**HAP725 Summer 2022 (8 Weeks, Online)**

**Instructor: M. Uriyo**

**Feedback from Students (N = 15 students, 53.3% Response rate)**

**(a) What are your thoughts about the case study?**

1. I enjoyed the case study as we were able to utilize real data in a potential real scenario and use the skills we learned in this class. It was also nice to be able to interact with a hospital executive who may utilize this data and this analysis of data in the real world to make decisions for a given hospital.
2. I loved it. The fact that that was my first time doing a case study. Analyzing the data, contacting the executive, just going through all the steps and utilizing in real life what I was learning.
3. It was extensive. I wish the hospital representatives were more responsive and able to provide valuable feedback.
4. **Case study was beneficial, as I gained insight about downloading, working with CMS hospital data to interpret quantitative data and identify trends in different hospital measures.**
5. The case study was a worthwhile project. I learned more in the case study than I ever would have imagined. Doing a hands-on, real-life experience analysis was ideal instead of being given mock data. I have a better understanding of x-bar, p-chart, and Tukey charts. I have even thought about implementing what I’ve learned in my job at work. Also, I was nervous about contacting an executive, but I shouldn’t have been because she was extremely helpful.
6. I thought the case study was a good practice in using real world data to compare hospital measures.  I liked the idea of having a potential employer review our data, but I felt like it became more of a burden trying to find someone than focusing on really getting to know the data and drawing the correct conclusions from the analysis.  Maybe if I knew that employers are really looking for these skills and this analysis, or that many students went on to be employed by someone who reviewed their work, it would motivate me more to put more effort into the case study.  I have seen some published articles that used this data and perform the same kind of analysis, so I see that we are doing real world research.  I would like to know more about how organizations use this analysis or what are the next steps after they see how they are performing.  Do they look more into what caused some outliers or what is causing the trends?  How much weight do they put in these metrics? (B. W. Britton)
7. This was a great way to put everything we’ve learned into action, while also practice presentations we might be doing in the future.
8. I think the case study is a great practice for our jobs in future data analysis and I will list it on my resume.

 **(b) Will you list it on your resume?**

1. I currently work as a Product Owner on an Analytics product for an EMR company, so I believe that showing my skills in working with and analyzing the data is important to list on my resume to obtain jobs that involve more data analytics as well as to progress with my current company**.**
2. Yes, I will.
3. No, but I will add to repository on GitHub/LinkedIn
4. Yes, it is meaningful project to mention on resume
5. I didn’t think about listing it on my resume. I will have to search for how to professionally list a big project on my resume. I will do it.
6. Probably not, but I will list the skills necessary to complete these tasks on my CV**.**
7. I didn't think to add it but I might now.
8. I think the case study is a great practice for our jobs in future data analysis and I will list it on my resume.

**(c) How do you compare this class to previous classes taken at GMU?**

1. I appreciated that the professor provided more regular feedback and communication in this course than in previous courses. I believe this was helpful to my learning. Additionally, I feel that this class assisted in my ability to recognize the application of the learning modules into real world work and job scenarios. I do think the live sessions also help to ensure that you are on track for that current week's assignment.
2. This has been one of my favorite classes and I graduate in the fall. I really like the case study part and using real life situations to complete it.
3. Unlike other classes, this course was more Python intensive than sql or any other program. Although the teach one assignment were useful, there should be more instructions provided on Python code and programming. There course seemed a bit more focused on copy and pasting than learning analytics through Python**.**
4. **This class allowed me to understand the use python syntax in a meaningful way. Although the codes were provided but I still gained knowledge to how to use the syntax. I future I can always refer to the syntax as I know what python code can be used when and where.**
5. **This class was a little different than my previous classes at GMU. For example, in other courses in this program, I didn’t feel like a part of a class but on my own. In this class, I thought I was truly in school with a professor supporting me. I wouldn’t say other professors did not support me, just that this class was a little more serious. I didn’t mind it at all.**
6. I thought this class was challenging but very useful.  I liked that the coding examples were provided so I could focus more on the statistical concepts instead of trying to figure how to program them in python.  I liked that there were multiple examples of programming, so I learned multiple ways to perform the calculations.  For example, using python alone versus importing the data into an SQL database and then using SQL queries within python to perform the calculations.  My coding skills have greatly improved from this course.
7. This class allowed me to get more accustomed to python which O didn’t get to do in other classes.
8. Comparing to previous classes taken at GMU, I learned a lot from this class in different ways, for example, the teach one presentation in class which we had a lot of interaction with you and classmates, a real case study from data collection to contacting a preceptor in target hospital even if he did not reply to me. Overall, this class is great.

**(d) How has this case study experience taught you about organizing for your practicum?**

1. This case study has taught me that you truly must understand the data before you begin an analysis. If you don't understand the data first, you may run into issues during the analysis that force you to take steps backward.
2. It has taught me that I need to do more and better on my presenting and interpreting the case study. Analyzing the data was the easy part.
3. **The importance to explore and understand the data. Understand the goal, context of the case study**
4. This case study will help when I begin my practicum. It allowed us to gain more experience working with an external entity with their data and present our findings based on concepts we learned in our studies. I feel more confident about doing something like this again.
5. I’m not sure which practicum this is referring to.  Is this referring to the capstone?  I'm not sure what the capstone entails at this point.  I would say it has taught me to start planning early.  Getting to know your data is a big part of analysis and time consuming.
6. This case study helped me work on presentation skills and gave me new ideas on how to organize that presentation.

**(e) Has the hospital executive responded to your case study email?  If yes, what comments did they provide.**

1. The executive has responded to my email. He provided thoughts on additional information to be included in future presentations regarding the control limits as well as defining what populations were used to establish the control limits. He suggested that my findings agree with what he perceives the typical findings are for the hospital in my case study. Overall, his suggestions were helpful in planning my future case study presentations. Below are his comments:

“I’ve viewed your analysis presentation. Overall, the analysis is representative of the types of things we look at as a healthcare system. We do quite a bit of monitoring and benchmarking across a very wide set of metrics – among these are the CMS metrics from which you chose your examples. Furthermore, we regularly compare ourselves against others in our markets (including the comparators you chose), as well as how we perform against national benchmarks. So, the type of thing you are looking at is certainly relevant.

The findings are likely accurate – I did not validate what you’ve done against our internal analysis, but generally the themes tend to be similar to what we see in your analysis – typically we find that mostly performance tends to be ‘statistically similar’ to other facilities but occasionally observed differences are large enough that they suggest a legitimate difference in performance.

One thing you might have pointed out is that the control bands themselves have trends over time. The survey based satisfaction ratings are remarkably stable, which might suggest that overall, these metrics are hard to move. Conversely, the band for the mortality seems to decline pretty steadily through time – perhaps suggesting that the underlying objectives of the measurement program (i.e., to reduce mortality rates) are working. And the band for payment (basically cost to the government) is rising over time, which reflects the growing cost of healthcare overall.

One question I would have for you is what population you used to establish the control limits? Was it the competitive set only? The Sentara hospital plus the competitive set (what I would assume)? Something broader? When we present results we try not to get too detailed about the calculational mechanics, but it’s a good idea just to make sure folks understand the basic setup.

In terms of you presentation, one thing I might have done is provide the list of metrics on a slide prior to going through each one – that way the audience has a little better idea where you are going.

I hope you found this exercise valuable and that this feedback is additive to the experience “

1. No, she has not.
2. No
3. *Executive Response:* “Very nicely put together and presented.  I am always interested in analysis of Inova performance against our peers so this held my attention.  Manjinder did a nice job of pointing out the limitations – the regional competitors are much smaller, community hospitals where Inova Fairfax is a Level One Regional trauma center.  She noted that the results are not adjusted for case mix which would explain some of the findings.  The Fairfax population probably includes patients with a higher severity of illness.
	1. I would have like to see some information on the case volumes for the different hospitals, not just the bed size – but that’s just me. She mentions the 5% outlier rate – how far above the UCL were the payment measures – within 3SD? Were there reimbursement rate adjustments in that time frame?
	2. I am not familiar with the Discharge Information – linear mean score measure, a definition would have helped.  Year 2020 was an anomaly, most probably due to Covid”
4. The executive did comment and respond; in fact, she gave me very helpful feedback. First, she stated that my naming convention for the x-axis was not a true reflection of the data time period because it indicated the date CMS released data, whereas the data was actually collected more in advance. I can see how the preceptor would be cautious and critical about this as she knows my project is on the web, and it could be a bad reflection of her organization, especially if the data is long since not true. Her other comment was to add a median line on each graph. She also asked how I calculated the UCL and LCL. I responded to her emails and re-did the project after taking her comments and Dr. Alemi’s advice to do a Tukey chart rather than the x-bar or p-charts. Thank you for a great Summer 1 session!
5. No, I did not get a response from my case study.
6. My executive did not respond.
7. No**.** *However, Ms. xxx obtained a job in 8/2022 soon after this class was over. She is now a Research Data Analyst at Johns Hopkins University working on analysis of data for the benefit of multiple studies linked to the Cystic Fibrosis Center of Excellence (PMCOE). She used her case study work in HAP725 during her interview process and her case study was referenced in her reference letter*