1125-A0-805 **Brian M. Gurbaxani***, Office of the Associate Director for Science, Centers for Disease Control and Prevention, Atlanta, GA 30329. *Applied Mathematics and Statistics at the CDC - 2017 and Beyond.*

The Centers for Disease Control and Prevention is one of the world's premier public health agencies, employing about 14,000 people total, and about 300 as mathematical statisticians. Others who use applied mathematics in their day to day life at the CDC include economists, epidemiologists, mathematical disease modelers, and a very small number of engineers and operations researchers.

In this talk I will present just a small portion of the applied math, statistics, and engineering work done at the CDC, much of it from a personal perspective (things I have worked on), in an attempt to showcase the diverse applications of mathematics at the CDC – some even done by mathematicians!. The analytical methods employed range from "routine" statistics, to big data analysis and machine learning, to the more obscure wavelets and fractals. Moreover, I will showcase some of the work done by student groups as part of CDC's push to collaborate more with academic partners, most recently at the Georgia Institute of Technology. Many skills in big data analysis, encryption, high performance computing, smartphone apps, etc. are in need for the future growth of the CDC, skills that the CDC as an institution has largely not developed. (Received September 12, 2016)