

THE 2020 COVID-19 PANDEMIC
IN ARIZONA:
THE YEAR IN REVIEW



Arizona Public Health Association, January 24, 2021

Introduction

This week marks the anniversary of Arizona's initial case of COVID-19. The index case was a student at ASU that had recently returned from Wuhan. Over the next 12 months, Arizonan's have been through a lot. More than 12,000 Arizonans have lost their lives to COVID-19 and total mortality for the year was 15,000 higher than 2019. Thousands have been hospitalized and recovered but are having long-term health problems. Many others have lost jobs and are at risk of eviction or even experiencing homelessness. Some have lost social connectiveness leading to mental health distress.

At this, the 1-year anniversary of the 1st case, Arizona continues to have the dubious distinction of experiencing the highest rate of community spread of the SARS CoV2 virus in the world at 118 cases per 100,000. Substantial spread is 10/100,000 – that's more than 10x what is considered substantial community spread. This is the second time that Arizona has been on top in community spread. We were highest in the world in mid-July as well.

Arizona has *recorded 14,972 more deaths in 2020* as compared to 2019. According to the Arizona Department of Health Services data dashboard, about 11,528 of these deaths have been a direct result of a SARS CoV2 infection. This suggests that an additional 3,444 deaths during this period may be indirectly attributable to the pandemic.

What follows is a timeline of the key critical control points and policy decisions that led us to where we are today in Arizona.

- The Start of the Pandemic in Arizona
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- Stay-At-Home Order Ends with No Mitigation
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- The "Pause" of Business Operations Begins
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The Start of the Pandemic in Arizona

Arizona's 1st case of COVID-19 was on January 22, 2020 when an ASU student arrived on campus after returning from Wuhan, China. The patient immediately went into isolation. Maricopa County Public Health conducted a detailed case investigation and did contact tracing. Successful interventions ensured that there were no secondary cases. It would be a few weeks before Arizona would experience additional cases of COVID-19. On March 16 Arizona recorded their 18th case. The initial cases were spread across Maricopa, Pinal and

Pima counties, with one case in rural Graham County. Rapid community spread soon followed.

A series of interventions were quickly implemented. On March 19th, the Governor and Superintendent of Public Instruction Kathy Hoffman ordered a statewide closure of schools through April 10. On the same day he issued an Executive Order that halted all elective surgeries in the state of Arizona. This freed up medical resources and helped maintain the capacity for hospitals and providers to continue offering vital services.

A Successful Stay-at-Home Order

On March 23, 2020 Governor Ducey signed an Executive Order issuing a Stay-at-Home Order which closed all “non-essential” services and businesses. A series of exemptions were built into the Order, but it was well crafted and was largely effective as an intervention and likely prevented exponential growth of the virus. This was a particularly important time in the Pandemic as the state lacked testing, PPE, and an ability to protect vulnerable adults in congregate settings. An additional Executive Order placed limitations on hospital elective procedures to preserve PPE.

On March 24 the Governor issued an E.O. delaying evictions for renters impacted by COVID-19. Several Orders followed that required hospitals to prepare to expand capacity. On March 30 he extended school closures through the end of the school year.

Cases grew in early April, but at a moderate pace. As April closed, percent positivity moderated, cases began to drop, and hospitals began to see some relief in patient loads. The Governor extended his initial Stay-at-Home Order by two weeks on April 27, with the Order expiring on May 15, 2020.

Stay-At-Home Order Ends with No Mitigation

On May 2, then President Trump scheduled a trip to visit a mask manufacturing facility in Phoenix on May 5th. Immediately after this visit was scheduled, Governor Ducey amended his April 27 Executive Order such that it phased out the Stay-at-Home order more rapidly. The Order fully expired on May 15.

Arizona’s Stay-at-Home Order ended on May 15th with no mitigation measures in place. Environments that spread the virus readily such as bars, restaurants, and nightclubs opened with no mitigation measures. Businesses were encouraged but not required to follow CDC’s recommended mitigation measures.

As a result, bars, restaurants, and nightclubs filled up. Weekend business was robust with no mitigation. Cases began to rise rapidly in late May, reaching exponential growth in early June.

Many advocates urged the Governor to put in place required mitigation measures in bars, restaurants and nightclubs and to implement a statewide face covering mandate. The Governor and ADHS Director refused to do so, and they kept in place Executive Orders that prohibited local jurisdictions (cities and counties) from implementing mitigation measures. These Executive Orders also prohibited local jurisdictions from implementing local face covering mandates.

Cases continued to grow exponentially. Hospitals began to fill with COVID-19 patients. Arizona was at a precipice. We were quickly becoming a national hotspot and hospital capacity was becoming a crisis.

Predictive Modeling Team Asked to Stop Work

In April, the ADHS assembled a team of researchers and developed the "COVID-19 Modeling Working Group". The team developed an Arizona-specific predictive model providing [state-specific projections of new cases](#) and deaths based on the best available science and Arizona case data.

The [modeling team](#) report provided scenario-based estimates of resource needs for hospital beds, ICU beds, and ventilators but didn't include a capacity assessment. Very solid work being done by top talent in the field that is very useful for decision-making purposes.

However, the modeling team had produced results that undermined the merit of the Governor's decision on May 2 to accelerate the end of the Stay-at-Home Order. Journalists at the Governor's press conference on May mentioned the results that the modeling team had released which suggested that ending the Stay-at-Home Order on May 15 without mitigation would result in exponential spread of the virus in June.

The day after the Governor's press conference, the DHS sent a letter to the Working Group telling them to stop their work, discontinue producing predictive models, and to return the data that the working group was given by the ADHS. The letter asking them to stop work didn't provide any reason for the request except that it was at the direction of ADHS' senior leadership.

After national press coverage of the decision to release the modeling team and ask for data back, the ADHS changed their mind and allowed the team to continue their work. However, there is no evidence that Director Christ nor Governor Ducey ever used the Team's work to inform their decision-making.

Arizona's Testing Debacle

As community spread went exponential in June, the demand for testing expanded dramatically. Nationwide and in Arizona, COVID-19 test kits became more available and more locations were able to test people. However, results in Arizona were delayed by many days and often by weeks. Stories of people waiting more than a week and sometimes two weeks for their results became commonplace. Tests that don't come back within 2 to 3 days have little to no value. Actionable information isn't provided to the patient and counties have no actionable information to do contact tracing.

Several weeks went by with turnaround times of between 1 and 2 weeks. This lack of testing severely impaired the ability of persons to make decisions about isolation and quarantine and basically took contact tracing off the table as an intervention. Advocacy by multiple groups for better testing turnaround times had little to no effect.

On July 9, Sonora Quest was provided \$2,000,000 by the ADHS to buy additional instruments to speed up turn-around times. Within a week the backlog of tests had been cleared and timely test results finally became available.

Arizona Authorizes Hospital Crisis Standards of Care

In Late June, Arizona hospitals asked the ADHS to authorize them to operate under Crisis Standards of [Crisis Standards of Care](#). Recognizing the magnitude of the hospital capacity Crisis, Director Christ quickly authorized Crisis Standards of Care.

“Crisis Standards of Care” is basically a protocol for making healthcare decisions when the system can’t provide the care that everybody needs because the needs outstrip the resources. Ethics panel discussions are held to make difficult decisions regarding who will get care and who will not.

Under Crisis standards hospitals need to make even more substantial changes to the way they provide care. For example, staff are asked to practice outside of the scope of their usual expertise. Supplies are reused and recycled. In some circumstances, resources may become completely exhausted.

Core strategies that get used under Crisis standards include substitution, adaptation, conservation, reuse, and reallocation in the areas of for oxygen, medication administration, IV fluids, mechanical ventilation, nutrition, and staffing.

The Crisis Standards of Care also provides a protocol to help healthcare providers objectively decide who gets care when resources don’t allow everyone to get treatment.

This blog post fleshes it out [How Will Patients Be Prioritized Under the New "Crisis Standards of Care"](#). Here’s a link to the [ADHS Crisis Standards of Care Planning Document](#). It’s 141 pages, but the real heady stuff is on pages 29 through 38 where it discusses the scoring system to prioritize which patients will get treatment and which will not and how to ration care to all patients when resources are outstripped by demand.

The “Pause” of Business Operations

In late June, as Arizona continued its exponential growth of the virus, the Governor “paused” the operation of bars and nightclubs and required restaurants to go to take-out service only. He also lifted his pre-emption and allowed local jurisdictions to pass and enforce mask mandates (although all other interventions at the local level are still pre-empted). Once the Governor lifted the restriction on local mask mandates on June 17, many cities and counties quickly implemented local ordinances. That combination of interventions led to a decline in cases of more than 75% over the next 6 weeks (as documented in this [CDC MMWR](#)).

The “Pause” Ends Without Mitigation Enforcement

In early August, bars, restaurants and nightclubs were allowed to open again albeit with mitigation measures in place. They were required to sign attestations ensuring that they would abide by mitigation measures like capacity limits, spacing of customers, and limited face covering requirements.

After advocacy by AzPHA and other organizations, ADHS agreed to set up a hotline where residents could file a complaint when the mitigation measures weren’t being complied with.

At a media conference, Director Christ committed to contracting with county health departments to inspect and enforce compliance with the requirements.

While ADHS did contract with a few small counties to follow up on complaints (there was never any pro-active enforcement), ADHS did not follow through and contract with the largest counties including Maricopa and Pima counties. In addition, authority was not delegated to county health departments - authority which could have authorized them to nullify the attestations that businesses signed when they resumed operations after the 'pause'.

As a result, enforcement of the mitigation measures required by the attestations was practically non-existent by ADHS. While more than 4,000 complaints were filed with the Department, they only followed up in person on about 800. And those follow-ups were Monday – Friday during daylight hours, while most of the complaints were for violations at night and on weekends. *Over the course of 4 months, among the of thousands of bars, restaurants, and nightclubs, the ADHS only issued 15 enforcement actions.*

This is not vigorous enforcement, and bars, restaurants and nightclubs know it. Some are doing the right thing and complying, but many are not. Word spread through the industry that there was no real enforcement and non-compliance spread. That led to steady linear reproduction of the virus in September, October and into November.

Business and School Metrics Adopted

Over the summer, a host of stakeholders including the business community developed COVID-19 metrics to inform policy decisions like when it's time to pause the operation of bars and have restaurants go to take out and outdoor dining. Shortly after the ideas were presented to the Governor's Office, Dr. Christ adopted the metrics and highlighted them as a key tool for driving future intervention decisions. Those metrics were then used when the state decided to lift the limitations put on businesses during the summer "pause".

Under these metrics bars and in-person dining are not allowed to operate when a county is in the Substantial category (based on more than 100 cases per 100,000 residents, more than 10% of people testing coming back positive, and more than 10% of people showing up at hospitals having COVID-like illness). We supported those metrics (although we pointed out that COVID-Like Illness is a poor metric for decision-making).

Likewise, after advocacy from many quarters including Superintendent of Public Instruction Kathy Hoffman, the Governor ordered Director Christ to adopt metrics to assist school districts with making decisions about whether, how and when to decide between in-person, hybrid or distance learning.

Virus Goes Exponential Again

By November it was clear that the virus was in exponential growth in Arizona. Many advocacy groups recognized this and urged Governor Ducey and Director Christ to take decisive action to slow the spread of the virus.

The ASU Biodesign Institute team published a new [Arizona-specific model using a framework that ties disease surveillance with the future burden on Arizona's healthcare system](#). Their framework accounts for multiple COVID-19 patient outcomes and the

observed time delay in epidemiological findings following public policy decisions. [Here are their primary conclusions](#) (keep in mind that their projections during the pandemic have been *remarkably* accurate).

Despite advocacy following the model release, the Governor and Director elected to take no action. Recognizing the gravity of their inaction, a group of hospital Chief Medical Officers [wrote to the state health director urging her to implement several specific interventions to slow the tide of patients deluging Arizona's hospitals](#). The memo didn't work as Governor Ducey and Director Christ refused to act.

A week later, Arizona Hospital and Healthcare Association put [together a template letter](#) encouraging community leaders and hospital CEOs to circulate to elected officials in their jurisdictions.

Time was of the essence. Community spread was again becoming exponential. Immediate interventions were needed to prevent another hospital crisis and excess deaths.

Lack of Action Blamed on Lack of a Safety Net

At a mid-December media conference, Governor Ducey suggested that he was unwilling to implement a statewide face covering mandate and restrictions on the operation of bars, nightclubs and restaurants in part because of the lack of a safety net for workers in those businesses.

What has not been fully appreciated is the fact that the Governor has chosen not to use hundreds of millions of dollars in CARES Act funds to create the very safety net that those federal funds were designed to be used for.

CARES Act funds could have been used to enhance state unemployment insurance and target relief funds to affected businesses that would have been impacted by the targeted interventions. Instead, he elected to backfill the state's General Fund.

Ducey, who singularly controls \$1.9 billion of federal coronavirus relief money, distributed about 22% of it (nearly \$400M) back to state agencies who proceeded to pay for staffing, supplies, travel, and other operating expenses with the federal CARES Act money. The agencies (including ADHS which also got large cash distributions on their own from the CDC) then sent their state appropriated funds for FY 20 and 21 back to the state General Fund.

This slight-of-hand served to spend CARES Act money that could have been used for business relief back to the state General fund. As reported by Dillon Rosenblatt in the Arizona Capitol Times: [Ducey sends \\$400M of CARES money to state agencies](#) "Arizona effectively allocated nearly \$400 million to state coffers by using the federal funds to pay for already-budgeted salaries and some other expenses across several state agencies".

According to the report: "About \$396 million of that was used for "state agency public health and public safety expenses,". Eleven agencies — the departments of Agriculture, Corrections, Economic Security, Health Services, Insurance and Financial Institutions, Juvenile Corrections, Liquor Licenses and Control, Public Safety, Revenue and

Transportation, as well as Arizona Parks & Trails — that received CARES Act funding *will deposit \$300 million back into the state's General Fund and \$96 million into other funds*"

Business Operation Standards Scrapped by ADHS

As community spread began to increase in late October and into November & December, county after county moved into the Substantial spread category. When asked why ADHS was not advocating for enhanced interventions because of the substantial spread, Dr. Christ (the agency director) said that while the metrics were valuable for deciding when to open businesses, they were irrelevant for deciding when to close them.

As that argument became increasingly untenable, Dr. Christ quietly changed the standards governing business operations such that it is impossible to reach a threshold in which community spread is high enough to warrant enhanced interventions on bars and restaurants, no matter how serious the infection rate gets. Basically, Substantial Spread has been eliminated as a category.

This link to the [ADHS Business Dashboard](#) shows the spread of COVID. The state as a whole and all the counties are well into the Substantial Spread range in terms of cases per 100,000, percent positivity, and even COVID-Like Illness.

Second Hospital Crisis Begins

As exponential growth continued throughout late November and December, the Governor and Director Christ continued to take no meaningful action and Arizona's hospital capacity crisis began in earnest.

By December, it became clear that the Governor understood the gravity of what was about to happen in the hospitals and he signed an executive order distributing about \$100M in CARES Act money to hospitals so they could try to hire out of state nurses to help with staffing. This was an effort to try to keep the wheels on in hospitals recognizing that he was unwilling to make decisions to slow the influx of patients into the system.

By mid-December, Arizona hospitals were again operating under Contingency Standards of Care. During this transition from conventional standards of care to contingency standards of care, hospitals change their practices and do everything they can to maintain the standard level of care. Under Contingency Standards of Care, changes in care may include conserving supplies, transferring patients, restricting non-emergency procedures, and altering admission and discharge procedures.

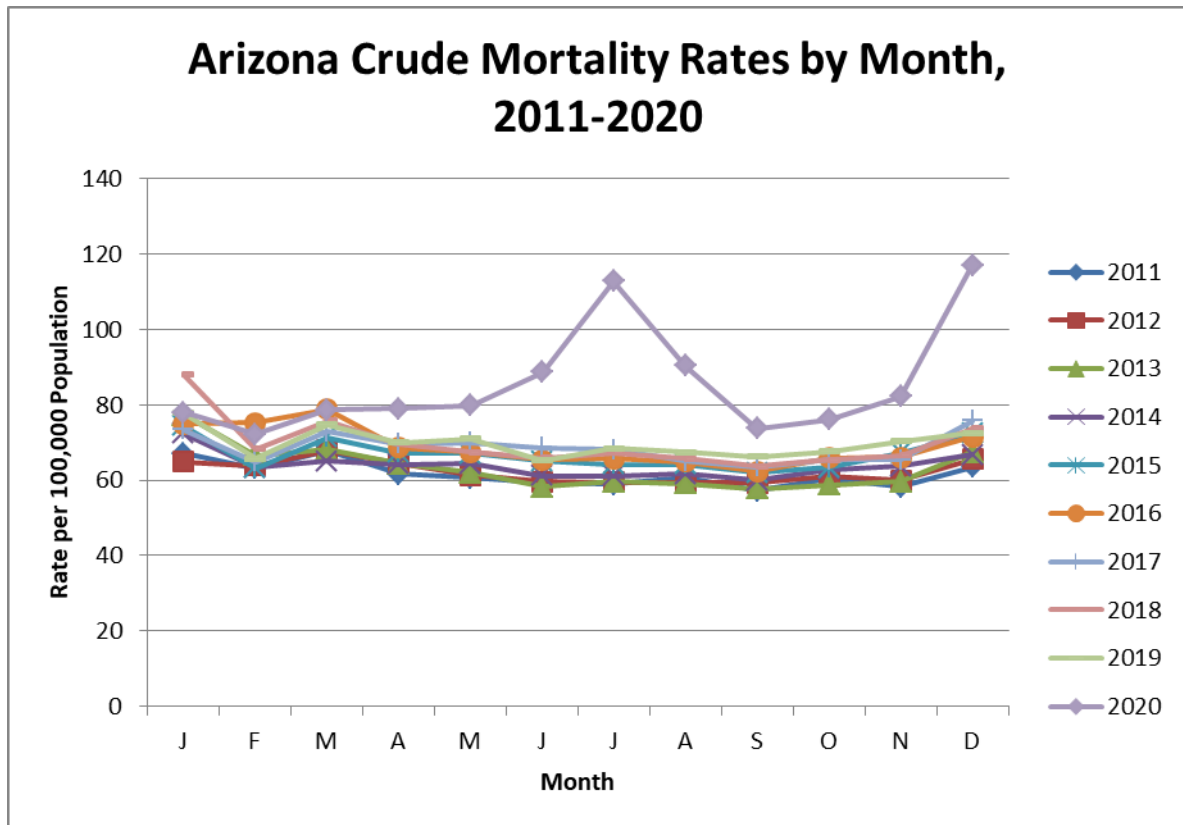
Year-end All-Cause Mortality Report Presents Grim Picture

By the end of 2020 Arizona had recorded 14,972 more deaths in 2020 than in 2019. According to the ADHS data dashboard, about 11,528 of these deaths have been a direct result of a SARS CoV2 infection. This suggests that an additional 3,444 deaths during this period may be indirectly attributable to the pandemic.

For example, persons with chronic obstructive pulmonary disease may have developed a mild SARS CoV2 infection that worsened their underlying medical condition. Only a more detailed review of the medical record and death certificate would reveal that the coronavirus was a core cause of the death.

Perhaps of most importance, non-emergency procedures were not available for many Arizonans unless the procedure was urgent. This causes delays in care that may be responsible for many of the additional deaths.

There is also ample evidence that delayed care during the late spring and early summer because of fears of coronavirus infections in healthcare facilities. These decisions may have also resulted in deaths indirectly related to the novel coronavirus because of the social disruption caused by the rapid increase in cases Arizona experienced in June and July.



Vaccination Rollout

Arizona's efforts to vaccinate top priority populations got off to a rocky start in December and January. This was in part due to glitches in the software that was developed by an ADHS contractor designed to coordinate appointments at the various mass vaccination clinics.

Glitches in the ADHS' VMS scheduling software failed to make appointments for thousands of healthcare workers that had pre-registered for vaccination. If you want to read more, check out this story by Ray Stern in the Phoenix New Times: [Arizona Vaccine Rollout Delayed by Computer Glitches, County Says](#).

County health departments opened points of dispensing across the state and have been vaccinating persons in category 1b as quickly as they can. An additional high-profile state vaccination site is located at State Farm Stadium. However, as of today (January 14, 2021) Arizona has been averaging 11,000 vaccinations per day statewide.

Prior to last week there were more than 1,000,000 Arizonans in Category 1b including more than 500,000 people over the age of 75. With only about 200,000 persons vaccinated so far, we have only scratched the surface when it comes to vaccinating seniors. Nevertheless, the ADHS elected last week to expand the pool of persons in Category 1b by an additional 250,000 persons aged 65-74 to the cohort.

As of today, less than 50% of all the vaccines that have been delivered to Arizona (822,050) have been administered (400,000). Remember, these vaccines require a booster so many of those vaccines are the follow up shot (fewer than 263K persons have been vaccinated).

To get a perspective of how AZ is doing when compared to other states both in numbers and rates, you can visit the CDC's new COVID tracking site at: [CDC COVID Data Tracker](#)

We're hopeful that the pace of vaccination will pick up over time as efficiencies are found and more delivery points are established. Additionally, we expect the more flexible Johnson & Johnson and AstraZeneca vaccines to become available in March.

The Consequences of Missed Opportunities

Arizona's poor performance has not been because of bad luck or fate as has been suggested by Governor Ducey and Director Christ. It is largely because of an inability to learn from policy successes and failures, bad decisions, misplaced priorities, and an inability to execute core responsibilities.

As we press into the rest of the winter and into spring it appears that Governor Ducey and Director Christ have no intention of implementing preventative measures to slow the spread of this virus (except for a vaccinations). Getting control of the pandemic by vaccination and herd immunity is one way to control a pandemic. However, more loss of life will occur with no other serious mitigation put in place.

They have been unwilling to:

- Use CARES Act funds to create a safety net for businesses and employees;
- Implement needed interventions in bars, nightclubs, and restaurants and a meaningful enforcement system for mitigation; or
- Implement a statewide enforceable face mask mandate focusing on business accountability vs. individual accountability.

Over the years to come, research and studies will be performed not only the effects of COVID but also on the results of various mitigation strategies. Economies, COVID case rates, and COVID death rates will be studied across states and countries. There are clearly tradeoffs that must be considered by Governors as they make decisions about whether to close certain businesses (like bars and nightclubs) to save lives.

The absence of safety nets results in suffering as people lose jobs and income. However, ample CARES act funding existed throughout this pandemic (\$1.9B in Arizona) to create the very safety net that can mitigate those effects. Our Governor has decided that

backfilling state agency budgets (to the tune of \$400M) is a higher priority than creating a safety net that would allow him to responsibly implement urgent interventions.

In Arizona we saw first-hand what worked to lower COVID case rates and save lives: face masks mandates implemented by cities/counties and mitigation/enforcement strategies in high-spread businesses like bars and nightclubs.

Sadly, many of these COVID cases and deaths could have been avoided if Governor Ducey and Director Christ had learned from their successes in the spring and early summer of 2020 and used evidence to drive their decision-making.

Because they did not, many thousands of lives will have been lost. It is an unimaginable tragedy. Everyone lost was a mother, a father, a sister or brother, or son or daughter. They had kids. They left loved ones behind.

Will Humble, MPH
Executive Director,
Arizona Public Health Association

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