a big loss in FY2018 for the NWT program.

When calculating the cost per patient day, the breakeven was deemed to be $3,621,254 (total projected expenses to operate the program) divided by 36,764 annual program census = $98.50 daily patient charge. If the programs annual census was achieved, the program would be at a breakeven. But the Program's unexpected low census has caused a major surprise, and a large, unfavorable revenue variance.

This translates to:

- Program's actual ADC = 83
- Annual Program census = 30,212 (83 X 364)
- Total fees paid = $2,975,882 (30,212 X $98.50)

This is shortfall of $635,372. ($2,975,882 revenue less operating costs of $3,621,254 = <$635,372>.

Seattle Health Administration and Finance is not happy with the NWT financial situation. In looking at the FY2019 budget, the senior administrators at Seattle South have instructed you, the Program Manager, to revise the revenue assumptions.

The fees payable by each member hospital will need to be fixed, not variable and at risk for low census. That way there is no financial risk to Seattle Health, despite an unexpected dip in census.

The fixed approach will be to take the actual usage of the service in FY2018, per each member hospital, and use those statistics to determine each members fixed fee for FY2019.

You will use the following actual usage statistics from FY2018, along with the new FY2019 operating expense projections, to determine the new fixed fees for each member in FY2019:

Hospital name:	**Last years actual census**
Oregon State Hospital	7300
Woody Green Hospital	4015
Tahoe North Hospital	3285
Seattle South	5110
Nevada University Hospital	3650
Washington State Hospital	2190
Alaska Community Hosptal	2555
Denail North Hospital	1825
Neveda Indian Reservation	730
Hawaii South (use projections here)	1825
Tahoe Community Hospital (use projections here)	730
	33215 Patient Days

The 2 new members, Hawaii South and Tahoe Community Hospital, will have a fixed fee based on their projected ADC.

Use the budget templates attached to the assignment, in Blackboard, to help you build required budgets. You will turn in:

- **The FY2019 Operating Expense Budget (include all assumptions)**
- **The FY2019 Capital Budget**
- **The FY2019 Revenue Budget (with the new breakeven fee for daily patient fee), include assumptions and illustrate the balanced budget.**