

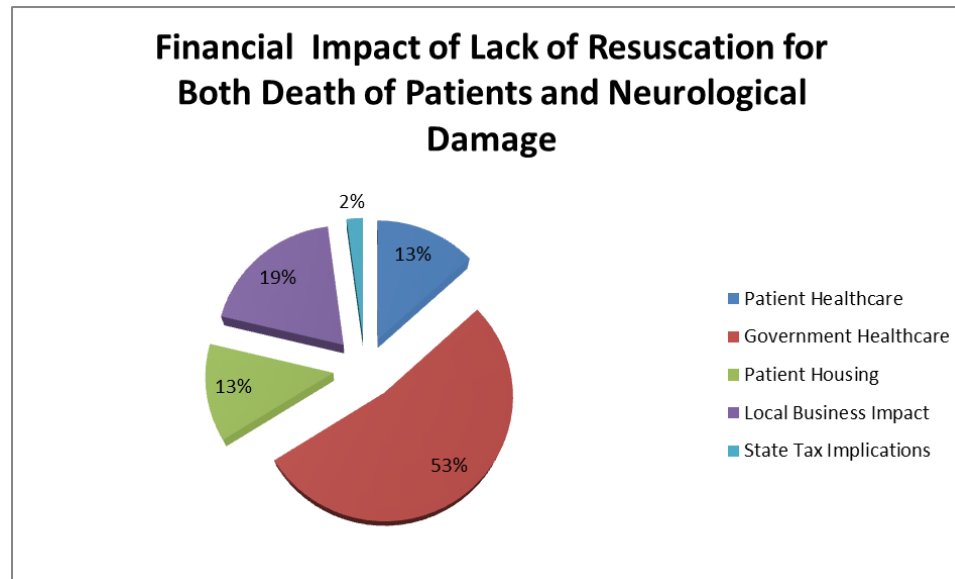
An aerial photograph of a city at sunset. The sun is low on the horizon, casting a warm glow over the scene. The city is densely packed with buildings, and mountains are visible in the distance. The sky is a mix of orange, yellow, and blue.

GRAND CANYON UNIVERSITY™

College of Business

Executive Summary

A financial and social impact study was conducted on the lack of policy of immediate resuscitation in senior independent living facilities in Phoenix, Arizona. The study identified impacts to the patient, family members, local businesses, and the state government. The total financial impacts over a three year period exceed \$48 million dollars which was predominantly comprised of healthcare costs due to timely resuscitation.

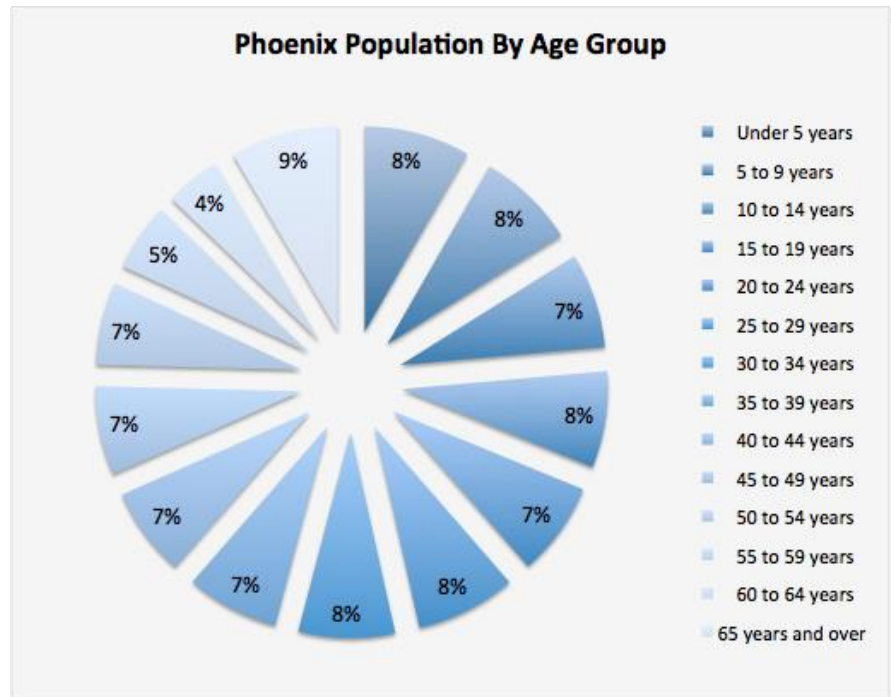


Problem Evaluated in Study

Currently, there is no policy in the state of Arizona requiring senior independent living facilities to perform CPR on residents or to have staff trained in CPR methods. Individuals who have to wait for an emergency response personnel only have a 10.6% chance of survival; however, according to a study by the American Heart Association if the person is resuscitated by a bystander the chance of survival increases to 31.4%. The lack of immediate resuscitation also impacts the level of neurological damage to the individual, which manifests in significant healthcare costs to individual's insurance and government insurance programs.

Population of Interest for Study

- The population included in the study are Arizona residents >65 years old living in a senior independent living facility.
- There are currently 72 senior independent living facilities in the Phoenix Metro Area.
- The population in the Phoenix Metro is 1.5 Million
- Approximately 9% of the residents are 65 or older



Background

- 424,000 out-of-hospital incidents of sudden cardiac arrests in the United States in 2014
- Survival Rates:
 - 10.6% - if only treated by emergency medical services.
 - 31.4% - if a bystander administered CPR and an AED device.
- Median age of OHCA **66 years old** with 69.5% of events occurring in the home or residence of patient

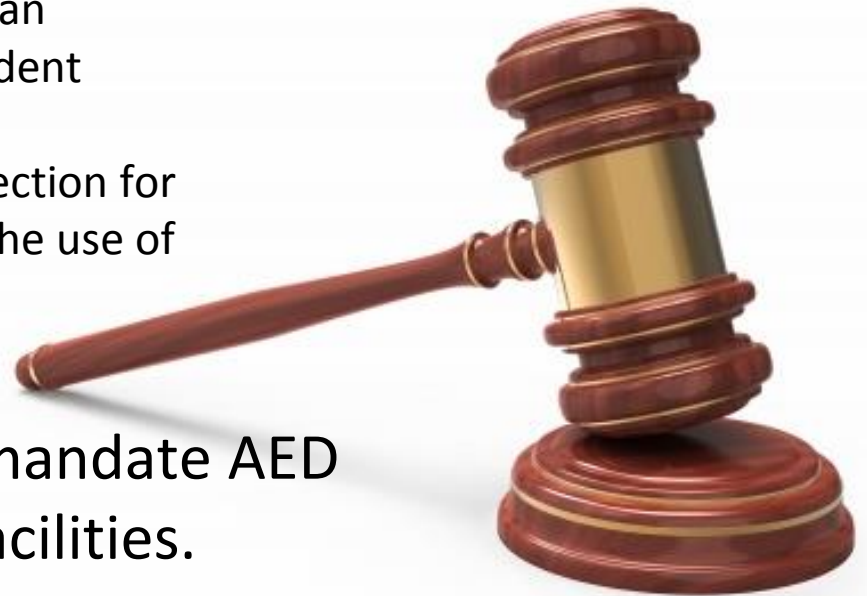
Good Samaritan Law

Good Samaritan - These laws protect individuals involved in a rescue effort from legal action and liability. There are several types of people who can be protected under these laws. Keep in mind these protections are generally contingent on the purchaser or owner following all state regulations.

Rescuer	Purchaser	Property Owner	Physician
The person or persons who administers the AED during an emergency.	The individual or group who purchased the AED. protection is often contingent on following management protocols.	Individual or business who owns property where an AED was used.	The doctor who authorized a prescription for the AED and/or was responsible for physician oversight.

Legal Precedence

- Establishes **immunity from civil liability** to anyone who is licensed to practice medicine, a health care provider, and or health care practitioner who needed to respond to an emergency and are reasonable and prudent under the circumstances
- US Code: Title 42.238Q: Universal protection for lay rescuers during cardiac events and the use of CPR and AED devices.



Current States with policy that mandate AED and CPR at independent living facilities.

–Texas: House Bill No. 392

–Florida: House Bill No. 945

Photo by Kittisak. Published on 08 August 2012 Stock photo - Image ID: 10095619 From FreeDigitalPhotos.

Methodology for Financial and Social Impact Study

- The study reviewed the financial and social impacts of the phenomenon looking at quantitative and qualitative data.
- Secondary and Tertiary data was used for Population, Health Care, and Financial Data.



Photo by patrisyu. Published on 23 January 2014 Stock photo - Image ID: 100229250 From FreeDigitalPhotos.net

Data Sources

- Data Collection Sources:
 - American Heart Association
 - Bureau of Labor Statistics
 - CARE Registry
 - Durable Medical Equipment Reimbursement Billing Codes and Reimbursement Rates
 - Medicare Reimbursement Table
 - U.S. Census Information
 - U.S. Government Spend Publishing Office

Social Impacts to Patient

- The potential for survival is only up to 31.4% if immediate action is taken by a bystander with CPR and an AED.
- The remaining cases result in death.



Photo by Withaya Phonsawat. Published on 22 February 2014 Stock photo - Image ID: 100238229 on FreeDigitalPhotos.

Social Impacts to Family

- Impacts to the patient could be death or long term neurological damage.
- Senior would require assisted living versus independent living
 - Increased housing costs average \$2,700 per month.
 - Many seniors rely on government aid and family members to pay for costs.



"Proud Grandparents" By Marc Levin. Retrieved From: <https://flic.kr/p/vn1KU>

Social Impacts to Society

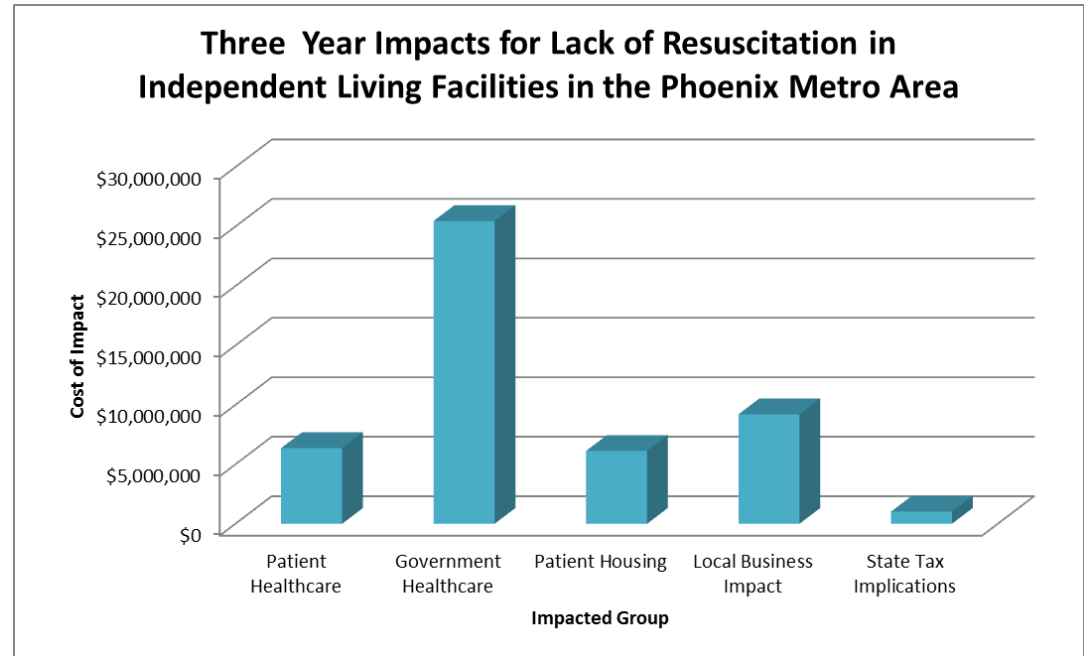
- No longer contributing to state income taxes and other taxes associated with purchases of goods and services.
 - Lost revenues to local businesses
 - Increased healthcare costs



Photo by stockimages. Published on 16 September 2013 Stock photo - Image ID: 100201789 onFreeDigitalPhotos.net

Overall Three Year Financial Impacts

- Annual costs exceed \$15 Million dollars
- Largest area impacted Health Care Programs



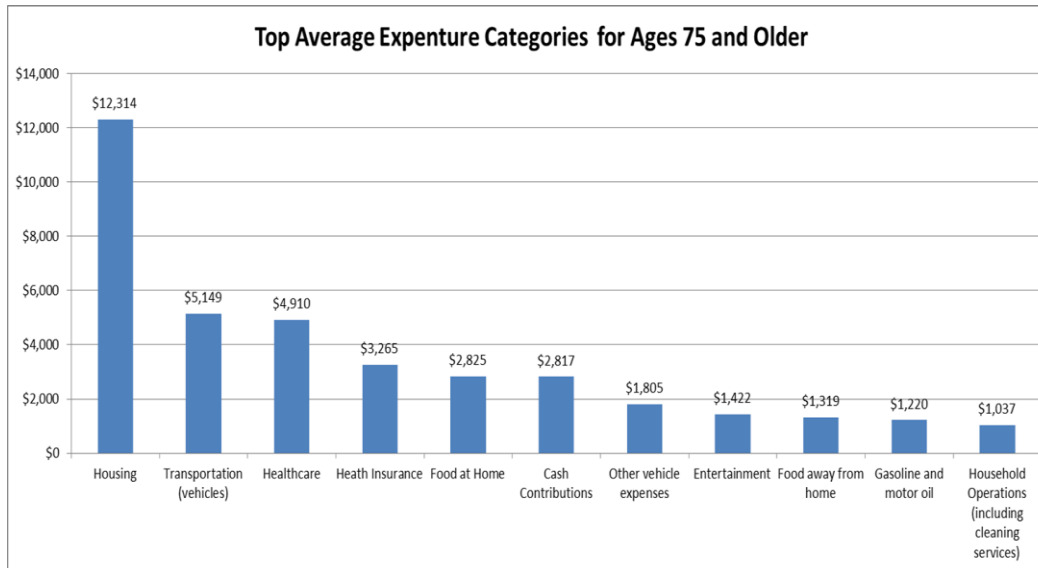
Financial Impacts to Family/Patient

- Patients are responsible for 20% of Health Care costs
- Costs for long term therapies when immediate resuscitation not provided can exceed \$135K per year
- Long term therapies include respiratory, physical and speech therapies
- Equipment includes respirators and peripherals
- Housing Costs increase on average by \$2700 per month



Photo by Ambro. Published on 01 June 2011 Stock photo - Image ID: 10044374FreeDigitalPhotos.net

Financial Impacts to Society



- Individuals >75 spend all of their personal income per year. In the event of an out of hospital cardiac event with delayed resuscitation outcomes include neurological damage and death which both impact the local economy and state sales taxes.

	Neurologically Impacted	Deceased
Local Business	\$1,825,920.0	\$1,095,552
Government	\$202,025	\$121,215

Summary

Given the number of OHCA events that will occur in independent living facilities in Phoenix, the total financial impacts over a three year period exceeds \$48 million dollars which was predominantly comprised of healthcare costs due to timely resuscitation.