The State of the Modern Health Care Industry in the 21st Century:
TECHNOLOGY AND BUSINESS INTELLIGENCE LEADS THE WAY
In the last few decades, the world has changed as we know it—in large part due to the computerization of data and the surge of digital technology. Today, nearly every facet of our lives is influenced by technology, from shopping online to the way we interact with coworkers around the country and the globe. In the Information Age in which we live, technological developments have infiltrated most industries.

One industry that has been drastically impacted by technology is health care. Legislation calling for the transition to electronic health records and pay-for-performance initiatives has turned the industry upside down, but in addition, certain business intelligence tools have emerged as highly beneficial for health care. Front and center: geographic information systems, better known as GIS.

GIS tools provide dynamic data visualization resources to hospital systems, governmental agencies and throughout the health and human service industries improving their overall strategic decision-making processes. These organizations are better able to understand the geographic relationships that affect health outcomes, public health risks, disease transition, access the health industry and more.

GIS is used in many different capacities, including the following:

- As a tool to study patient density patterns when studying disease distribution.
- To match the location data of health care providers, facilities and services with populations in need.
- To understand health outcome data, including relative epidemiology incidence and health facilities data.
- To analyze geographic populations to determine what areas need to be targeted for health care improvement.
- To analyze uninsured and low-income populations and offer access to programs that provide financial support or low-cost services.
- To analyze and visualize clinical data for efficiency and organizational performance improvements.
- …and much more.

GIS has quickly become an important tool for contemporary health care organizations striving to run their organizations more efficiently and effectively. And while some organizations are using GIS to its full potential, many others continue to seek additional opportunities to apply geospatial tools and concepts. One thing is certain: the use of GIS in the health industry is growing rapidly and offers ample career opportunities.
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What GIS Does for the Health Industry

There are an endless number of applications in which GIS technology can be used to improve the health industry. Here are a few examples:

**IN THE HOSPITAL ENVIRONMENT**

In today’s modern health landscape, quality of service is a top priority—and a hot topic among political leaders, health executives, patient services and everyone in between. Geospatial and geographic information enables hospitals and health services organizations to determine the best location for new facilities, track infectious diseases such as MRSA within hospitals, mapping of electronic bed board technology, facility management and tracking of equipment, and more. Hospital systems can then greatly improve their efficiency and quality of service.

Technologies like Fujitsu’s infrared smartphone thermometer are ideal for GIS applications. Due to these kind of advancements, health trends can be more efficiently identified by data visualization and mapping, which subsequently improves patient care.

**IN PUBLIC HEALTH ORGANIZATIONS**

Organizations such as the Centers for Disease Control and Prevention (CDC) and the World Health Organization (WHO) rely on GIS tools to collect and analyze data about disease outbreaks, interpret patterns of diseases, model existing populations to determine community health needs and observe long term health needs to help make decisions about how to manage health situations today and in the future.
IN HUMAN SERVICES ORGANIZATIONS
Human services agencies such as the Supplemental Nutrition Assistance Program (SNAP) use GIS to identify people in need and share information and services with those individuals—and policy makers in their states—that can give them access to resources that will help them improve their overall health and quality of life.

IN MANAGED CARE
Managed care organizations use GIS in all kinds of ways—from studying market demand for health services, to determining the health services needs of an employer’s staff to understanding the needs of Medicare and Medicaid patients.

GIS analytics can reveal patterns in specific neighborhoods. Where average life expectancy in a state might be 77 years old, GIS analytics might show that in a particular neighborhood, it is just 65. Such information can help administrators in planning.

Source: Esri.com, the largest provider of GIS resources and tools.
The Health Industry’s Increasing Need for GIS Insight

Without a doubt, GIS is growing significantly and the health industry in particular is seeing an increased demand for professionals with GIS knowledge. SDLC Partners, a business intelligence consulting firm, says the modern health industry has a deepened interest in GIS and its ability to analyze items such as:

- Demographic information
- Access of certain populations to programs and services
- Health care facility locations
- Community resources
- Disease prevalence

Why is the result of these GIS uses becoming increasingly important? Higher demand for GIS capabilities among those professionals already in the industry and those joining health services from other industries.

The High Growth Job Training Initiative indicates that the health services sector is an area where geospatial technology skills are needed. That increase in GIS in health care means that more professionals will need training and higher-level education on how GIS can solve health problems and offer new insights.
Job Outlook

*Forbes* says that “no segment of the economy has withstood downturns and uncertainty better than hospitals, offices of physicians, home health care providers and the other industries that make up the health care sector.” (November 2013)

Without a doubt, the health and human services industry is strong and growing. It is projected to create 28 percent of all new jobs and grow by 33 percent between 2010 and 2020. As this industry increases its reliance on geospatial technologies, the future also looks promising for GIS professionals.

Here are just a few of the types of positions that center on GIS in the health industry:

- GIS Health Care Technician
- GIS Health Care Analyst
- GIS Health Care Specialist
- GIS Health Care Manager
- Senior GIS Health Care Analyst
- Senior GIS Health Care Manager
- Senior GIS Health Care Coordinator
- Senior GIS Health Care Developer
About American Sentinel University

American Sentinel University is a leading online university accredited by the Accrediting Commission of the Distance Education and Training Council (DETC), a recognized member of the Council for Higher Education Accreditation. We offer accredited programs in the high-demand health care field, including informatics and technology, management, nursing and geographic information systems (GIS).

OUR GIS PROGRAMS

American Sentinel offers four GIS programs:

- **Associate of Science Geographic Information Systems** – Provides students a foundation in cartography, GIS software, and GIS concepts and techniques. This degree is 100% transferrable to American Sentinel’s B.S. GIS program. 60 credit hours; 20 courses

- **Bachelor of Science Geographic Information Systems** – Prepares students to analyze, interpret and communicate spatial data sets to a wide audience. 120 credit hours; 40 courses

- **Master of Geospatial Information Systems** – Teaches professionals to apply geospatial technologies and visualization strategies to real-world systems for modern-day problem-solving. Choose from two program options:
  - **COURSE TRACK**: Five core courses, six elective courses and one project course.
  - **PROJECT TRACK**: Five core courses, four elective courses and a three-course project.
  36 credit hours; 12 courses

- **Geospatial Information Systems Graduate Certificate** – Focuses on the real-world use of geospatial information to address organizational challenges. Students may transfer the GIS certificate into the Master of Geospatial Information Systems. 15 credit hours; 5 courses
We encourage you to use this worksheet as a tool to help with your decision. Please print this page to use as you continue your educational research.

| Innovative and timely GIS curriculum designed to teach the foundational skills and knowledge necessary to incorporate and effectively use geospatial applications and tools in the workplace. | American Sentinel University | School 2 | School 3 |
| Provides working knowledge of ArcGIS software and other GIS related tools used in developing and implementing geospatial strategies. | ✓ | | |
| Flexibility and convenience of online learning. Designed for the working professional. | ✓ | | |
| Engaged, expert faculty who are thought leaders in the GIS sector. | ✓ | | |
| A dedicated student success advisor. | ✓ | | |
| Complimentary student success resources. | | | |
| • New Student Orientation | | | |
| • Monthly archived webinars and workshops | | | |
| • Complimentary tutoring | | | |
| • Virtual library and writing coaches | | | |
| • Career Center | | | |
| Prior learning credit for professional certifications and work experience. | ✓ | | |
| Classes start monthly. | ✓ | | |
| Tuition Rate Lock-In Program. | ✓ | | |
| Duration of classes. | 8-weeks | | |
| Affordable cost per credit hour. | $400 (Associate & Bachelors) | | |
| | $490* (Master's and Certificate) | | |
| | *Lower rates for military. Learn more at www.americansentinel.edu/military | | |
| General Education Grant. | | | |
| • American Sentinel covers tuition for general education courses required for a student's degree plan, at a greatly reduced cost of $125 per course | | | |
| • Provides up to $10,750 of savings off general education requirements | | | |
| • No application, no competition with other students, no limit to the number of grants | | | |
| My dedicated admissions advisor's name. | | | |
| My dedicated admissions advisor's phone number. | | | |
| My dedicated admissions advisor's email. | | | |
| Next steps. | 1. | | |
| | 2. | | |

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How Can We Help?

If you have been considering entering the health field or furthering your GIS career in the health and human service industry, pursuing additional education may be the boost that your resume needs.

We know you may have questions about what to look for in a GIS certificate or degree program. Perhaps you are just beginning your research on the current health landscape and the role of GIS in this fast-changing industry.

If you have questions about GIS, the modern health industry landscape or how an advanced education can benefit you in your career, call the admissions team at American Sentinel University. We’re here to help.

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