

## BACKGROUND

The University of South Carolina (UofSC) Big Data Health Science Center is pleased to sponsor the **Big Data Health Science Case Competition**. In the spring of 2019, the Big Data Health Science Center was awarded among 8 internally funded projects in the UofSC “Excellence Initiative” which pushes the boundaries of scientific discovery. The UofSC’s mission in big data health science research is to be an innovation-driven enterprise that can facilitate and accelerate a sustained, high-caliber transformation of the UofSC into a global leader in big data health science. Through this came a vision for identifying talent specific to the field of big data health science. The Big Data Health Science Case Competition aims to provide enthusiastic teams of graduate and senior undergraduate students with the opportunity to apply their knowledge to the analysis of big datasets in healthcare. The competition enables students to present their analysis, and recommendations to a broad panel of judges consisting of academia, business and healthcare industry. It is designed to be a hands-on experience that tests the students’ analytical, teamwork, communication, and presentation skills in order to build a talent pipeline in big data health science.

Thank you for participating in the UofSC Big Data Health Science Center’s **Annual Big Data Health Science Case Competition**.

Xiaoming Li, PI

UofSC Big Data Health Science Center

**2021 Participants –** The table for how your group’s “official” team number for the competition is below and will be how we will refer to your team until the winners are announced. The table will be completed on Friday after the straw poll is conducted.

|  |  |  |  |
| --- | --- | --- | --- |
| **Team**  **#** | **University** | **Team**  **#** | **University** |
| 1 |  | 12 |  |
| 2 |  | 13 |  |
| 3 |  | 14 |  |
| 4 |  | 15 |  |
| 5 |  | 16 |  |
| 6 |  | 17 |  |
| 7 |  | 18 |  |
| 8 |  | 19 |  |
| 9 |  | 20 |  |
| 10 |  | 21 |  |
| 11 |  | 22 |  |

# General Rules

1. Above all else, this case competition is intended to be a **learning experience** for all team members involved.
2. We trust that your presentation will be your own work. Team members should be the only ones completing all data analyses, recommendations, presentations and handouts for the case.
3. The case is confidential and is only intended to be used by those participating in the current case competition. Each team member must read and sign the Confidentiality Statement, the non-disclosure agreement, and other agreements and turn it in electronically on or before **Thursday January 28th**. The items to be signed and turned in by each team include the following attachments:
   1. Competition Rules Binding Agreement
   2. Mutual Confidentiality and non-disclosure agreement
   3. Binding Data Agreement
4. The case will **be released on** **Friday, January 29th** after the lunchtime meeting described below. Once the data for the case is disseminated, all teams are expected to conduct any and all necessary research through publicly available resources. No faculty or other professional assistance is allowed in preparing case deliverables. All questions should be directed solely to the case competition organizing committee.
5. You may use additional publicly available information.
6. You may use any software to manage and analyze your data. However, you must present your data analyses clearly.
7. You may **NOT** contact any employee of the UofSC for assistance on any area of the case.
8. There must be **NO mention of your university** in the presentation. Unfortunately, if anyone on your team **inadvertently** refers to your university, your team is **automatically disqualified** from the competition. No school colors should also be displayed on your slides.
9. Teams **may** bring alternate student observers to the competition. The role of the alternate is to substitute for a team member in the event of illness or any other emergency after the first round. As such the alternate may work with the team on the analyses. However, such substitution will automatically remove the substituted team member from contention and the final awards.
10. Good luck and we hope you enjoy the experience!

# Instructions

1. All teams will be introduced during the **Friday lunchtime meeting (12 noon EST), on January 29th 2021 (Zoom Invitation sent to advisors)**.
2. The Case Competition is made up of two rounds: the preliminary round and final round.
3. During the Friday lunchtime meeting each team representative will draw their time slot for presentation time during the preliminary round on Saturday, January 29th and rehearsal time. Therefore, it is important for the teams to send at least one representative to participate in the drawing. Advisors can draw on behalf of their teams.
4. By **Saturday, January 30th, 2021 (11:00 am EST)**, each team must submit an electronic version of the following items to [akgun@mailbox.sc.edu](mailto:akgun@mailbox.sc.edu) and [olatosi@mailbox.sc.edu](mailto:olatosi@mailbox.sc.edu) . Each item should be named according to instructions listed below:
   1. Signed Ethics Statement of Compliance (one per team) – **TeamAA\_Ethics Compliance**
   2. Signed Confidentiality Statement (one for each participant) –

## TeamAA\_Confidentiality\_StudentName

* 1. Final electronic version of your presentation *in PPT format* – named as

## TeamAA.ppt(x)

* 1. 1-page Executive Summary – naming the document: **TeamAA\_Executive Summary** – this may be a Word or PDF format.
  2. “Leave Behind” Handout - named as **TeamAA\_Leave Behind Sheet**

1. The Preliminary Round presentations will be made to a panel of judges on Saturday, January 30th, and Final Round presentations on Sunday, January 31st , 2021. All teams will participate in the Preliminary Round. The order of presentations in the Final Round will be determined by a blind drawing after the finalists are announced on **Saturday January 30th** evening.
2. Teams must present live. More detailed information on the process will be described on Friday. Each team should create a PowerPoint presentation that will take no more than 15 minutes to present, along with a corresponding executive summary and “leave behind” handout.

* The team will use their PowerPoint slides to give its oral presentation on the day of the competition (January 30th, 2021). The presentation may not be longer than 15 minutes.
* Additional 10 minutes will be allotted for Q&A. If a team finishes its presentation early, it will proceed directly with its 15-minute question-and-answer session.
* We will use zoom for all presentations.
  + Each team member should connect individually.
  + Each participant should rename themselves with their team name
  + Faculty advisors can rename themselves as TeamName Advisor
  + no identifying information should appear in your background
  + your Zoom link and time slot will be shared with teams on Friday January 29th at 6:00pm EST. Each team will have the option of a testing what the meeting room will look like for 5 minutes on Friday.
  + **Time slots for Saturday** are as follows 12:00 -12:30pm; 12:40-1:10pm; 1:20-1:50pm; 2:00 -2:30pm; 2:40-3:10pm, 3:20-3:50pm; 4:00-4:30pm; 4:40-5:10pm – Teams will be randomly assigned to this based on electronic polling done on Friday, January 29th during the lunchtime meeting.

1. To ensure anonymity of the teams and impartiality of the judges, the teams will not be known by their university and/or school names and should not mention their university and/or school names until the final presentations have concluded. Remember to use only your team number. Never reveal your school’s name. (You are also **not allowed** to wear your school’s color/logo or any other identifying information during your presentation.)
2. All team members are expected to offer an equal share of the presentation.
3. Sound effects are NOT allowed in the presentation.
4. Graphics ARE allowed in the presentation, but animation effects are discouraged.
5. In anticipation of technical difficulties, each team is required to also record their presentation and **submit the recording at least 2 hours** before they present. Five minutes will be allotted to fix any technical or equipment problems after which the Judges will revert to the pre-recorded presentation. Teams must however remain present to answer questions. The pre-recording is not a substitute for live presentation.
6. Dress is business professional.
7. To assist the judges in their selections, you need to prepare an electronic “leave behind” handout, which will be given to the judges at the end of your presentation. The sheet will provide a brief summary of your findings, recommendations as well as pictures of your team members. Examples will be provided on **Friday January 29th**. You can also create yours before then, It should be one sheet. During deliberations, this sheet will be very helpful as the judges will use it to recall the different presentations. A few guidelines:

* Include your team number
* Include photos and names of team members in professional attire
* Do not include any reference to your school

1. Be in the **“On-Deck” Zoom meeting Room** in plenty of time (at least 30 minutes) before you are scheduled to present on the morning of Saturday January 30th. Sometimes, the judges may get ahead of schedule, so we want to be able to have all teams ready to go.
2. You will have 15 minutes to give your presentation, which will be followed by 15 minutes of questions and answers by the content judges. You will be alerted at 8 minutes and 13 minutes, respectively, by the timekeeper in attendance, who will type the numeral “2” into the chat box.
3. Videos of your presentation will be recorded.
4. All teams will present during the preliminary round on Saturday, January 30th morning, with 5 teams advancing to the final round on Sunday January 31st. During the finals, all non- advancing teams are invited to watch the presentations. However, the teams advancing to the final rounds **may not** watch the other teams present. Zoom links to register will be sent out next week.
5. In case of a tie in either round, the judges will be asked to rank each team. The team with the highest rankings will win the tie. If there is still a tie, three judges will be selected at random from all the judges. The team that has garnered the highest scores from these randomly selected judges will win the tie. The names of all the final round judges will be placed in a box, and the scoring official will pull the names of three judges out of the box. If there is a tie at the end of the final round, the team with the highest ranking during the preliminary round will win.

All teams attending the Final Round presentations must show respect and courtesy to the presenting teams. Any disruptive or distracting behavior will result in significant penalties up to and including disqualification.

1. The organizing committee reserves the right to penalize or disqualify teams that are found to be cheating, late in submission of their presentation, late to their presentation, or otherwise breaking the rules/guidelines listed here or the spirit of the competition rules. All decisions made by the organizing committee are final and cannot be appealed. The organizing committee may also amend the rules and guidelines any time, if necessary.
2. Have fun and network – this is a very small industry – and you will have the opportunity to meet many new people during the competition and conference.
3. Remember that you are all winners. This experience should serve you well in the future. Welcome to South Carolina and the world!

# Event Schedule (Tentative, and subject to change)

**Day 1: Friday (Zoom General Link)**

1. Competition registration, check-in and arrival - 11:30am -11:55am
2. Welcome / Rules and Competition release (12:00pm -1:00pm)
   1. Welcome (Bankole Olatosi, PhD FACHE)
   2. Description of the judges
   3. Competing Schools Introductions
   4. Competition rules and engagement (Review - Olatosi)
   5. Depending on number of teams (Electronic straw poll for group assignments (teams will compete within their groups and qualify for the finals or semi-finals based on their group; team leaders/representatives to participate in poll). Please note for fairness, we may need to move teams on the west coast later if necessary.
   6. Data description and case study (Valafar)
3. Room assignments for practice and work released for all groups.
4. Online Rooms open at 6:00pm close at 10:00pm

**Day 2: Saturday (Zoom Link -TBA)**

1. Rooms open again at 11:30 am (Teams should join room no earlier than 30 minutes before their presentation.
2. Preliminary Round 1: 12:00pm - 5:10pm (depending on the number of teams for round-robin sessions at the UofSC rooms)
3. Semi-finalists announced at 6:00pm or earlier, 6 teams advance from preliminary round

**Day 3: Sunday (Zoom Link-TBA)**

1. Final round presentations 9:00 am -12:30pm
2. Winners announced at 1:00pm

**Judges**

**Industry and Government**

Dr. Stefanos Kechagias Sr. Analytical Consultant SAS Cary

Dr. Sue Haddock, VA Chair, Board of Directors, Dorn Research Institute

Dr. Susan Burroughs, Chief Operating Office Kershaw Health Medical Center

**Academia (External)**

Dr. Paula Tillman Associate Professor, Health Informatics Program Coordinator, Georgia Southern University

Dr. Carla Sampson, Clinical Associate Professor, Director of Healthcare Programs, Robert F. Wagner Graduate School of Public Service, New York University

**Academia (Internal)**

Dr. Neset Hikmet

Dr. Songhua Xu

Dr. Forest Agostinelli

Dr. Homay Valafar

Dr. Kevin Lu

Dr. Elizabeth Reagan

Dr. Sudha Xirasagar

## Electronic Judges’ Scorecard

The judges will use this form to assess presentations; it will not be shared with teams.

Panel: Preliminary □ Final □

Member:

Member:

Member:

Team Number:

Date:

**Example guide to standardize scoring - Did the team successfully define the major and minor problems presented in the case? 20 POINTS**

|  |  |
| --- | --- |
| 17-20 points | The team clearly identified all the major and minor problems presented in the case. |
| 13-16 points | The team identified nearly all the major and minor problems presented in the case. |
| 9-12 points | The team identified the major problems but missed some of the minor problems in the case. |
| 5-8 points | The team missed some of the major and some of the minor problems in the case. |
| 1-4 points | The team missed most of the significant problems in the case. |

**Areas of Scoring**

## Organization and Presentation of Facts

* Were the essential facts of the case organized in a clear, understandable manner?
* Did the presenters have a good understanding of the data?
* Did the visual presentation effectively support the oral presentation?
* Were the presenters persuasive?

### Refrained from extensive recap of case

* ***Captured judges’ attention in first few minutes***
* ***Came across as credible***
* ***PowerPoint was clear, readable, appealing, creative, and incorporated in presentation smoothly***
* ***Presentation logically organized***
* ***Smooth transitions between sections***
* ***Recommendations were summarized in a persuasive conclusion***

/ 10 pts.

## Accuracy

* Were good, workable solutions presented?
* Did the presenters think “outside the box”?
* Did presenters conduct accurate and defensible analyses?
* Did the presenters develop viable models?
* Did the team identify the correct answers?

### Solutions were realistic and implementable and demonstrated understanding of the data

* ***Accounted for limitations with the data***
* ***Team identified potential issues with the data***
* ***Algorithms were justifiable***

/ 20 pts

## Relevance

* Was the information provided by the team relevant?
* Were the methods used non-redundant?
* Did the presenters articulate their findings within the context of the case?
* ***Solutions were non-redundant***
* ***Connected it to the big picture for responding health systems***
* ***Connected process for reducing inpatient hospitalizations***

/ 20 pts

1. **Case Objectives Met**

* Did the presenters address the issues as outlined in the case?
* Did the presenters answer all the case challenges?
* Did the presenters provide all deliverables?

o ***Addressed all deliverables***

o ***Provided clear visualizations***

/ 20 pts.

## Professional Appearance, online etiquette and timeliness

* Were the presenters professional in their appearance? Backgrounds professional? Sound adequate?
* Was the presentation free of errors?
* Was the delivery style effective (projected voices, good eye contact, persuasive)?
* Did the presenters exude confidence?
* Did the presenters complete their presentation on time?
* Was the team's presentation balanced among the team members?

### Delivery with visual aids were well-practiced with confidence

* ***Fluent, clear, audible delivery***
* ***Communicated effective non-verbally***
* ***Did not read from the screen***
* ***Overall presenters were confident, direct, and enthusiastic in their*** ***delivery***
* ***Team members supported each other; members shared time equally***
* ***Members displayed on equal amount of knowledge***
* ***Finished on time***

/ 10 pts.

## Ability to Answer Judges’ Questions

* Did the presenters answer questions concisely and accurately?
* Did the presenters anticipate possible questions and prepare possible responses?

### Worked together as a team to answer questions

* ***Accurately answered questions with supporting factual statements***
* ***Gave accurate and complete answers***
* ***Answered questions with confidence***

/ 20 pts.

## Comments:

## CASE SNIPPETS

## While the full case will be released during the lunchtime discussion on Friday, teams are asked to familiarize themselves with the problem.

## During this competition, you will be required to solve a data problem using real world inpatient utilization data. The problem is inappropriate hospitalizations (ambulatory care sensitive conditions (ACSC) or patient quality indicators (PQI)). But like in the real world, we will have practitioners and leaders from hospitals, government facing this problem judge you on your presentation.

## We strongly advise you to review both documents before Friday to familiarize yourself with the topic. Please note that this is only for context, this is “not” the final problem deliverable.

## 

## Here is also a very useful website to bring you up to speed on how important this problem is to the nation – read only the PQI’s for context. <https://www.qualityindicators.ahrq.gov/Default.aspx>

## See you on Friday!