Analytics helping humanity

There is widespread evidence that big data analytics helps achieve short- and long-term development goals around the world. As the global leader in analytics, SAS jumps at the opportunity to apply its cutting-edge technology and expertise to help solve some of society’s biggest problems such as poverty, disease, hunger and illiteracy.

SAS has always been an organization motivated by challenges to use its technology to build a better world. As the UN Sustainable Development Goals work to reduce inequalities and ensure healthy living, SAS seeks out opportunities where it can help create a brighter future for all. One of the ways that SAS supports this goal is through the Data for Good movement, which encourages using data in meaningful ways to solve humanitarian issues around poverty, health, human rights, education and the environment. From preventing life-threatening illnesses to protecting endangered species to rebuilding after natural disasters, organizations across the globe are harnessing data to make a difference. Applying data for social good has led to new and creative ways to address global issues.

GatherIQ™

With GatherIQ, SAS is bringing global issues into the classroom. The free app details 17 global Sustainable Development Goals set by the United Nations for a better world, and shows what organizations are doing to address them. Educators and parents can download the app to help students learn more about the goals, unlock donations for nonprofits working toward the goals and explore global issues through interactive data visualizations, quizzes and other multimedia activities.

“ZOE Empowers equips orphans with tools and training to overcome life-threatening poverty. When ZOE needed to showcase the effectiveness of its solutions, SAS helped to develop and conduct a systematic program analysis. We also promote our work and methodology through GatherIQ to bring awareness to the issues of and solutions to extreme poverty. Now, ZOE can show specific outcomes in each intervention area that can be used to improve the program and demonstrate measurable results with partners.”

Gaston Warner
Chief Executive Officer
ZOE Empowers
Preventing substance use disorder and overprescribing

To combat the ongoing opioid epidemic, the US Department of Health and Human Services (DHHS) published a toolkit for using prescription drug claims data to analyze patients’ opioid levels and identify those at risk of opioid misuse or overdose. The methodologies used to identify over-prescribers when applied to Medicare Part D data include the SAS® software code used by the DHHS Office of the Inspector General (OIG) in its extensive work on opioids.

Using SAS code, OIG found about 71,000 Medicare beneficiaries at serious risk of opioid misuse or overdose. The toolkit provides guidance on conducting data quality control checks, investigating patients with specific conditions and pinpointing at-risk patients. The code may be modified to fit the needs of different users and applied to state Medicaid data or a variety of other sources.

“"We can’t effectively fight the opioid problem if we don’t understand it. Data and analytics are critical to getting citizens the help they need, and thwarting the illegal trafficking of these drugs.”

Dr. R. Kirk Jonas | Director
National Governors Association
Center for Best Practices

Providing a smooth transition for military veterans

Each year, hundreds of thousands of service members transition back into civilian life. For many, this is a time of uncertainty around establishing a new career and securing needed resources and support for a successful transition. Launched in 2011 at Syracuse University, the Institute for Veterans and Military Families (IVMF) is committed to advancing the lives of these veterans and their families. The institute uses SAS Analytics to drive programs and operations, enabling greater insights into impact on those it serves. With a central analytics and data management platform, the IVMF can generate and distribute insights more quickly across the organization and to stakeholders and partners. This has allowed the staff to focus on more strategic best practices for their data management and reporting efforts, helping to drive decision making with strong measurement and evaluation.

“One of the obligations we have when they take off that uniform should be to knock down as many barriers as possible. Everything we do at the IVMF is about knocking down those barriers, and SAS is key to this mission.”

Dr. Mike Haynie | Executive Director | IVMF
Shifting perception of suicide through advanced analytics and artificial intelligence

Suicide is the leading cause of death for Australians aged 15-44 years. Determined to understand and slow this horrific trend, the Black Dog Institute introduced LifeSpan, a new approach to suicide prevention. Black Dog’s research found that previous approaches to suicide prevention were fragmented and often not based on solid evidence. This came as LifeSpan itself was grappling with disparate data sets from emergency services, health services, universities and government agencies. SAS helped Black Dog Institute implement an analytics framework for evaluating the success of its suicide prevention initiative. By applying analytics, LifeSpan now has unprecedented data quality and the ability to measure the program’s impact across trial sites. As the program matures, text analytics and data mining will be applied to 1,000 new media articles a month, enabling LifeSpan to measure the evolution of media coverage on suicide, and track whether its efforts have shifted the perceptions of suicide across trial sites.

“Right now, we have the best-quality suicide data available in Australia, ever. It hasn’t been available at this level of detail before. Until now, we haven’t had the knowledge of where suicide incidents are occurring, when they are occurring or how, to the level of precision and accuracy that we do now.”

Helen Christensen | Director and Chief Scientist
Black Dog Institute

Using artificial intelligence to help protect endangered species

WildTrack identifies and monitors endangered species by analyzing animal footprints. Working with SAS software and employees, WildTrack is exploring how artificial intelligence and crowd-sourced footprint data from all over the world could help find answers to global conservation questions. This machine learning process also helps to further improve and enhance SAS software that can be used for other conservation efforts.

“Our challenge is how to harness artificial intelligence to create an environment where there’s room for us, and all species in this world.”

Sky Alibhai | Director and Co-Founder | WildTrack
Removing roadblocks for cancer patients with analytics

Founded in 2008, the Latin American Cooperative Oncology Group (LACOG) is a nonprofit research group, the first multinational cooperative group in Latin America exclusively dedicated to clinical and translational research in cancer. The network of 250 Brazilian and Latin American medical researchers – oncologists, radiotherapists and other specialists among them – conducts studies at more than 150 hospitals in 15 countries.

With the use of SAS, LACOG generates scientifically based real-world data that spans the entire patient journey, from diagnosis through treatment to mortality or survival beyond treatment. Since 2015, LACOG has generated data profiles representing nearly 4,000 patients, helping identify known roadblocks to optimal care, such as poor access to treatment, medication and preventive care. Such insights enable clinicians to better serve patients, facilitate the development of new techniques and technologies to improve cancer care, and even affect public policy.

“Often, in the treatment of various types of cancer, data from developed countries are applied to local patients. Our work makes it possible to analyze data directly related to Brazil and the countries of Latin America, bringing research much closer to our reality.”

Gustavo Werutsky, MD
General Director of LACOG
and an oncologist
Pontifical Catholic University of Rio Grande do Sul

Using smart algorithms to help treat babies

Universitair Medisch Centrum (UMC) Utrecht, a leading international university medical center, wanted to put 10 years of patient data to good use, so they started the Applied Data Science in Medicine (ADAM) project. With ADAM, UMC Utrecht uses the well-known approach of large-scale data analysis to ensure that it chooses the treatment that is most beneficial to a specific patient. The Big Data for Small Babies was one of four projects within the ADAM program that was seeking to answer whether it was possible to proactively treat or even prevent an infection in premature babies using data analytics.

By using SAS to access, analyze and visualize the data, the team developed a smart algorithm that discovered 60% of the babies were treated unnecessarily with antibiotics. Also, the model that was developed had an accuracy of 90% in forecasting the presence of the bacteria that causes sepsis.

“The aim is to develop multiple models in SAS in order to better inform parents, provide the best possible health care for babies for a better long-term neurodevelopmental outcome and to eventually apply it to other intensive care departments.”

Manon Benders
Professor and Head of Neonatology
UMC Utrecht