

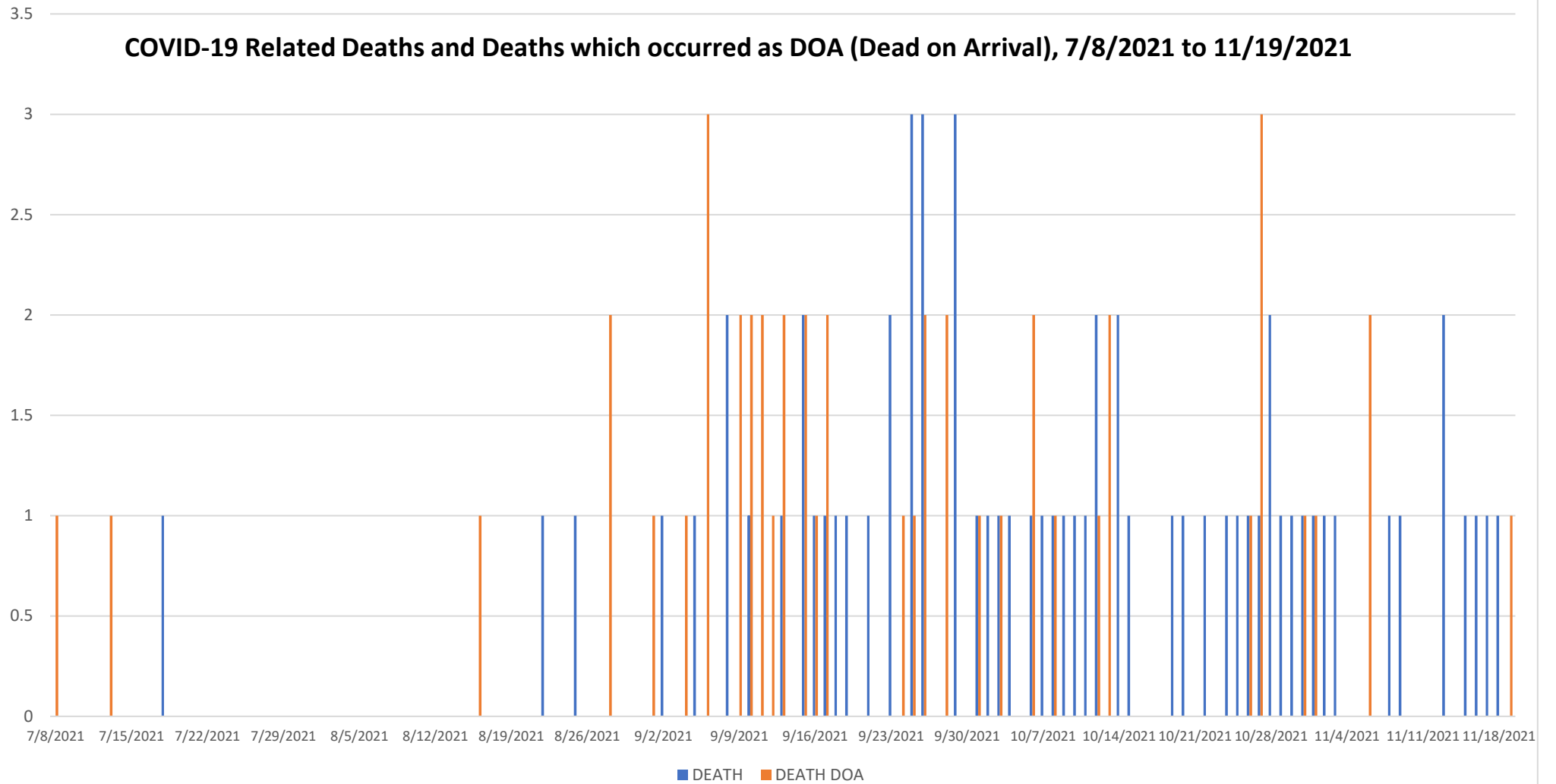


COVID-19 DATA/SURVEILLANCE 2021 UPDATE:

**PRELIMINARY MORTALITY ANALYSIS OF PERSONS
DOA VERSUS NON-DOA DURING THE RECENT SURGE**

**OFFICE OF EPIDEMIOLOGY AND RESEARCH & COVID-19 SURVEILLANCE UNIT
GUAM DEPARTMENT OF PUBLIC HEALTH AND SOCIAL SERVICES
11/29/2021**

COVID-19 Related Deaths and Deaths which occurred as DOA (Dead on Arrival), 7/8/2021 to 11/19/2021



During early July, a married couple died within a week of each other and both were pronounced dead on arrival (DOA) to hospital(s). One month later, there were numerous other occurrences of DOA's that the DPHSS became concerned about and alerted relevant entities about this trend. Press Conferences with the Governor and her Physician's Advisory Group were held on 8/27/2021 and on 9/13/2021 to alert the community to watch for elderly and other family members with chronic conditions to seek help, since monoclonal anti-body treatments were available to treat COVID-19 at all Guam hospitals. From July 8, 2021 to November 19, 2021 there have been 119 COVID-19 related deaths of which 47 (39%) were DOA. The analysis presented in this report includes all deaths in 2021 with death certificates (n=125).

1/1/2021-11/8/2021	(N=125) INCLUDES ONLY THOSE WITH DEATH CERTIFICATES			
	2021 DEATHS ONLY		DOA	
	Non-DOA		DOA	
	n	%	n	%
Chamorro	30	37.0%	13	29.5%
Chuukese	15	18.5%	11	25.0%
Other Pac Islander	11	13.6%	3	6.8%
Filipino	19	23.5%	13	29.5%
Other Asian	1	1.2%	0	0.0%
white	1	1.2%	2	4.5%
black	1	1.2%	1	2.3%
unknown	3	3.7%	1	2.3%
total	81	100.0%	44	100.0%

Census data	(A)	(B)	(C)
one ethnic group	% as a proportion of one and two or more ethnic groups (N=168,322)	% as a proportion of one ethnic group (N=152,553)	(C) = average of (A) and (B)
Chamorro	37.3%	41.1%	39.2%
Chuukese	7.0%	7.8%	7.4%
Other Pac Islander	5.0%	5.5%	5.3%
Filipino	26.3%	29.0%	27.7%
Other Asian	5.9%	6.5%	6.2%
white	7.1%	7.8%	7.5%
black	NA	NA	NA
unknown	NA	0.0%	0.0%
others	2.0%	2.2%	2.1%
2+ more ethnic gps.	9.4%	NA	9.4%
total	100.0%	100.0%	100.0%
denominator used	168,322	152,533	NA

The analysis presented in this report includes all deaths in 2021 with death certificates (n=125), from January 1, 2021 to November 8, 2021. As can be noted from the ethnic comparison of COVID-19 related non-DOA and DOA deaths, Chuukese and other Pacific Islanders are disproportionately more likely to die of COVID-19 compared to their proportions in the Guam population. Chuukese are even more disproportionately represented in DOA cases. Chamorros are less likely and Filipinos slightly more likely to be represented as DOA cases given their proportions in Guam's population.

2021 DEATHS ONLY	Non-DOA		DOA	
SEX	n	%	n	%
Female	33	40.7%	15	34.1%
Male	48	59.3%	29	65.9%
Total	81	100.0%	44	100.0%

2021 DEATHS ONLY	Non-DOA		DOA	
AGE	n	%	n	%
0-17	0	0.0%	3	6.8%
18-39	8	9.9%	1	2.3%
40-59	18	22.2%	15	34.1%
60+	55	67.9%	25	56.8%
Total	81	100.0%	44	100.0%

2021 DEATHS ONLY	Non-DOA		DOA	
REGION	n	%	n	%
Central	30	37.0%	13	29.0%
North	37	45.7%	21	48.0%
South	9	11.1%	9	21.0%
Saipan (off-island)	1	1.2%	0	0.0%
Unknown	4	4.9%	1	2.0%
Total	81	100.0%	44	100.0%

Both DOA (65.1%) and non-DOA (59.3%) cases skew heavily toward males, but with higher proportions among the DOA cases. By age, both DOA (56.8%) and non-DOA (67.9%) are more likely to be elderly (60+ years), but with higher proportions among those non-DOA. Among those ages 40-59, slightly more are DOA (34.1%), than non-DOA (22.2%). Among those 18-39 years, there are more non-DOA (9.9%) than DOA (2.3%). Among those less than 18 years, there are 3 DOA cases, of which two were infants less than 4 months of age. Most DOA and non-DOA cases are from the northern part of the island, which is Guam's most populated area. Interestingly there are more DOA cases from the south compared to non-DOA cases. Information on cases can be found at: <https://dphss.guam.gov/covid-19/>

2021 DEATHS ONLY	Non-DOA		DOA	
VACCINATION STATUS	n	%	n	%
unvaccinated	47	58.0%	36	81.8%
fully vaccinated	18	22.2%	6	13.6%
partially vaccinated	3	3.7%	2	4.5%
unknown	13	16.0%	0	0.0%
total	81	100.0%	44	100.0%

2021 DEATHS ONLY	Non-DOA		DOA	
	n	%	n	%
8th grade or less	11	15.9%	9	25.7%
some high school	12	17.4%	7	20.0%
high school graduate	28	40.6%	8	22.9%
some college	8	11.6%	8	22.9%
associates degree	0	0.0%	2	5.7%
college degree	8	11.6%	1	2.9%
graduate degree	2	2.9%	0	0.0%
total	69	100.0%	35	100.0%
UNKNOWN	12	NA	9	NA
Total	81		44	

While both DOA (81.8%) and non-DOA (58%) are both more likely to be unvaccinated, among those DOA cases, this is much higher.

By education, those DOA cases have higher proportions with lower education (8th grade or less, or some high school) , and are less likely to be high school graduates.

1/1/2021-11/8/2021	n=81	n=44	n= 11,295 [excludes unknowns]	
Chronic disease and risk factor summary - 2021 deaths only	Guam COVID-19 deaths (%) non-DOA	Guam COVID-19 deaths (%) DOA	Guam COVID-19 cases (%)	GUAM 2019 BRFSS population crude prevalence estimates (%)
DIABETES (excluding pregnancy related diabetes and pre-diabetes)	45.7	38.6	8.7	11.7
CHRONIC RENAL DISEASE	13.6	9.1	1.1	2.9
CHRONIC LUNG DISEASE	13.6	13.6	4.9	4.2
CARDIOVASCULAR DISEASE	27.2	2.3	2.5	2.9
HYPERTENSION	42	18.2	13.4	30.3
OBESITY (BMI > 30)	8.6	4.5	0.3	33.6
CURRENT SMOKING	7.4	0	12.1	23.4
FORMER SMOKING	2.5	0	7.6	17.2

Examining chronic conditions, the biggest risk factors among non-DOA cases include diabetes, cardiovascular disease, chronic lung disease, obesity and former smoking. Among DOA cases, the biggest risk factors are diabetes, chronic renal disease and hypertension.

It is important to point out that risk factors (obesity, current or former smoking) have been vastly underreported throughout the pandemic, as can be noted by the population prevalence estimates from the 2019 CDC-BRFSS, for chronic conditions and risk factors.

CAUSES OF DEATH	Immediate Causes of Death [can be numerous]		Underlying Causes of Death [can be numerous]		Contributory Causes of Death [can be numerous]		Total	
	non-DOA	DOA	non-DOA	DOA	non-DOA	DOA	non-DOA	DOA
Respiratory [e.g. ARDS, respiratory failure, and pneumonia]	62	20	28	4	3	0	93	24
Cardiovascular [e.g. cardiac arrest, cardiopulmonary arrest]	10	8	4	0	11	8	25	16
Hypertension	0	1	0	0	19	13	19	14
Complications of COVID-10 infection	20	12	9	5	3	8	32	25
Diabetes mellitus (or complications)	2	1	0	1	17	13	19	15
Critical bleeding conditions	0	1	1	0	2	1	3	2
Renal (kidney conditions), including ESRD	3	0	2	0	10	4	15	4
Multi-organ failure	0	0	1	0	0	0	1	0
Sepsis	6	0	0	0	3	0	9	0
Infections [e.g. bacteremia]	0	0	0	0	2	0	2	0
Morbid obesity	0	0	0	0	6	3	6	3
Tobacco	0	0	0	0	1	1	1	1
Cancer	1	2	1	0	0	0	2	2
Dementia	0	0	0	0	3	0	3	0
Chronic lung disease [e.g. COPD, asthma]	1	0	0	0	7	1	8	1
Other	2	0	4	0	14	7	20	7
unknown	0	1	0	0	0	0	0	1

Examining cases of death, most of the DOA (n=81) and non-DOA cases (n=44) have respiratory diseases or complications of COVID-19 infection, as immediate or underlying causes of death.

Both non-DOA and DOA cases have cardiovascular conditions, hypertension, diabetes and chronic renal disease as contributory causes of death.

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