Utah Health Status Update

KEY FINDINGS

- **Utah exceeds the national average of in-hospital survival rates—of cardiac arrest from the intense efforts made by EMS agencies—Survived to Hospital Discharge (9.7% vs. 9.0%) and Good/Moderate Cerebral Performance Category (CPC) (8.1% vs. 7.1%) (Figure 1).**
- **A substantial proportion (45.2%) of cardiac arrests in Utah are witnessed by bystanders (Figure 2). If CPR is initiated by a bystander, the chance of the collapsed person surviving with intact brain function is twice as high as persons whose initiation of CPR is delayed.**

Utah CARES: Cardiac Arrest Registry to Enhance Survival

Cardiac arrest, also known as sudden cardiac death, results when the heart suddenly stops beating as a result of a myocardial infarction (heart attack) or a severe disruption of the heart's normal rhythm.[1] This is the most severe cardiac event possible and unless the heart is restarted, this event will be fatal. Cardiac arrests can occur at any age, but are more common in older adults. In 2020, Utah emergency medical services (EMS) agencies responded to more than 1,400 cardiac arrests.[2]

Treatments for a cardiac arrest are immediate cardiopulmonary resuscitation (CPR) and immediate defibrillation. CPR helps to pump blood through the circulatory system keeping the brain and other vital organs alive. Defibrillation (applying an electrical shock to the heart using an automated external defibrillator, or AED) can restore the heart's internal rhythm, in effect "jump starting" the heart. It is important to know the chances of survival are greatly increased when CPR and defibrillation are applied promptly.[3] Consequently, bystanders, including a family member or healthcare provider, play a critical role in the possible survival of cardiac arrest patients.

In 2012, Utah began the Cardiac Registry to Enhance Survival (the CARES Registry). CARES is a Centers for Disease Control and Prevention-supported standardized registry of cardiac arrests of non-traumatic etiology where rescusitative efforts were attempted by a 911 responder. It utilizes a standardized reporting format allowing results to be accurately compared between states, hospitals, and EMS agencies nationwide. In 2012, Utah began voluntary reporting of cardiac arrest information in an effort to evaluate and improve cardiac care statewide. In 2018, the Utah Legislature passed Senate Bill 150, formally establishing a statewide cardiac registry. As a result, we are now able to measure the management of cardiac arrest patients. This information will inform future improvements in emergency care protocols and public information campaigns in Utah.

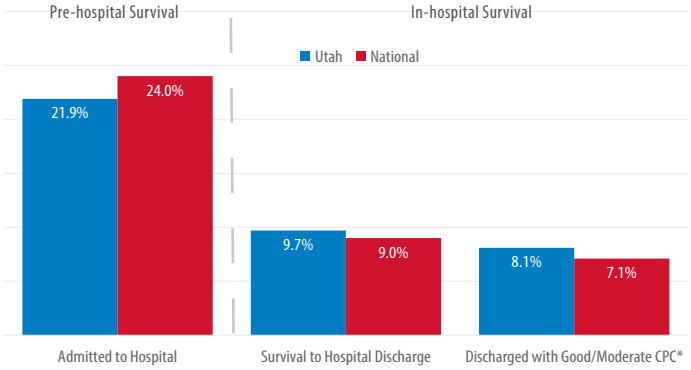
Figure 1 indicates rates of cardiac arrest survival are higher for Utah in comparison with averages across the country. Pre-hospital Survival to Hospital Admission reflects those patients revived by EMS and admitted to the hospital. Please note the categories of in-hospital survival rates of persons with cardiac arrests—Survived to Hospital Discharge (9.7% vs. 9.0%) and Good/Moderate Cerebral Performance Category (CPC) (8.1% vs 7.1%)—represent, respectively, the patients who lived to be

Feature article continued

discharged from the hospital and those who were discharged with intact brain function and able to go back to a "normal" life, care for themselves with minimal assistance, and return to work and family. In these two categories, Utah exceeds the national average for survival. This is largely a result of intense efforts by EMS agencies in our state to apply evidence-based best treatment protocols of High-Performance CPR to cardiac arrest victims.

Unadjusted Pre-hospital and In-hospital Out of Hospital Cardiac Arrest Patient Outcomes, Utah vs. National, 2020

Figure 1. Utah had a higher rates of patient in-hospital survival of cardiac arrest from hospital in conjunction with good/moderate CPC* compared with the nation.

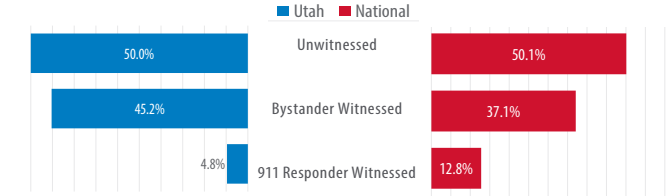


Source: Cardiac Arrest Registry to Enhance Survival (C.A.R.E.S) Annual Report, 2020
*Cerebral Performance Category scores reporting good/moderate were CPC 1 and CPC 2. See definitions here.
Note: ED outcome missing for 181 national cases (.1%) and discharge outcome missing for 196 national cases (.15%).

Figure 2 shows a substantial proportion (45.2%) of cardiac arrests in Utah are witnessed by bystanders compared with the nation (37.1%). Data indicate cardiac arrests witnessed by bystanders have a substantially higher survival rate than those not witnessed.[3]

Percentage of Cardiac Arrests by Witness Status, Utah vs. National, 2020

Figure 2. Utah had a higher percentage of bystander witnessed arrests and lower 911 responder witnessed arrests compared with the national average.



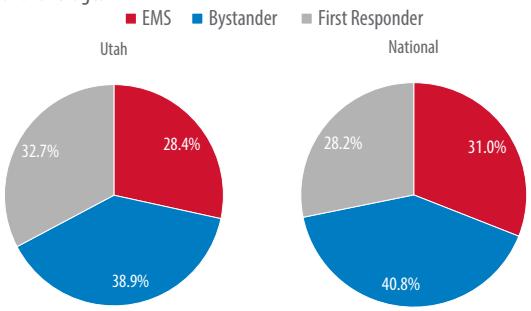
Source: Cardiac Arrest Registry to Enhance Survival (C.A.R.E.S) Annual Report, 2020
Note: Bystander Witnessed do not inlcude medical personnel or famliy members for witness status.

Bystanders can activate the 911 system and call EMS to the scene quickly and SHOULD initiate CPR until EMS arrives.[3] If CPR is initiated by a bystander, the chance of the collapsed person surviving with intact brain function is twice as high as persons whose initiation of CPR is delayed.[4] Even a few minutes of delay in beginning CPR greatly decreases the chances of a successful outcome.[3]

Efforts to improve bystander CPR rates in the state (Figure 3) will immediately be translated to improved outcomes from cardiac arrest. Every effort should be made to train all Utahns in CPR. Courses can be found at many hospitals and schools, and can also be organized by local EMS agencies at churches and community centers.[5]

Percentage of CPR Performed by Who Initiated Total Cardiac Arrests, Utah vs. National, 2020

Figure 3. Utah had higher rates of CPR performed by first trsponders compared with the national average.



Source: Cardiac Arrest Registry to Enhance Survival (C.A.R.E.S) Annual Report, 2020
Note: Bystanders for CPR rates include: bystander, family member, or healthcare provider.
Who intiated CPR /Total CARES cases

Increasing the rate of bystander CPR will improve cardiac arrest survival in Utah, helping us to help each other return to our lives and families after cardiac arrest. The Utah Law U.C.A. 78B-4-501 can be found here: https://le.utah.gov/xcode/Title78B/Chapter4/78B-4-S501.html and the key language is "A person who renders emergency care at or near the scene of, or during, an emergency, gratuitously and in good faith, is not liable for any civil damages or penalties as a result of any act or omission by the person rendering the emergency care, unless the person is grossly negligent or caused the emergency."

1. National Heart, Lung, and Blood Institute. https://www.nhlbi.nih.gov/health-topics/sudden-cardiac-arrest#:~:text=What%20Is,it's%20not%20treated%20within%20minutes.
2. Utah CARES data 2020. https://mycares.net/
3. Center for Disease Control and Prevention. https://www.cdc.gov/heartdisease/cpr.htm
4. Hollenberg, Herlitz, Lindqvist. Improved Survival After Out-of-Hospital Cardiac Arrest Is Associated With an Increase in Proportion of Emergency Crew–Witnessed Cases and Bystander Cardiopulmonary Resuscitation
5. Center for Disease Control and Prevention. https://www.cdc.gov/dhdsp/docs/cardiac-arrest-infographic.pdf

Spotlights

Stay Safe, Stay Active Streets Initiative

COVID-19 impacted the ability of many individuals to access regular physical activity opportunities. As commercial and workplace gyms and recreation centers were closed during the early phases of the pandemic, many people turned to the outdoors to get physical activity. Salt Lake City implemented a Stay Safe, Stay Active Streets Initiative to open streets to provide opportunities for cyclists and pedestrians to be physically active while maintaining social distancing guidelines. In most cases, a single lane was reallocated to foot and bicycle traffic, while certain blocks were restricted to 'local traffic only,' allowing for the full use of the street space for non-vehicle use. This innovative response to pandemic social distancing guidelines provided opportunity to all; but in particular, to those who did not have space to move about without interacting with others and being put at risk, such as those living in apartments, condominiums, or other communal living arrangements. In November 2020, all streets participating in the Stay Safe, Stay Active Streets Initiative returned to normal operation.

A survey of more than 6,200 Salt Lake City residents helped guide the decision-making process for which streets would be opened. In the survey, 76% of respondents stated they generally support this effort with comments including the hope for these changes to remain after the pandemic. The success of this initiative has led to weekend closures during the 2021 summer season to vehicles traveling on Main Street from South Temple to 400 South. This "Open Street" enables pedestrians to enjoy dining, shopping, and entertainment in the downtown area. Visit https://downtownslc.org/openstreets for more information.

Stay Safe, Stay Active Streets Initiative Infographics, 2020

Figure 1. Infographics were developed to promote health and wellness by utilizing outdoor activities throughout the pandemic.

Monthly Health Indicators

Monthly Report of Notifiable Diseases, June 2021	Current Month # Cases	Current Month # Expected Cases (5-yr average)	# Cases YTD	# Expected YTD (5-yr average)	YTD Standard Morbidity Ratio (obs/exp)
Campylobacteriosis *(Campylobacter)*	43	53	166	194	0.9
COVID-19 (SARS-CoV-2)||	Cases updated at https://coronavirus.utah.gov/case-counts/.				
Shiga toxin-producing *Escherichia coli (E. coli)*	12	12	48	43	1.1
Hepatitis A (infectious hepatitis)	1	3	4	27	0.1
Hepatitis B, acute infections (serum hepatitis)	1	2	7	7	1.1
Influenza*	Weekly updates at http://health.utah.gov/epi/diseases/influenza.				
Meningococcal Disease	0	0	1	1	0.8
Pertussis (Whooping Cough)	4	23	29	140	0.2
Salmonellosis *(Salmonella)*	25	27	88	122	0.7
Shigellosis *(Shigella)*	4	4	19	21	0.9
Varicella (Chickenpox)	5	14	32	95	0.3
West Nile (Human cases)	0	10	2	23	0.1
Quarterly Report of Notifiable Diseases, 2nd Qtr 2021	**Current Quarter # Cases**	**Current Quarter # Expected Cases (5-yr average)**	**# Cases YTD**	**# Expected YTD (5-yr average)**	**YTD Standard Morbidity Ratio (obs/exp)**
HIV/AIDS†	28	27	50	61	0.8
Chlamydia	2,776	2,442	5,752	5,081	1.1
Gonorrhea	839	624	1,752	1,239	1.4
Syphilis	53	32	100	63	1.6
Tuberculosis	0	5	2	13	0.2
Medicaid Expenditures (in Millions) for the Month of June 2021	**Current Month**	**Expected/ Budgeted for Month**	**Fiscal YTD**	**Budgeted Fiscal YTD**	**Variance over (under) Budget**
Mental Health Services	$11.6	$11.0	$201.4	$202.2	($0.8)
Inpatient Hospital Services	$9.7	$9.4	$213.0	$214.2	($1.2)
Outpatient Hospital Services	$2.6	$2.1	$37.5	$38.7	($1.2)
Nursing Home Services	$19.0	$19.4	$308.8	$309.7	($0.9)
Pharmacy Services	$10.4	$10.3	$129.6	$130.5	($0.8)
Physician/Osteo Services‡	$3.5	$4.4	$55.3	$56.6	($1.4)
Medicaid Expansion Services	$68.9	$69.1	$794.8	$796.7	($1.9)
***TOTAL MEDICAID	**$293.9**	**$293.9**	**$3,803.4**	**$3,803.9**	**($0.4)**

|| Updates for COVID-19 can be found at https://coronavirus.utah.gov. This includes case counts, deaths, number of Utahns tested for disease, and latest information about statewide public health measures to limit the spread of COVID-19 in Utah.

* More information and weekly reports for Influenza can be found at http://health.utah.gov/epi/diseases/influenza.

† Diagnosed HIV infections, regardless of AIDS diagnosis.

Notes: Data for notifiable diseases are preliminary and subject to change upon the completion of ongoing disease investigations.

‡ Medicaid payments reported under Physician/Osteo Services do not include enhanced physician payments.

***The Total Medicaid Program costs do not include costs for the PRISM project.

Monthly Health Indicators

Program Enrollment for the Month of June	Current Month	Previous Month	% Change§ From Previous Month	1 Year Ago	% Change§ From 1 Year Ago
Medicaid	419,909	414,549	+1.3%	326,851	+28.5%
CHIP (Children's Health Insurance Plan)	9,857	15,024	-34.4%	16,524	-40.3%
Commercial Insurance Payments#	**Current Data Year**	**Number of Members**	**Total Payments**	**Payments per Member per Month (PMPM)**	**% Change§ From Previous Year**
Medical	2019	11,881,900	$ 3,569,847,963	$ 303.86	-1.1%
Pharmacy	2019	10,423,251	$ 774,925,995	$ 66.32	+12.1%
Annual Community Health Measures	**Current Data Year**	**Number Affected**	**Percent \ Rate**	**% Change From Previous Year**	**State Rank** (1 is Best)**
Suicide Deaths	2019	653	20.4 / 100,000	-3.2%	40 (2019)
Asthma Prevalence (Adults 18+)	2019	219,900	9.90%	+6.9%	29 (2019)
Poor Mental Health (Adults 18+)	2019	459,100	20.70%	+10.1%	28 (2019)
Influenza Immunization (Adults 65+)	2019	223,600	63.90%	+22.8%	22 (2019)
Drug Overdose Deaths Involving Opioids	2019	496	15.5 / 100,000	-21.6%	20 (2019)
Unintentional Fall Deaths	2019	345	10.8 / 100,000	+29.0%	17 (2019)
Infant Mortality	2019	250	5.3 / 1,000	-7.0%	17 (2018)
Traumatic Brain Injury Deaths	2019	1,230	19.3 / 100,000	+1.1%	15 (2019)
Obesity (Adults 18+)	2019	605,345	29.9%	+10.1%	15 (2019)
Diabetes Prevalence (Adults 18+)	2019	190,500	8.50%	+1.3%	13 (2019)
Births to Adolescents (Ages 15–17)	2019	289	3.8 / 1,000	-21.8%	10 (2018)
Childhood Immunization (4:3:1:3:3:1:4)††	2019	49,400	80.00%	0.08	7 (2019)
Motor Vehicle Traffic Crash Injury Deaths	2019	231	7.2 / 100,000	-4.50%	7 (2019)
High Blood Pressure (Adults 18+)	2019	532,900	27.00%	+10.3%	7 (2019)
Cigarette Smoking (Adults 18+)	2019	175,800	8.00%	-12.0%	1 (2019)
Binge Drinking (Adults 18+)	2019	240,000	11.10%	+4.4%	1 (2019)
Coronary Heart Disease Deaths	2019	1,631	50.9 / 100,000	-1.0%	1 (2019)
All Cancer Deaths	2019	3,289	102.6 / 100,000	-0.6%	1 (2019)
Stroke Deaths	2019	912	28.4 / 100,000	+1.6%	1 (2019)
Child Obesity (Grade School Children)	2018	38,100	10.60%	+11.6%	n/a
Vaping, Current Use (Grades 8, 10, 12)	2019	37,100	12.40%	+11.3%	n/a
Health Insurance Coverage (Uninsured)	2019	277,200	9.50%	-3.1%	n/a
Early Prenatal Care	2019	35,560	75.90%	-0.4%	n/a

§ Relative percent change. Percent change could be due to random variation.
# Figures subject to revision as new data is processed.
** State rank in the United States based on age-adjusted rates where applicable.
†† Data from 2019 NIS for children aged 24 month (birth year 2017).