

Preface

The purpose of the modeling exercise within this proposal is to test varying utilization “triggers” using historical SDR data in a modified facility need determination model. In doing so we hope to determine at what reduced utilization rate “trigger” would an 18-month lag time between data reporting and data publication generate sufficient facility station need to mimic the patients per station reported in the SDR without resulting in excessive utilization (not enough stations) or excessive capacity (too many stations.)

Purpose: To measure the effectiveness of a reduced utilization trigger on historical data to infer potential effectiveness of a model utilizing a reduced utilization trigger going forward.

- **What utilization rate trigger best compensates for data that will be 18-months old at the time it is published?**
- **Is the method of calculating the reduction in utilization rate by increasing the 5-year AACR for ESRD populations statewide by 1.5 comparable to the results obtained when providers tested historical data in the model?**
- **At what reduced utilization rate is utilization kept below 100% without creating excess capacity?**

Data Input Instructions:

1. On the tab labeled **SDR Patient and Stations**
 - a. **Facility Maximum Stations** Physical Plant Capacity – This limits the total number of stations that can be added via facility need methodology to the total number that can be housed at the facility and is crucial in determining utilization and patients per station per period.

Line 8 – In cell B8 enter the initial physical plant capacity of the facility for each SDR period regardless of when initial operations began. If the facility physically expanded or moved to a larger location, enter the new physical plant capacity for every cell in Line from the point it changed to the point it changed again or through the last data entry cell on Line 8.

- b. **Patients** – This is the historic patient census reported for the provider’s facility in the resulting SDR. The model takes that number and “lags” it 18 months forward to the point of filing for the need. It is compared with the most recently reported patient census for the SMFP in effect to generate the monthly growth rate between those two points in time. The growth rate is then applied to the most recently reported

patient census to project “future” patient census and subsequently future station need for the facility at 80% utilization or 3.2 PPS.

Line 9 – Enter the patient census reported in the SDR for each period. If the patient census was 0 for any period prior to certification or after, enter a 0 in the model on line 9 for that period. Do not leave any period blank.

- c. **Stations** – This is the historic station census reported for the provider’s facility in the resulting SDR. The model takes that number and “lags” it 18 months forward to the point of filing for the need. Is it compared with the most recently “SMFP model generated stations” for periods that follow facility certification, and is the basis for the historic SDR patients per station by which all other models are compared.

Line 10 – Enter the station census reported in the SDR for each period. If the station census was 0 for any period prior to certification or after, enter the initial station census in every cell beginning with B10 until and through the point of certification until the number of certified stations changes in the SDR. Then, enter the number of stations reported in the SDR. Do not leave any period blank.

- d. **Pending Stations Out First SDR – (“minus”) 1 SDR** – In order to accurately calculate projected SMFP utilization, station transfers **out** must be considered. It is by and through the transfers out of stations providers were able to expand services throughout the state in many areas previously unserved or underserved. The number of stations transferred out has been lagged in the model to reflect when they would’ve been applied for and removed under an SMFP model. In the models calculated for non-Wake Forest providers a “best guess” was used when entering the information on this line. Providers for those units will want to review the information on Line 14 barring the instructions below:

- i. **Line 14** – Enter the station transfers out reported in the SDR as well as any pending additional stations. Transfers out should be a negative entry and additional stations should be a positive entry.
- ii. **Line 14** – In the case of add backs that effectively nullify each other resulting in no change in the overall station inventory, enter a zero during that period on line 14. In the case of transfers out that didn’t take effect for many periods perhaps stalled while awaiting completion of construction of a new site, enter those two periods prior to the time they were actually removed from the host facility or not at all if the host added back stations that nullified the transfer out.
- iii. **Line 14** – In the case of add backs that only partially nullified a transfer out, reduce the transfer out by the number of stations to be added back and enter

that number of negative stations on line 14 two periods prior to when they were actually removed.

2. **SMFP Facility Need (“—”) PPS** – Facility utilization based on the information entered in the SDR Patients and Stations tab is propagated to each SMFP Facility Need worksheet. The worksheets measure the effectiveness of the model on historic data for varying levels of utilization “triggers” from 80% down to 70%. Line 41 of each sheet provides cells with the number “18” in them. Providers may change that number via the dropdown box and review the impact of that change on line 49 of the same column.
 - a. **Line 41** – Change the drop box number from 18 to 20 to 22 and view the result of the change in the same column on line 49. The difference from the result of potential stations is the “benefit” of waiting to file a facility need application until the second or third filing opportunity.
 - b. **Line 41** – When a facility reaches its Physical Plant Capacity, changing the drop box number of line 41 will no longer change the result on line 49.
3. **Overall Comparison** – The Overall Comparison tab charts the resulting patients per stations generated by SDR reporting and filing versus the proposed SMFP plan at varying trigger utilization rates from 80% down to 70%.
 - a. In each SMFP Facility Need tab model, the SDR patient data as of the publication date of the SMFP in effect is divided by the number of stations generated by the SMFP facility need calculations to render an “actual” patients per station per period included on line 24 of each SMFP Facility Need worksheet.
 - b. In the Overall Comparison the PPS resulting from the SDR included on line 23 of each SMFP Facility Need worksheet is compared with the PPS generated by the model for each “trigger” utilization level tested.
 - c. A chart visually demonstrating the model results and comparison shows how well each model performs versus the SDR over time.
 - d. What we all need to look for is at what “trigger” utilization level tested does the model perform best at keeping facility utilization below 4.0 PPS or 100% utilization versus the periods when the SDR reports utilization near or above 100%.

Preliminary Observations in Initial Testing

1. This model tracks along with the SDR as soon as the facility approaches its maximum physical station capacity.
2. This model in most cases allows the potential to add stations in time to prevent excessive facility utilization when applied over time.
3. In some of the provided preliminary models where a facility began after the initial reporting period for patients and stations, the formulas for mean, standard deviation, and correlation co-efficient need to be adjusted for the appropriate range of actual data.
4. 74% utilization or 2.96 PPS appears to be (currently) a “good” trigger utilization level to promote and support facility growth without creating too much excess capacity.

Suggestions for Moving Forward Beyond Determining a Reduced Utilization Trigger

1. Full testing of ***any*** model should be done over time with current data to compare the number of potential facility need stations generated versus the number of those stations for which a provider could actually prove a need.
2. The results of testing should be compared to actual CON's filed via the SDR and the number of stations proven using SDR methodology to render meaningful results, which may delay overall implementation of any model.
3. Multiple work days to discuss testing issues, concerns, questions, proposed changes and modifications should be scheduled to involve all providers in the process of creating a new model.