

## 2017 Western Users of SAS Software (WUSS) Conference

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**Title (<250 characters):** “Modernizing and Integrating SAS and non-SAS Tools and Systems for Behavioral Health Data Collection, Processing, and Reporting”

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### **Authors Biography (<75 words):**

Manuel Gomez earned a BS in Mathematics, Major in Statistics (Havana University, Cuba) reaching extensive experience as Mathematics/Statistics professor, Social/Marketing researcher, and Statistical Analyst/Biostatistician in the Mental Health field. He attended various post graduate courses/trainings in areas of Demographic Analysis (Warsaw University, Poland); Sampling to Household Survey (Statistics National Institute, Madrid, Spain); Mathematical Biostatistics (John Hopkins University, Bloomberg School of Public Health, MD, USA); SAS (CA, USA), and iDashboards Cloud (CA, USA).

Dr. Joshua Morgan is San Bernardino County Department of Behavioral Health’s Chief of Behavioral Health Informatics. He is clinically trained in Dialectical Behavior Therapy and has published and presented on interfaith peacemaking and non-suicidal self-injury. Dr. Morgan earned his Bachelor of Arts in Religious Studies from the University of California, Berkley, and a PsyD (Doctor of Psychology) in Clinical Psychology with an emphasis in Family Psychology from Azusa Pacific University.

Keith Haigh is a Business Systems Analyst in the Research and Evaluation unit of San Bernardino County Behavioral Health. He is a Microsoft Certified System Engineer, received his Bachelor of Science degree in Business Management from San Diego State University and a Master of Public Administration in Organizational Leadership from National University.

## **Abstract (<250 words):**

Access to effective metrics for behavioral health program staff is vital for on-going monitoring of program efficacy, but making that data usable and accessible can be a challenge, especially when using legacy data systems. Modernizing data reporting and integrating data tools from disparate data collection and analysis systems can be a complex, challenging process, especially while trying to maintain support for on-going reporting used by non-technical program staff. Converting to new SAS analysis systems can be intimidating for non-SAS users, creating a barrier to the efficient production information particularly when older less efficient processes are already in place. This presentation describes the methodology used for integrating SAS, MS Excel, and a cloud-based dashboarding tool to best leverage different tools accessible to end users. This process included transitioning between old procedures using MS Access and static indicators versus utilizing a SAS Enterprise Guide (SAS-EG) Stored Process to obtain dynamic data. SAS-EG has been used to combine data from existing data collection methods to a robust data warehouse and then develop stored processes to improve the efficiency and accuracy of analysis. The SAS add-in for Microsoft Excel was also leveraged to increase accessibility of the data, including allowing non-technical staff to easily process results. The process includes the steps followed in Microsoft Excel through the SAS Add-Ins connection to upload the data for the corresponding tables and charts in a cloud-based dashboarding product.

## **Outline (working draft):**

### **1-Introduction: (Brief explanation)**

- Old procedure used to get key performance indicators thru MS ACCESS database

### **2-Development**

- 2.1-Creation of SAS-EG Project and Stored Process
- 2.2-Methodology Description
  - Run the Stored Process in a new SAS-EG Project (final table saved in SAS data library)
  - Connect Microsoft EXCEL spreadsheet and to the table saved (option Excel - SAS Add-In)
  - Report and present using tables & charts associated to the spreadsheet.
  - Example (Behavioral Health indicator: “Goals Reached for Closed Episodes” utilization of data warehouse and dashboard cloud procedures for reporting and presentation)

### **3-Conclusions**

- Old versus New methodology comparison (processing and reporting advantages)

### **4- Recommendations**

- Application of this methodology to obtain other key indicators (Behavioral Health or other fields)