

# Writing the headlines of tomorrow



- On August 14, 2010, a headline on the front page of the *New York Times*<sup>1</sup> read “Pharmacists do more than count pills.”
- The story begins:
- “Eloise Gelinas depends on a personal health coach. At Barney’s Pharmacy, her local drugstore in Augusta, Ga., the pharmacist outlines all her medications, teaching her what times of day to take the drugs that will help control her diabetes.”

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- **2013 Rho Chi Lecture: Writing the Headlines of Tomorrow**
- **Joseph T. DiPiro, PharmD** South Carolina College of Pharmacy, Columbia, South Carolina
- 

Read More: <http://www.ajpe.org/doi/full/10.5688/ajpe77592>

65% of North  
American mothers  
use 5 or more forms  
of technology every  
day

By analyzing and tying together massive amounts of information, we can change the way we conduct business, manage healthcare, work in the world of agriculture or manage energy consumption.

# In the December 15, 2012, edition of the *New York Times*



The statistics around mobile technology are, of course, well known, but worth repeating:  
It took two years for Apple to sell 2 million iPhones.  
It took 2 **months** for them to sell 2 million iPads!  
It took 1 month to sell 1 million iPhone 4's!  
It took 1 day to sell 1 million iPhone 4s  
it's estimated that Apple sold 5 million iPhone 4s's in the first 4 days of release

on the editorial page, the headline read

**“When the doctor is not needed”**

and it goes on to describe the potential for pharmacists (and other health professionals) to fill the big gap in primary care.

It talks about how pharmacists are underutilized given their education, training, and closeness to the community

Read More:

<http://www.ajpe.org/doi/full/10.5688/ajpe77592>

# National Public Radio a nationally broadcast story was headlined



MiniME device is the future of healthcare, says Ergonomidesign

- “Why The Hospital Wants the Pharmacist to Be Your Coach.”
- It talked about how hospitals are partnering with community pharmacies to help keep patients out of the hospital by managing their medications.

Read More:

<http://www.ajpe.org/doi/full/10.5688/ajpe77592>

78% of consumers are interested in mobile health solutions

Medical and health care apps are 3rd fast growing category for iPhone and Android phones

The Apple App store now has 17,000 health care related apps

60% of which are aimed at the consumer

<http://www.pdesigni.com/news/show/1468>

# Some of the future headlines can be



- “Pharmacists clinical services become a standard in health care” or
- “Retirees demand medication therapy management by pharmacists” or
- “Pharmacists play major role in designing drug treatment regimens using genomics.”
- And even the possible negative headlines, such as
- “Importation and automation lead to demise of the pharmacy profession.”

Rapid technological development and relentless innovation are the two key trends that will provide for a forthcoming **massive transformation** of our health care system.

Read More: <http://www.ajpe.org/doi/full/10.5688/ajpe77592>

<http://www.jimcarroll.com/tag/health-care/#.Uby6Rti20uJ>

# Vision for Future Pharmacy practice



- *“Pharmacists will be the health care professionals responsible for providing patient care that ensures optimal medication therapy outcomes” and “Pharmacists will have the authority to manage medication therapy and will be accountable for patients’ therapeutic outcomes.”*
- Vision foreseen by Joint Commission of Pharmacy Practitioners.



THE FUTURE  
OF PHARMACY IS HERE.

COP at USF

Read More: <http://www.ajpe.org/doi/full/10.5688/ajpe77592>

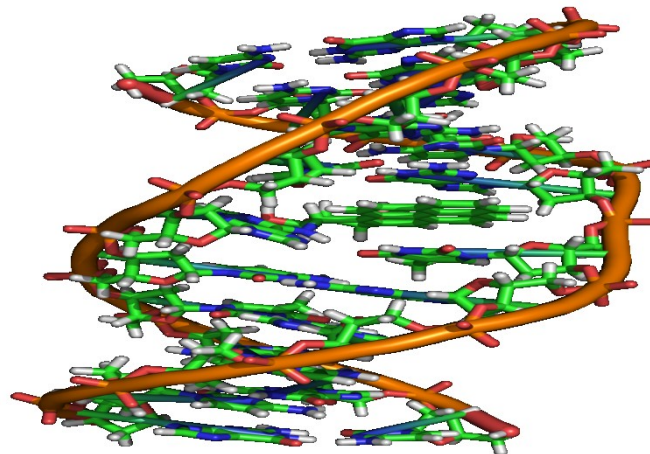


# Changing face of Pharmacy Profession and Practice in USA

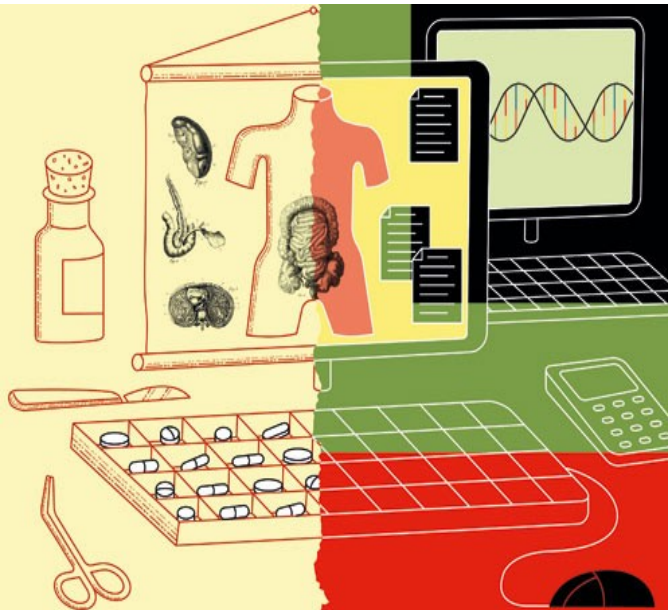


- As noted by Dr. Dennis Helling upon receiving the 2013 Remington Honor Medal,
- “If you don’t like change, you will like irrelevance even less.”

- Helling DR. 2013 Remington Honor Medal Address.
- <http://www.pharmacist.com/dennis-k-helling-receives-remington-honor-medal-highest-honor-pharmacy>. Accessed June 8 2013.



# The landscape of the healthcare industry will undergo historic transformation in 2013 onwards



- Five Major healthcare Trends:
  - **1. Increased demand in healthcare staffing**
  - **2. Industry preparation for the ACA**
  - **3. The digital age meets the masses**
  - **4. More opportunities for specialty training.**
  - **5. Focus on consumer awareness and preventative care**

- <http://www.supplementalhealthcare.com/blog/2013/5-major-healthcare-trends-2013>



# Changing technology

## Technology is changing how

- Physicians **practice**
- Patients **learn & do**
- Caregivers **assist**
- Institutions **manage**



# Major Digital Changes

## #1: MOBILE

*(mHealth, apps, self-care, remote monitoring...)*



# Tablets and iPads

Digital Health: **Mobile**



**Tablets**  
*(iOS, Android etc.)*



# FITBIT Tracker

Digital Health: **Mobile**



**Fitbit Tracker,  
wireless-enabled  
wearable data  
measuring device**

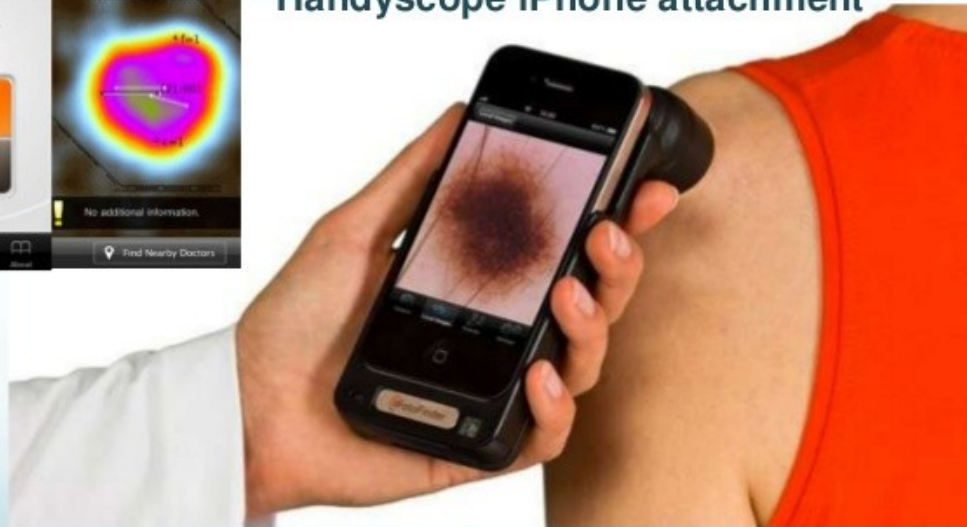


# Skin Scan applications

Digital Health: **Mobile**



Skin Scan app with an  
Handyscope iPhone attachment



# iTriage applications

Digital Health: **Mobile**

iTriage apps





# Head set EEG hack

Digital Health: **Mobile**

Nokia N900 and Emotiv EPOC neuro headset EEG hack



# Quiet care remote monitoring systems

Digital Health: **Mobile**



## #2: BIG/OPEN DATA

(EHR, EMR, "cloud", dashboards...)



## Digital Health: **Big/Open Data**

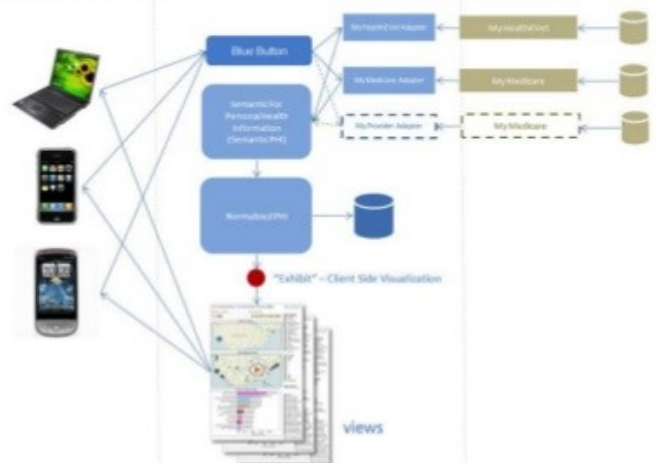


### Verizon Universal Identity Services (UIS) for healthcare

# Easy Personal health data download

## Digital Health: Big/Open Data

### Architecture



### Blue Button personal health data download initiative

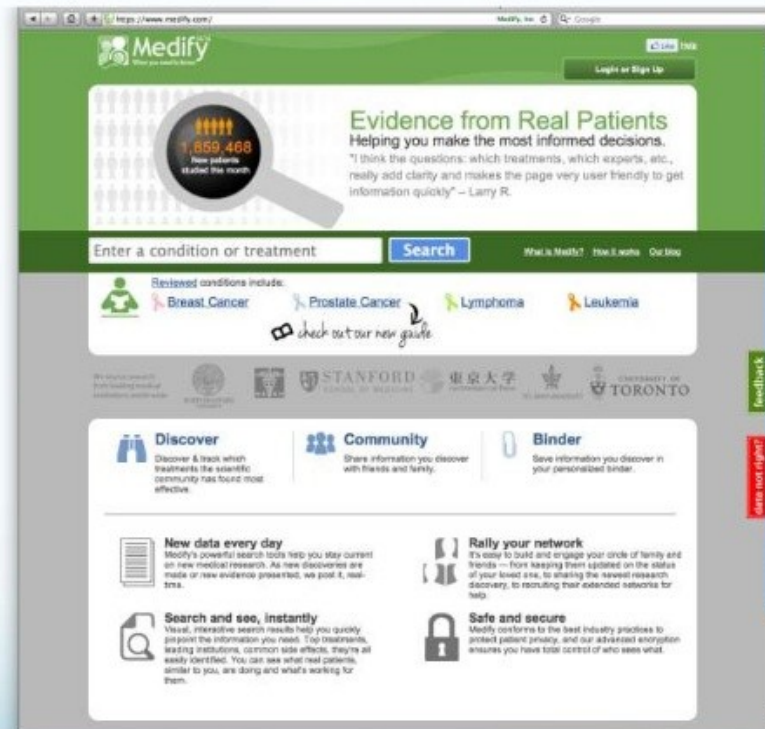




# Medical and research database

## Digital Health: Big/Open Data

Medify medical research and treatment information database



# Digital health gaming

## Digital Health: **Gaming**



**Humana Games for Health**

# Interactive products

## Digital Health: Interactive Products

**Mobile scanning  
(NFC, QR codes,  
barcode scanners,  
Microsoft TAG etc.)**



# Video: tele health, telemedicine

## #5: VIDEO (telehealth, telemedicine...)





# Social media

## #6: SOCIAL

*(social commerce, networks, organizations, e-Patient...)*

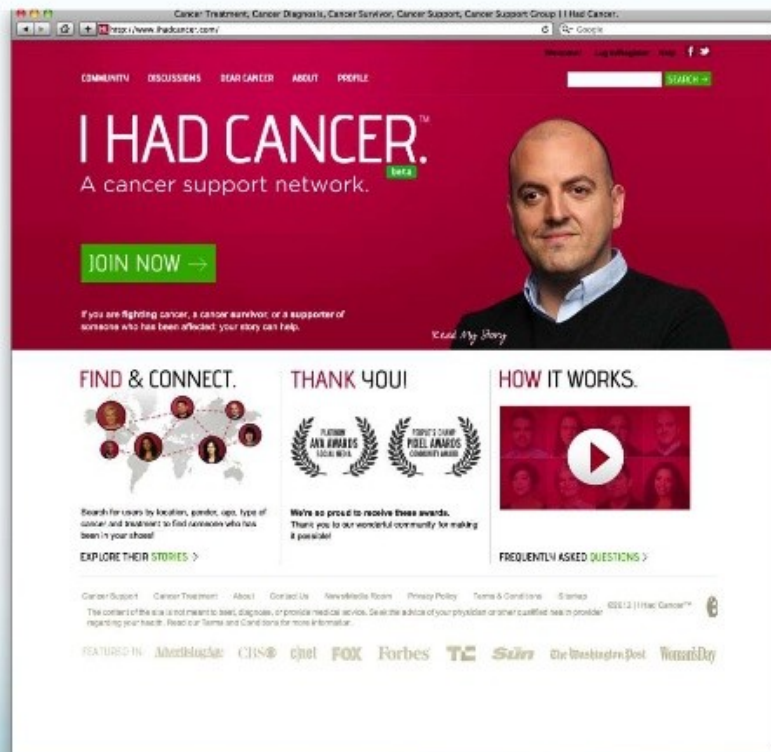




# Community websites for health information and sharing

Digital Health: **Social**

IHadCancer.com  
community website



# Web based Social meeting groups

Digital Health: **Social**

**Meetups.com groups**

The screenshot shows the Meetups.com interface for searching 'Epilepsy Meetup Groups'. At the top, there are navigation buttons: 'Meetup', 'Find a Meetup Group', 'Start a Meetup Group', and a 'SAVE 50%' badge. Below the navigation is the title 'Epilepsy Meetup Groups' and a description: 'Meet with other local Epileptics to foster support and awareness for this disease. Friends and family members are also welcome.' A map of the United States and Europe is displayed with several red location pins. Below the map is a summary table with the following data:

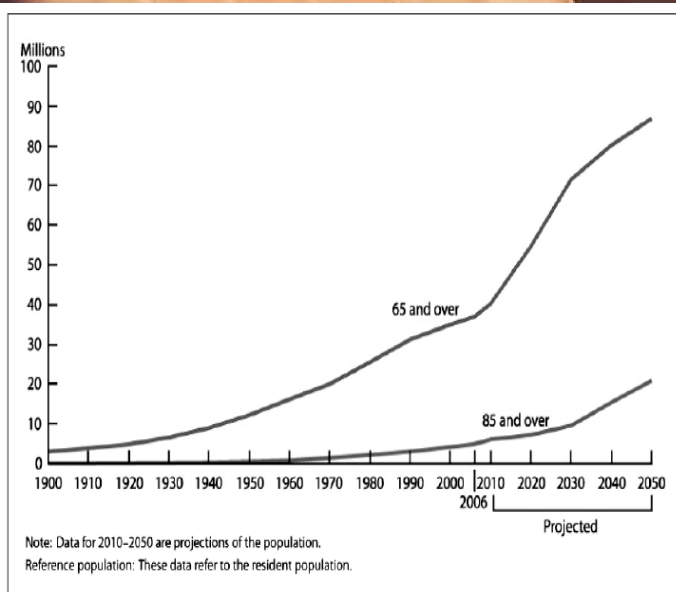
Groups	Members	Interested	Cities	Country
10	510	459	10	1

Below the table, there is a section for 'Related topics' listing: Seizures, Epilepsy Women's Group, People with Epilepsy, Epilepsy Friends Network, Epilepsy Men's Group, Epilepsy and Seizures in Our Community, Dealing With Epilepsy At Work, Natural Healing for Epilepsy, Epilepsy Fundraising, Epilepsy and Depression. The map is powered by Leaflet.

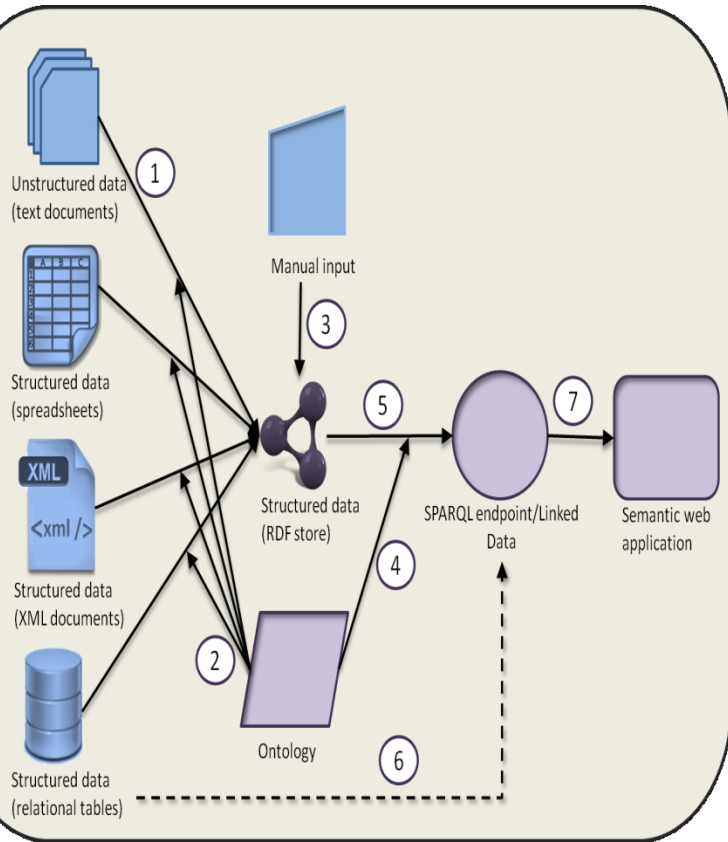
# Geriatric Pharmacotherapy : A forthcoming challenge to pharmacy profession



- The older population--persons 65 years or older--numbered 39.6 million in 2009 (the latest year for which data is available).
- They represented 12.9% of the U.S. population, about one in every eight Americans.
- By 2030, there will be about 72.1 million older persons, more than twice their number in 2000.
- People 65+ represented 12.4% of the population in the year 2000 but are expected to grow to be 19% of the population by 2030.
- [http://www.aoa.gov/Aging\\_Statistics/](http://www.aoa.gov/Aging_Statistics/)



# Bio-informatics : the unavoidable alternative for enormous data and its application

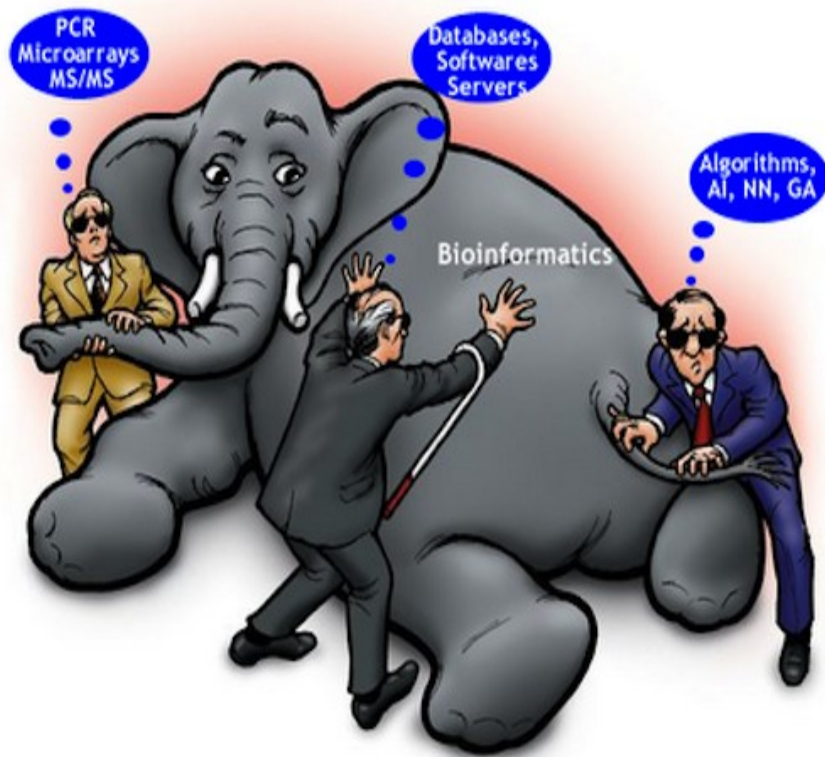


- The research found the following:
- Bioinformatics tools and services have important roles to play in all aspects of drug discovery and development as they help to design drugs, predict drug metabolism and toxicity, and model drug-gene or drug-protein interactions.
- In the post-genomic era, gathering biological information is no longer a bottleneck for scientific researchers. The major hurdle remains in the efficient organization, analysis, and interpretation of the data. The establishment, maintenance and open access of large datasets has been important in driving this field forward, as they have allowed researchers throughout the world to find new ways to analyze and interpret information into new knowledge.
- <http://www.healthcareitnews.com/news/bioinformatics-grows-billions>

<https://www.google.com/search?q=bioinformatics+an+unavoidable+for+health+care&source>

# Bio-informatics : the unavoidable alternative for enormous data and its application

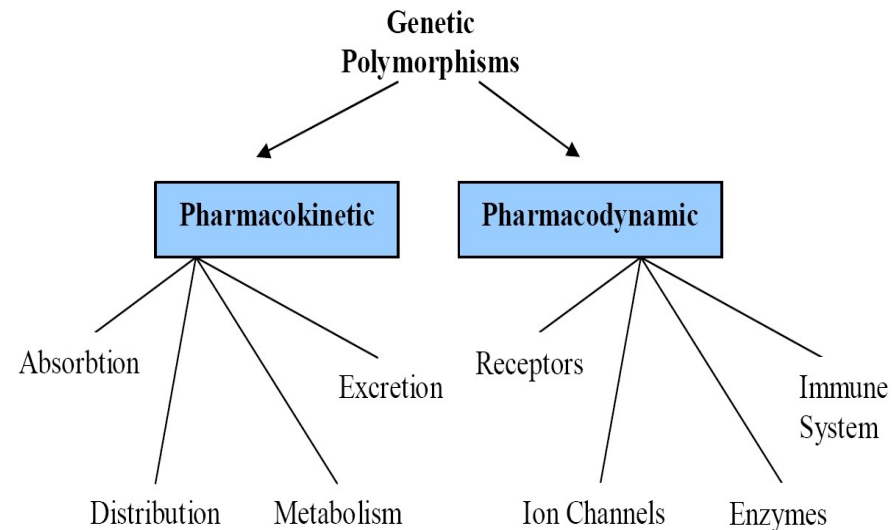
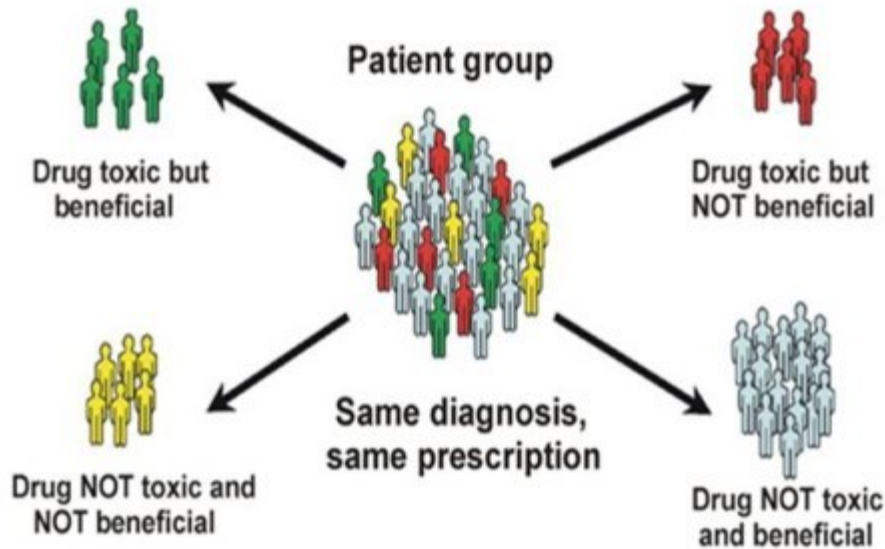
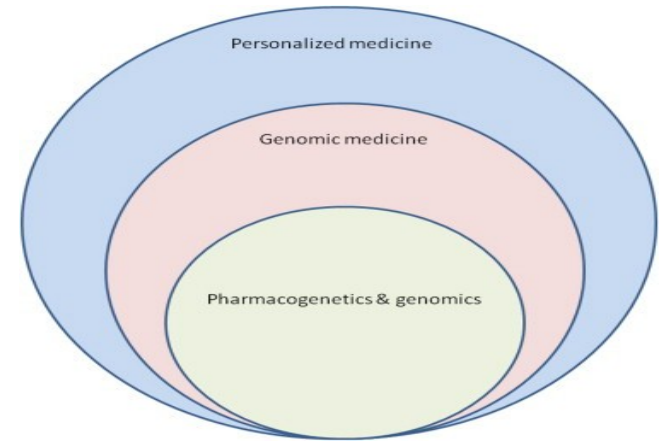
- The research also found the following:
- Raw data is meaningless without context. The ultimate goal of bioinformatics is to extract knowledge from large-scale data. There are currently hundreds of software tools available online, many of which were developed by leading academic institutions and are freely available, enabling researchers to undertake sequencing, alignment, structure, and function analysis for a range of biological data.
- More data is being collected than can be physically stored; the storage gap is widening, and selecting which data to archive has become a major issue. During the last 30 years, IT infrastructure has become more integrated, and it has rapidly evolved from a computer cluster model to a **cloud computing** platform that allows computational capacity to be purchased as a service from a cloud computing provider.





# Pharmacogenomics : leading to personalized medicines

In pharmacogenomics, genomic information is used to study individual responses to drugs

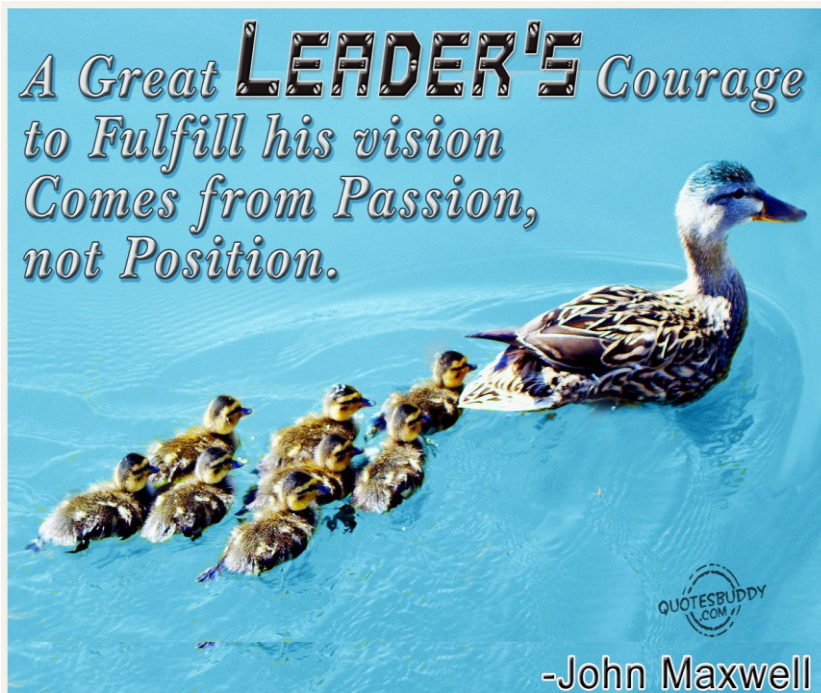


Genetic variability leading to susceptibility to adverse drug reactions can affect both pharmacokinetic and pharmacodynamic pathways.

# Leadership has no alternative : let us learn to take the challenges of forthcoming changing scenario

Innovation distinguishes between a leader and a follower.  
*Steve Jobs*

- Leadership is solving problems.
- The day soldiers stop bringing you their problems is the day you have stopped leading them.
- They have either lost confidence that you can help or concluded you do not care. Either case is a failure of leadership.
- *Colin Powell*



No man is good enough to govern another man without that other's consent.

*Abraham Lincoln*

<http://quotes160.blogspot.com>

# How can pharmacist capacity is further developed and integrated into the US healthcare system:



- Continual improvements to doctor of pharmacy (PharmD) training will be needed, especially the development of team-based, inter professional training that will help health care providers learn about and experience team-based patient care.
- The rate of discontinuance of some community pharmacy business models and the adoption of new business models that could help pharmacists fulfill their potential in the health care system should be monitored.
- Pharmacy practice acts and other health profession practice acts (that define scope of practice) should be updated on an ongoing basis to reflect and accommodate new roles for health professionals and for team-based care.

Read More:

<http://www.ajpe.org/doi/full/10.5688/ajpe77591>

# How can pharmacist capacity is further developed and integrated into the US healthcare system:



- Significant efforts should be made regarding the alignment of payment policies for not only supporting new pharmacist roles and services, but also to provide adequate payment for the providers of these services and evidence of cost-effectiveness for the payers of these services.
- The potential for flexibility in medical/health care home designs to create innovative and responsive practice structures that integrate pharmacist expertise in medication therapy coordination and management under varying geographic regions, practice setting types, and patient population types should be explored. Balancing such flexibility with the need for standards of care is a challenge that needs to be addressed in the reforming healthcare system.
- Access to necessary patient health and treatment records to support and inform patient care service and decision-making functions should be secured for all members of collaborative healthcare teams, including pharmacists.

Read More:

<http://www.ajpe.org/doi/full/10.5688/ajpe77591>



# How can pharmacist capacity is further developed and integrated into the US healthcare system:



- Discussion should take place regarding bundling pharmacists' services into "episodes of care." By packaging related services together in a way that supports high-quality, lower-cost care, providers, payers, and patients could begin to view episodes of care as a unified patient care experience rather than a series of disparate services.
- Efforts should be undertaken to educate US health consumers' regarding pharmacists and the roles they play in health care so that consumers have an accurate view of phamacists' true capacity for patient care.

From: **Finding a Path Through Times of Change**,  
**Katherine Knapp, PhD,<sup>a</sup>** and **Jon C. Schommer, PhD<sup>b</sup>**

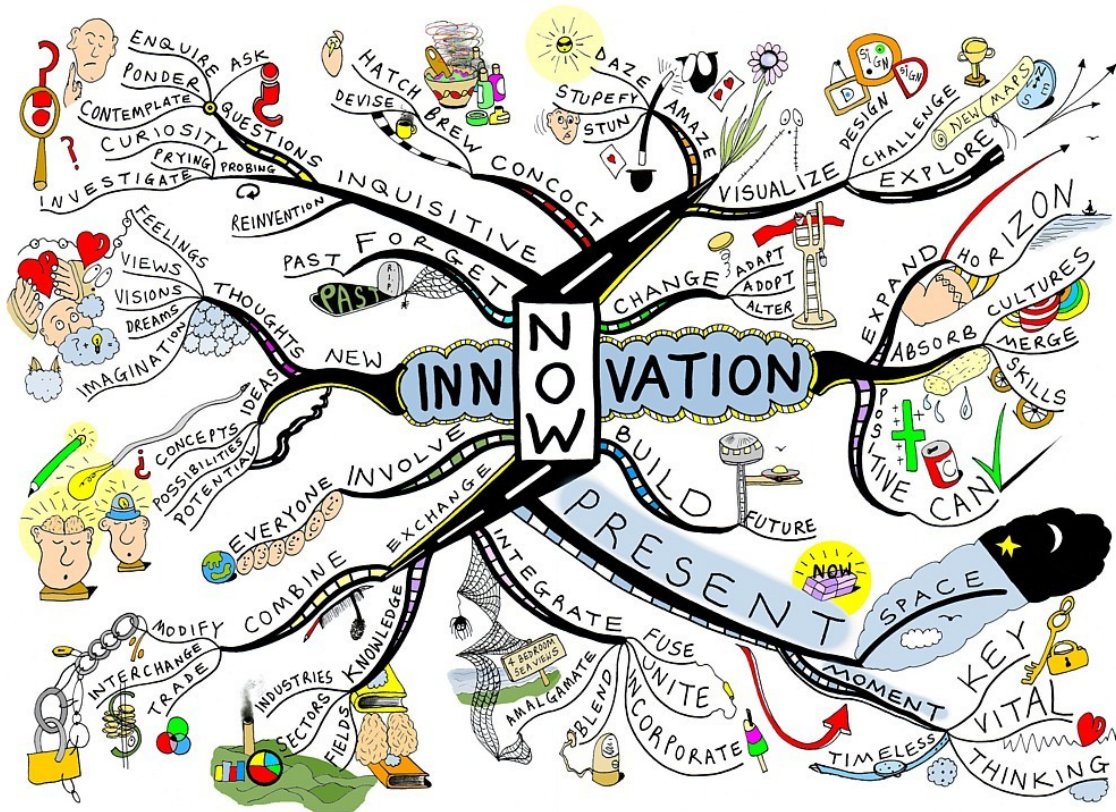


Read More:

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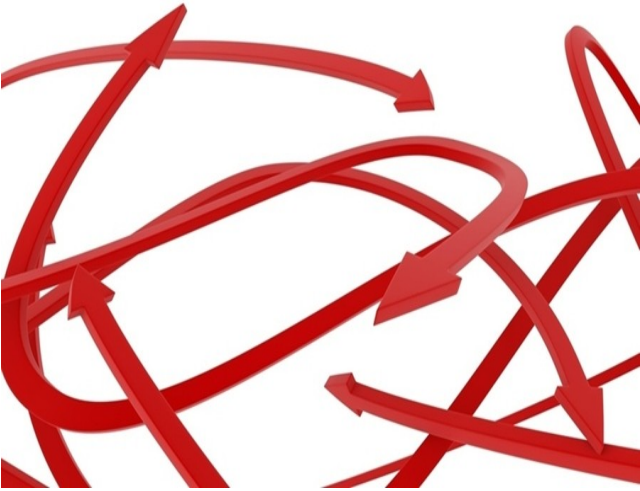
# How College of Pharmacy at USF is Different and addressing these challenges



- Empowered by innovation



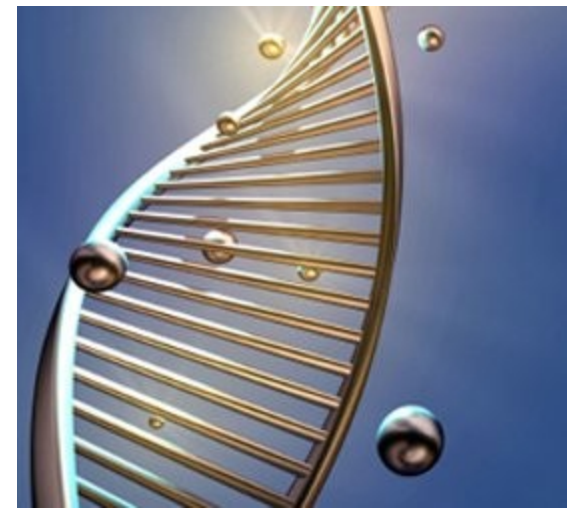
# How College of Pharmacy at USF is Different and addressing these challenges



Boldly shaping tomorrow



Creating DNA for change





# Mission of College of Pharmacy , USF



- The mission of the University of South Florida College of Pharmacy is to develop outstanding pharmacist clinicians that provide educational, preventive, and therapeutic pharmaceutical care services to patients, communities, and health care providers with foundational principles based upon innovation, leadership, achieving inter professional collaboration, application of clinical evidence, and life-long learning values.

# Vision of College of Pharmacy



- **The University of South Florida College of Pharmacy will create an academic and clinical learning environment known for:**
- Producing outstanding pharmacist clinicians trained in advanced healthcare principles to provide exceptional patient-centered care
- Creating an inter professional academic healthcare environment that respects the significant contributions of pharmacists within the healthcare team
- Implementing patient-centered learning models for our faculty and students based on the active application of advanced technology
- Providing a collegial and nurturing environment where students will incorporate principles of life-long learning into their continued professional development and clinical pharmacy practice
- Developing cutting-edge research in pharmaceutical sciences, drug discovery, clinical translational research, and clinical trials participation
- Recognition of the need and develop strategies to provide community outreach to underrepresented and underserved communities



# PRACTITIONER EXCELLENCE

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# Goals of College of Pharmacy USF

- Create pharmacist clinicians to provide high-level pharmaceutical care services in various clinical and business arenas
- Strive to create clinicians that are trained in the most advanced medication therapy modalities encountered in the delivery of healthcare, with emphasis on aging populations
- Development of professionals recognized for their leadership abilities in various healthcare settings
- Enhance access by practicing pharmacy and healthcare clinicians to academic pharmacy resources through research opportunities, clinical activities, and continuing education
- Create a diverse learning environment for students and faculty
- Utilize emerging technologies for advanced learning opportunities for faculty, students, and healthcare professionals.
- Create outreach opportunities for students and faculty to serve in underrepresented and underserved communities
- Develop a system that strives for continuous assessment and improvement of teaching, clinical, and research activities to ensure the achievement of the mission, vision, and strategic initiatives.



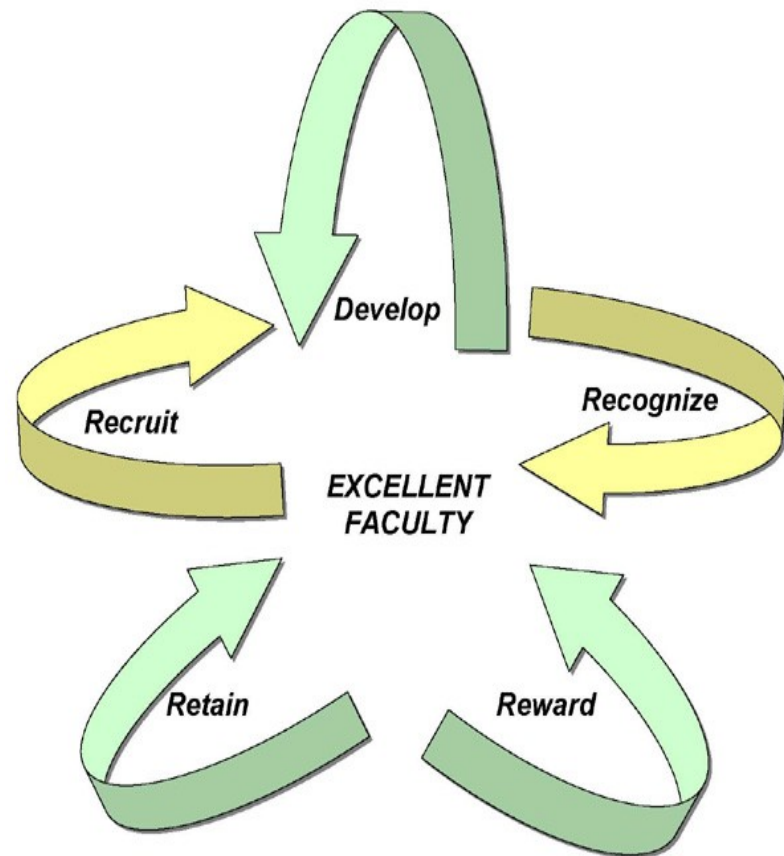
# What College of Pharmacy can offer to School of Pharmacy in Ibero American Countries



- Study material development:
  - Curriculum development
  - Teaching tools development
  - Sharing the experience
  - Explore the possibility of sharing the teaching using either video or electronic media
  - Help in procuring the study materials books, PPT, case studies and other to enhance the learning

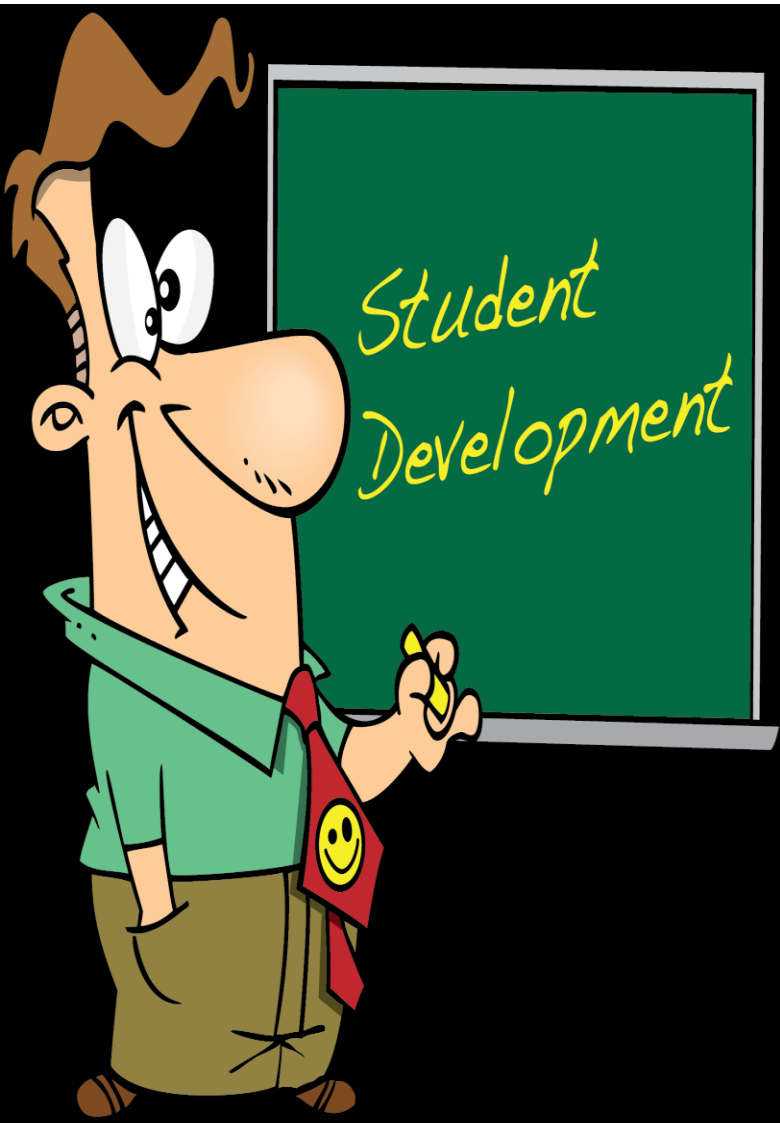
# What College of Pharmacy can offer to School of Pharmacy in Ibero American Countries

- Faculty development :
  - Provide and share our expertise in faculty development programs
  - Create modules for faculty development
  - Possible exchange of faculty from both the institutions enriching the experiences
  - Collaborative research opportunities mutually beneficial to both the institutions
  - Introduce to Center for innovation and transformation to Ibero American Countries





# What College of Pharmacy can offer to School of Pharmacy in Ibero American Countries



## Opportunity for Liberian Students

- Possibly create a social media avenues to share with COP students and student organizations at USF Tampa such as Facebook page and Use as many electronic tools to improve and establish relationship between students of two institutions
- Possibly explore providing opportunity for clinical rotations and participating in the learning process at USF
- Possibly propose collaborative conference for students
- Exchange opportunities
- Encourage USF students to visit and work in Ibero American Countries for a clinical rotation and possibly participate learning here



# What College of Pharmacy can offer to School of Pharmacy in Ibero American Countries



- Need to make an assessment and see how we can help in Continuous education of Pharmacists who are practicing in Ministry of health and Social Welfare In Ibero American Countries
- Explore using modern technology of communication and online education for keeping the Practicing pharmacists with the progress in the profession worldwide

# University of South Florida South Tampa Campus



USF South Campus

## University of South Florida, Tampa Florida



- 9<sup>th</sup> largest University in United States based on Number of students ( more than 47,000)

## University of South Florida, Tampa Florida



- In top 50 Universities in overall achievements in United States

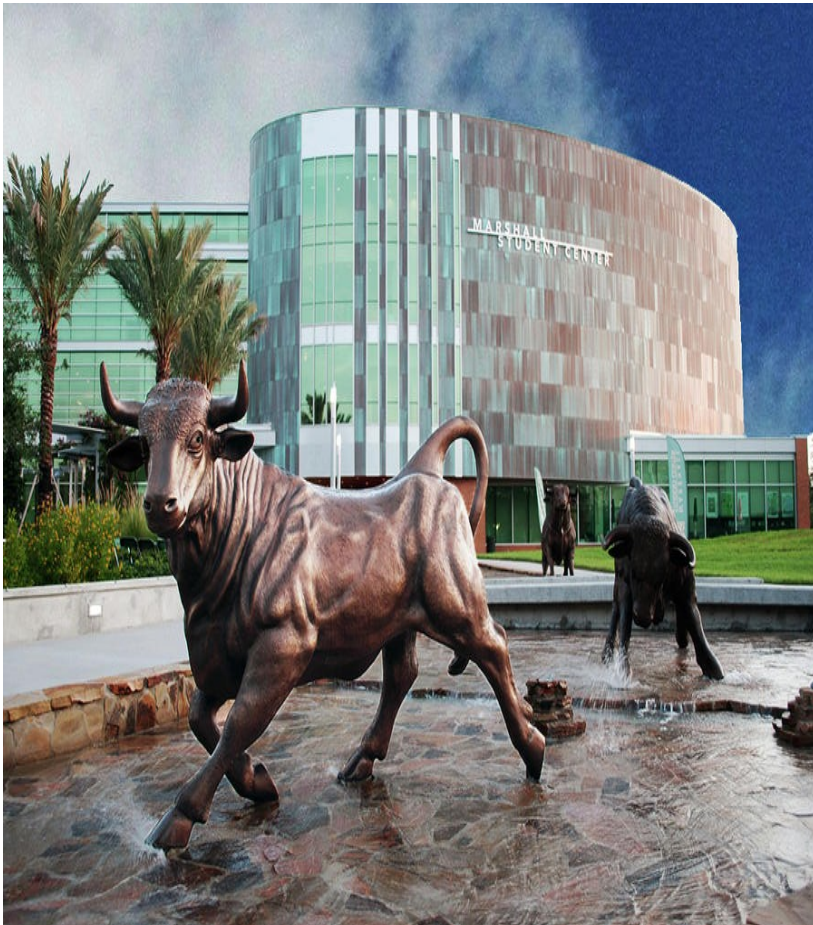
## University of South Florida, Tampa Florida



- 23<sup>rd</sup> ranked by NIH based on total grants received by USF



## University of South Florida, Tampa Florida



- Ranked in top 10 based on Number of US Patents allotted

# University of South Florida, Tampa Florida



- USF Health : A Unique concept
- College of Medicine
- College of Public Health
- College of Nursing
- College of Pharmacy
- School of Physiotherapy
- Inter-professional and interdisciplinary Training of health care professional

University of South Florida, Tampa Florida

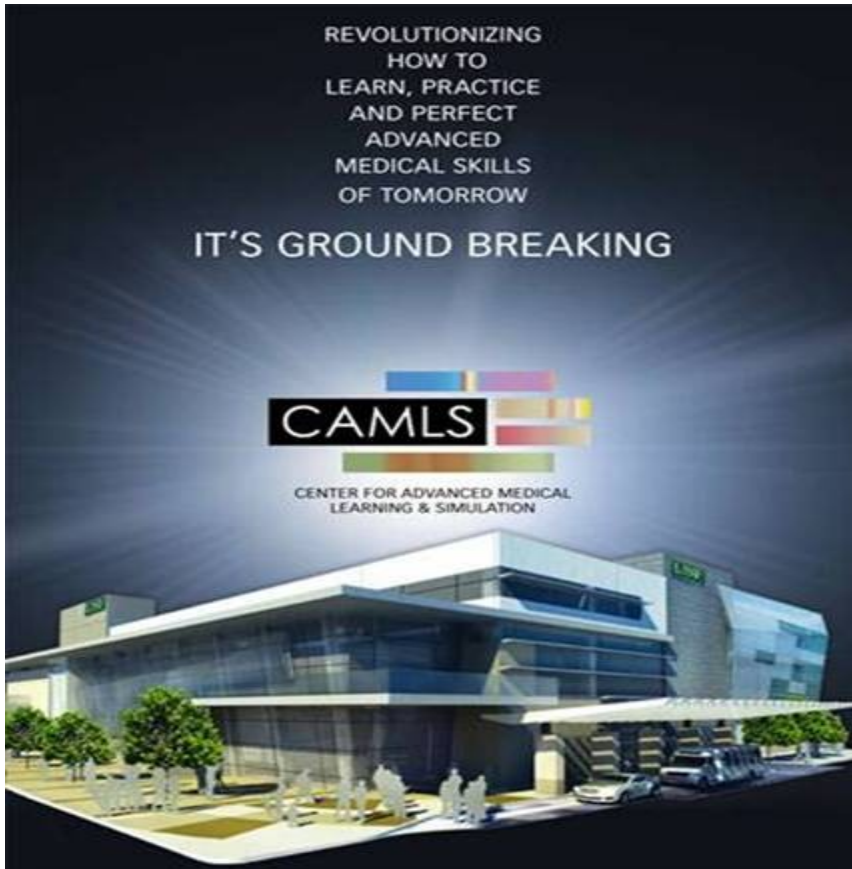




# University of South Florida, Tampa Florida

Center for advanced Medical learning and simulation

- Advanced training to Physicians



# University of South Florida, Tampa Florida



- [Arts & Sciences](#)
- [Behavioral & Community Sciences](#)
- [Business](#)
- [Education](#)
- [Engineering](#)
- [Global Sustainability](#)
- [Honors College](#)
- [Marine Science](#)
- [Medicine](#)
- [Nursing](#)
- [Pharmacy](#)
- [Public Health](#)
- [The Performing Arts](#)

USF Offers 71 Undergraduate majors in various faculties



## University of South Florida, Tampa Florida



- Excellent graduate programs and Post doctoral opportunities

# University of South Florida, Tampa Florida



- Fun filled education of High quality
- Great weather
- Great learning atmosphere
- Unending opportunities
- Culturally diverse campus with 113 countries on campus
- Visit for more details:
- [www.usf.edu](http://www.usf.edu)
- You name it
- We have it

¡gracias!



Thanks

Obrigado

