

# **Analysis of 2023 California Correctional Health Care Services Mortality Reviews**

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## I. Introduction

Medical care for persons incarcerated in California Department of Corrections and Rehabilitation (CDCR) facilities was placed under Federal receivership in April 2006, after a ruling that found California in violation of incarcerated persons' rights to constitutionally adequate medical care under the Eighth Amendment to the Constitution. Medical care in the state's prisons was so poor that an estimated average of one incarcerated person each week died as a result of malpractice or neglect.

The work of the Receivership has been transformational. In 2015, after a decade of meaningful reform, the Receivership began delegating institutions from California Correctional Health Care Services (CCHCS) back to CDCR for management of health care with ongoing monitoring by the Receiver. During the COVID-19 pandemic, there were no further delegations, but delegation resumed in 2022. In 2023 the medical care at two additional facilities were delegated to CDCR, for a total delegation of 23 of the 33 California prisons. The CCHCS fact sheet provides a summary of the timeline of the Receivership and a list of delegated institutions.

Also in 2015, the Complete Care Model, based on the industry standard known as the Patient Centered Health Home, was adopted as the standard for the delivery of health care in CCHCS and CDCR.

In 2020, CCHCS and CDCR jointly released a new vision and mission statement with an emphasis on restorative justice, successful community reintegration and public safety.

### ***Vision***

*We enhance public safety and promote successful community reintegration through education, treatment, and active participation in rehabilitative and restorative justice programs.*

### ***Mission***

*To facilitate the successful reintegration of the individuals in our care back to their communities equipped with the tools to be drug-free, healthy, and employable members of society by providing education, treatment, rehabilitative, and restorative justice programs, all in a safe and humane environment.*

CDCR describes seven values and seven organizational and programmatic goals which taken together form the basis for The California Model, drawing upon international best practices, including those in Norway and other international systems to change the overall culture within CDCR and CCHCS. Overall, the model seeks to improve working and living conditions for all who live in, work in, and visit state prisons.

This report describes the demographics of the California prison population, summarizes the mortality review process in the prison system, and analyzes the causes of death, and trends in mortality rates. Opportunities for system improvement are categorized and analyzed. Quality improvement initiatives and their effect on specific mortality subsets are discussed and summarized.

This is the 17th consecutive annual report on mortality reviews occurring in CCHCS. All previous annual mortality reviews can be accessed at [cchcs.ca.gov/reports/](http://cchcs.ca.gov/reports/)

## II. The California State Prison Population in 2023

**Incarcerated Population:** The Receivership was created in 2006, when the California prison population numbered 171,310. Since then, Federal court mandates, California state propositions, legislative actions, and executive actions have contributed to a sizable reduction in the incarcerated population:

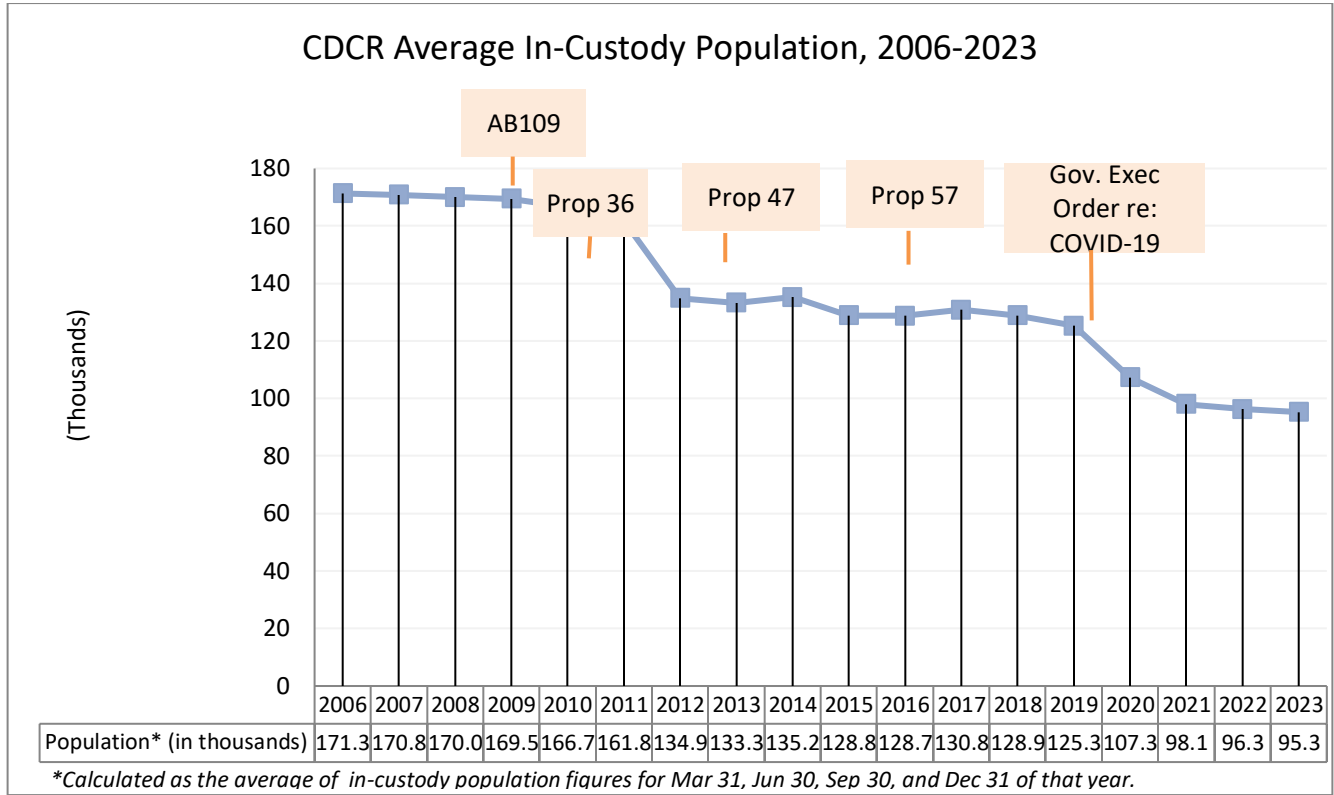
- Assembly Bill 109 (2011), an “Alternate Custody Program,” had some felons and parole violators remain in local county jails.
- Proposition 36 (the Three Strikes Reform Act of 2012) decreased the number of individuals at risk for long prison terms by allowing re-sentencing for convicts serving life sentences for felonies that were nonviolent.
- Proposition 47 (2014) converted some theft and drug possession felonies into misdemeanors.
- Proposition 57 (2017) increased good behavior early release opportunities.
- During the COVID-19 pandemic, an Executive Order by the California Governor (2020) suspended the intake of new incarcerated persons from county jails into state prisons.

In 2023, the California quarter-end in-custody populations were:

March 31, 2023	95,700
June 30, 2023	96,033
September 30, 2023	95,147
December 31, 2023	94,188

The 2023 average quarter-end population was 95,267, a 44% reduction from 2006, and the lowest in over 30 years. Figure 1 is an annotated graph of the California prison population from 2006 to 2023.

Figure 1. California State Prison Population 2006-2023



This annotated run chart shows the significant decrease in prison population, annotated with the timing of related governmental actions.

**Age:** The average age of the California prison population in December 2023 was 42.5 years. Individuals under 45 represented over three-fifths (61%) of the total prison population.

Incarcerated persons older than 55 comprised 20% of the CDCR in-custody population in December 2023, compared to 13% in Dec 2015 (CDCR Offender Data Points).

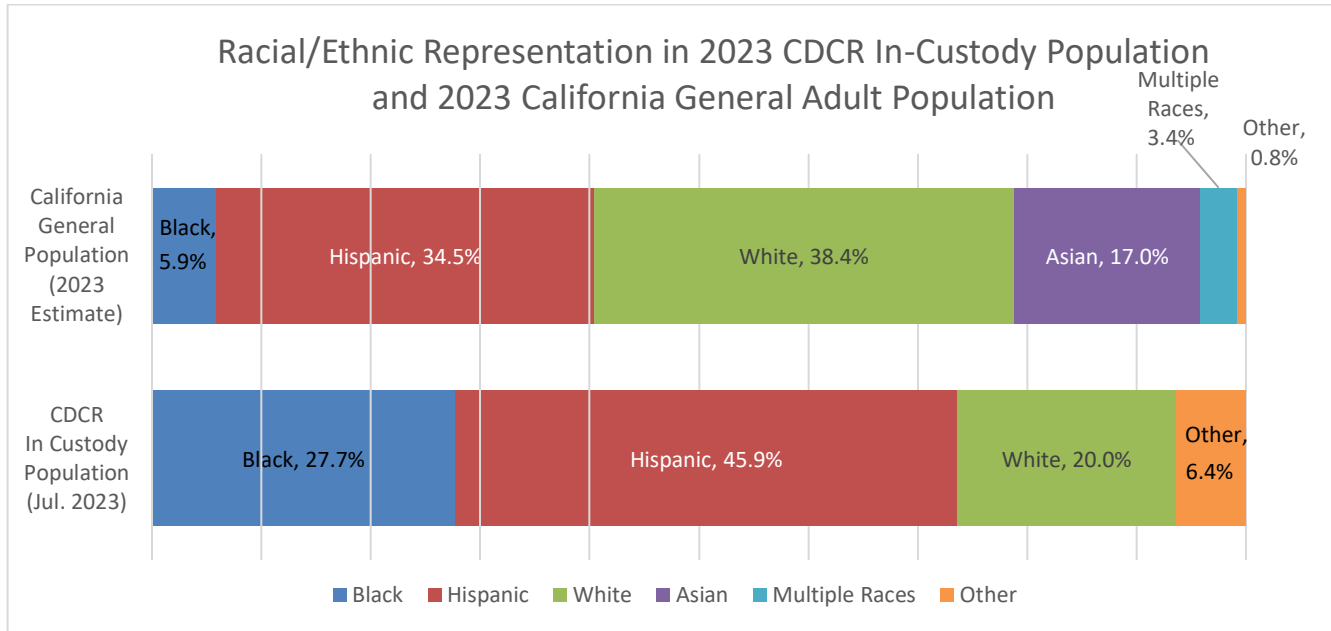
**Gender:** In December 2023, 89,431 (94.9%) of the 94,188 people incarcerated were male; 4,154 (4.4%) were female; and 603 (0.6%) were non-binary (Monthly TPOP4 Report for December 2023).

**Race/Ethnicity:** The in-custody population in December 2023 was 27.7% Black, 45.9% Hispanic, 20% White, and 6.4% other races (Offender Data Points, CDCR Public Dashboard).

2023 estimates from the California Department of Finance Demographic Research Unit show the California general adult (18+) population to be 5.9% Black Non-Hispanic, 34.5% Hispanic Any Race, 38.4% White Non-Hispanic, 17% Asian Non-Hispanic, 3.4% Multiracial Non-Hispanic, and 0.8% other single races non-Hispanic (including American Indian and Alaska Native, Native Hawaiian and Other Pacific Islander).

Figure 2 shows the overrepresentation of California’s Black and Hispanic populations in its prison system. Black overrepresentation is the most significant, comprising 5.9% of the general population and 27.7% of the prison population. Hispanics are also disproportionately represented, comprising 34.5% of the general population and 45.9% of the prison population.

Figure 2. Racial/Ethnic Representation in California General Population and CDCR In-Custody Population



A stacked horizontal bar chart comparing the racial/ethnic representation described in the narrative above.

### III. Mortality Review Purpose and Process

The purposes of the Receiver’s Mortality Review Unit are to utilize mortality data to mitigate patient harm, and to identify opportunities for improvement (OFIs) as they relate to patient safety, the quality of health care services, and patient outcomes.

Every patient death triggers an initial death report generated by the prison in which the death occurs. This report includes significant clinical events, summarizes the emergency medical response, and gives a provisional immediate cause of death. The initial report is forwarded to the Mortality Review Unit.

The Mortality Review Unit conducts an independent review. This review summarizes the patient’s movement history within the California prison system and collects relevant information for the nurse

and medical provider reviewers such as an autopsy report and a toxicology report from the local coroner when available.

A nurse reviewer conducts an extensive review of the patient's clinical record beginning at least six months prior to the date of death (the reviewer may include older records to review pertinent antecedents to the terminal event). The quality of triage and evaluation, timeliness of access to care, the quality of care, adherence to published evidence-based care guides and nationally recognized standards of care, responses to all abnormal laboratory and imaging studies, and the timing and quality of emergency responses are reviewed.

Any history of drug and alcohol abuse is noted, including interactions with the CCHCS substance use program and the patient's experience with medication assisted therapy.

The patient's mental health care is also summarized, including a listing of significant mental illnesses, interactions with the mental health system of care, significant nonadherence problems, and potential for self-harm. The nurse reviewer also identifies any opportunities for improvement in systems or processes related to health care delivery (OFIs).

A medical provider reviewer proposes an immediate cause of death, an underlying cause of death, any significant conditions contributing to but not related to the immediate cause of death, and additional OFIs. The death is assigned to one of four categories: expected or unexpected death, with or without OFIs.

All suicides or possible suicides undergo a separate case review by the Suicide Prevention and Response Focused Improvement Team (SPRFIT).

The Mortality Review is then presented at the Headquarters Mortality Review Discussion Group (MRDG). For each death, the group reaches consensus about the immediate and underlying causes of death, contributing causes of death, and OFIs. The group also identifies Potential Quality Issues (PQI), which are incidents occurring outside the CDCR prison system in one of the Healthcare Provider Networks that contract with the state to provide hospital care or specialist care. Such events have potential quality of care implications.

A final CCHCS Mortality Review is sent to the institution (prison) and regional health care leadership, and findings are entered in the Electronic Health Care Incident Reporting (eHCIR) system. Pertinent OFIs are also referred to the Nursing Professional Practices Committee and other peer review bodies.



## IV. 2023 Study Findings

### A. Causes of Death

In 2023 there were 383 deaths among incarcerated persons. The counts and causes of these deaths are listed in Table 1 below.

Table 1. Causes of Death Among California Incarcerated Persons, 2023

Number of Cases	Category and Causes of Death
86	<p>Drug Overdose</p> <p>fentanyl (44); unspecified (12); fentanyl, methamphetamine (7); methamphetamine (3); fentanyl, morphine (2); heroin (2); opioid-other (2); amphetamine (1); buprenorphine (1); cocaine (1); fentanyl, clonidine (1); fentanyl, ethyl alcohol (1); fentanyl, morphine, ethyl alcohol (1); fentanyl, other (1); fentanyl, methamphetamine, heroin (1); fentanyl, methamphetamine, morphine (1); fentanyl, fluoxetine (1); fluoro-fentanyl, methamphetamine (1); methamphetamine, opioid-other (1); methanol (1); presumed fluoxetine, clozapine, hydroxyzine (1)</p>
69	<p>Cancer</p> <p>lung (13); prostate (8); colon (6); pancreas (6); unknown primary (5); cholangial (3); leukemia, acute (3); bladder (2); esophagus (2); melanoma (2); brain glioblastoma (1); brain, meningioma (1); head (squamous cell carcinoma) (1); kidney (1); larynx (1); lymphoma (1); lymphoma B cell (1); lymphoma mantle cell (1); myeloma (1); nasopharynx (1); neuroendocrine GI (1); neuroendocrine of liver (1); oropharynx (1); pancreaticobiliary (1); sarcoma, synovial (1); scalp (1); stomach (1); testis (1); tongue (1)</p>
53	<p>Cardiovascular Disease</p> <p>sudden cardiac arrest (24) – including the following: 11 with coronary artery disease, five with hypertension, three with possible acute myocardial infarction, one with arrhythmia -prolonged QT interval, one with ventricular tachycardia, one with combined drug toxicity, two with CHF; congestive heart failure (11); acute myocardial infarction (10); abdominal aortic aneurysm dissection (2); abdominal aortic aneurysm repair, hemorrhagic shock (1); abdominal aortic aneurysm rupture (1); arrhythmia atrial fibrillation (1); arrhythmia prolonged QT syndrome (1); cardiomyopathy (1); stroke hemorrhagic, hypertensive (1)</p>
33	<p>Infectious Disease (including COVID-19)</p> <p>sepsis (21); pneumonia (6); endocarditis infective (2); COVID-19 (1); meningitis (1); spinal epidural abscess (1); tuberculosis, extrapulmonary (1)</p>
30	<p>Suicide</p>

Number of Cases	Category and Causes of Death
	asphyxiation (23); drug overdose (3); exsanguination (3); head trauma (1)
22	Homicide (22)
21	Advanced Liver Disease, including Hepatocellular Carcinoma hepatocellular carcinoma (10); end stage liver disease (ESLD) hepatitis C positive (8); alcoholic cirrhosis (2); autoimmune hepatitis (1)
15	Circulatory System pulmonary embolism (10); abdominal aortic aneurysm rupture (2); congestive heart failure post aortic stenosis repair (1); sickle cell disease (1); stroke hemorrhagic (1)
15	Pulmonary chronic obstructive pulmonary disease (6); interstitial pulmonary fibrosis (5); asphyxiation of foreign body (1); pneumonia (1); pneumonia aspiration, post operative (1); pulmonary hypertension (1)
14	Cerebrovascular Disease stroke hemorrhagic (6); stroke ischemic (5); stroke embolic (1); subdural hematoma secondary to AV fistula (1); subdural hematoma secondary to trauma (1)
10	Neurological Disease dementia unspecified (3); dementia Parkinson Disease (3); dementia Alzheimer (2); seizure disorder (2)
4	Gastrointestinal Disease upper gastrointestinal hemorrhage (3); small bowel perforation (1)
4	End Stage Renal Disease
3	Unknown
2	Auto Immune Multiple sclerosis (1); rheumatoid arthritis with rheumatoid lung (1)
1	Accidental Injury accidental neck injury - gunshot wound (1)
1	Endocrine/Metabolic/Nutrition/Immunologic aspiration pneumonia secondary to cachexia (1)
<b>383</b>	<b>Total</b>

Drug overdose was the leading cause of mortality in 2023, causing 86 deaths. This was a significant increase over all prior years; the previous high being 53 cases in 2022. As in 2022, fentanyl was responsible for a large majority of cases. Of the 86 cases in 2023, 61 (71%) involved fentanyl, either alone (44 cases) or in combination with other drugs (17 cases).

Cancer, with 69 deaths, was the second leading cause of death in 2023. Cancer of the lung, with 13 cases, caused 19% of all cancer deaths.

Cardiovascular diseases caused 53 deaths in 2023. Sudden cardiac death or sudden cardiac arrest (24 cases) represented 44% of these deaths. Sudden cardiac death is caused by a sudden cessation of cardiac activity in patients with underlying structural heart disease and 14 of these patients had underlying coronary artery disease or possible acute myocardial infarction, 5 had hypertension, and two had underlying congestive heart failure. The other cardiovascular deaths were caused by decompensated congestive heart failure (11 cases), acute myocardial infarction (11 cases), aortic aneurysms (4 cases), arrhythmias (2 cases), cardiomyopathy (one case) and intracranial hemorrhage from poorly controlled hypertension (one case).

Infectious diseases, including COVID-19, caused 33 deaths. Sepsis was responsible for 21 of these deaths, followed by pneumonia (6 cases), infective endocarditis (2 cases), and single cases of meningitis, spinal epidural abscess, and extrapulmonary tuberculosis. COVID-19 caused only one death in 2023, continuing the remarkable turnaround from 2020 (141 deaths), 2021 (90 deaths), and 2022 (13 deaths).

Suicide attempts caused 30 deaths, nine more than in 2022.

Homicides accounted for 22 deaths.

Advanced or end stage liver disease (ESLD), including hepatocellular cancer (HCC), caused 21 deaths in 2022. HCC, as a consequence of advanced liver disease, caused ten of these deaths. Eight deaths were caused by hepatitis C positive liver cirrhosis without demonstrable liver cancer. Two deaths were caused by alcoholic cirrhosis, and one by autoimmune hepatitis.

Pulmonary diseases caused 15 deaths, including six from chronic obstructive pulmonary disease and five from interstitial pulmonary fibrosis.

Diseases of the circulatory system caused 15 deaths, including 10 deaths from pulmonary embolism. Cerebrovascular disease, including six hemorrhagic strokes, five ischemic strokes and two subdural hematomas, caused 14 deaths.

Neurological diseases caused 10 deaths, eight caused by dementia and two by seizure disorders.

Gastrointestinal diseases caused four deaths, three from upper gastrointestinal hemorrhage and one from small bowel perforation.

End stage renal disease caused four deaths in 2023.

There were three deaths of unknown cause, two deaths from autoimmune disease, one metabolic nutritional death from cachexia, and one accidental death caused by custody intervention in an altercation involving incarcerated persons.

Table 2 shows the top causes of death in the California prisons from 2006 through 2023.

Table 2. Top Causes of Death Among California Incarcerated Persons, 2006–2023

YEAR	RANK								
	1	2	3	4	5	6	7	8	9
2023	Drug Overdose	Cancer	Cardiovascular Disease	Infectious Disease**	Suicide	Homicide	Advanced Liver Disease	(tied) Circulatory, Pulmonary	
2022	Cancer	Cardiovascular Disease	Drug Overdose	Advanced Liver Disease	Infectious Disease (not COVID-19)	Homicide	Suicide	Neurological Disease	Infectious Disease (COVID-19)
2021	Infectious Disease - COVID-19	Cancer	Cardiovascular Disease	(tied) Advanced Liver Disease; Infectious Disease (not COVID-19)**		Drug Overdose	(tied) Homicide; Suicide		Pulmonary
2020	Infectious Disease - COVID-19	Cancer	Cardiovascular Disease	Infectious Disease (not COVID-19)**	(tied) Advanced Liver Disease; Homicide		Suicide	Drug Overdose	Neurological Disease
2019	Cancer	Drug Overdose	Cardiovascular Disease	Advanced Liver Disease*	Suicide	Infectious Disease**	Homicide	Pulmonary	Neurological Disease
2018	Cancer	Cardiovascular Disease	Drug Overdose	End Stage Liver Disease*	Infectious Disease**	(tied) Suicide, Homicide		Pulmonary	Circulatory System
2017	Cancer	Cardiovascular Disease	End Stage Liver Disease*	Drug Overdose	Infectious Disease**	Suicide	Homicide	Cerebrovascular Disease	Pulmonary
2016	Cancer	Cardiovascular Disease	End Stage Liver Disease*	Infectious Disease**	Drug Overdose	(tied) Suicide, Homicide		Cerebrovascular Disease	Pulmonary
2015	Cancer	Cardiovascular Disease	End Stage Liver Disease*	Infectious Disease**	Suicide	Drug Overdose	Homicide	Cerebrovascular Disease	Pulmonary
2014	Cancer	End Stage Liver Disease*	Cardiovascular Disease	Suicide	Drug Overdose	Pneumonia **	Homicide	Pulmonary	(tied) Infectious; Stroke-Hemorrhagic

YEAR	RANK								
2013	Cancer	End Stage Liver Disease*	Cardiovascular Disease	Suicide	Drug Overdose	Homicide	Sepsis**	(tied) Pulmonary; Pneumonia**	
2012	Cancer	End Stage Liver Disease*	Cardiovascular Disease	Suicide	Homicide	Drug Overdose	(tied) Sepsis; Infectious**		Stroke
2011	Cancer	End Stage Liver Disease*	Cardiovascular Disease	Suicide	Pneumonia**	Homicide	Sepsis**	Drug Overdose	Stroke
2010	Cancer	End Stage Liver Disease*	Cardiovascular Disease	Suicide	(tied) Drug Overdose; Homicide		Pneumonia**	Congestive Heart Failure	(tied) Coccidioidomycosis; End Stage Renal Disease; Stroke
2009	Cancer	End Stage Liver Disease*	Cardiovascular Disease	Suicide	Drug Overdose	Pneumonia**	Congestive Heart Failure	Homicide	
2008	Cancer	Suicide	End Stage Liver Disease*	Cardiovascular Disease	Drug Overdose	Pneumonia**	HIV/AIDS	Congestive Heart Failure	Sepsis**
2007	Cancer*	End Stage Liver Disease	Cardiovascular Disease	Suicide	Homicide	HIV/AIDS	Stroke	Drug Overdose	Pneumonia**
2006	Cancer*	Cardiovascular Disease	End Stage Liver Disease	Suicide	Drug Overdose	Homicide	Pulmonary	End Stage Renal Disease	Stroke

\* Liver Cancer was counted as Cancer in 2006 and 2007; then as Liver Disease from 2008 onward.

\*\* Beginning with 2015, Pneumonia and Sepsis were included in Infectious Disease, which also includes HIV/AIDS. COVID-19 was its own category from 2020 through 2022, then combined with Infectious Disease in 2023.

Drug overdose deaths rose to become the overall leading cause of death in 2023, while cancer and cardiovascular diseases were the number two and three leading causes in 2023. COVID-19, the leading cause of death in 2020 and 2021, was ninth most common in 2022 and, thanks to widespread adoption of the covid vaccine, was only responsible for a single death in 2023. Also significant was the ongoing drop in advanced liver disease deaths, which was the second leading cause of death in the years 2007 and 2009-2014, falling to seventh place in 2023.

## B. Ages at Death

The average age of the 373 male incarcerated persons who died in 2023 was 56 years; the average age of the 10 deceased female incarcerated persons was also 56 years. The youngest death was at age 21; the oldest at age 88. In 2023, drug overdoses, suicides, and homicides caused death at an average age of 42 while the average age of death by all other causes was 67.

## C. Expected and Unexpected Deaths

An Expected Death is defined as a medically anticipated death which is related to the natural course of a patient's illness or underlying condition, whereas an Unexpected Death is not (usually) related to the natural course of a patient's illness or underlying condition.

### 1. Expected deaths

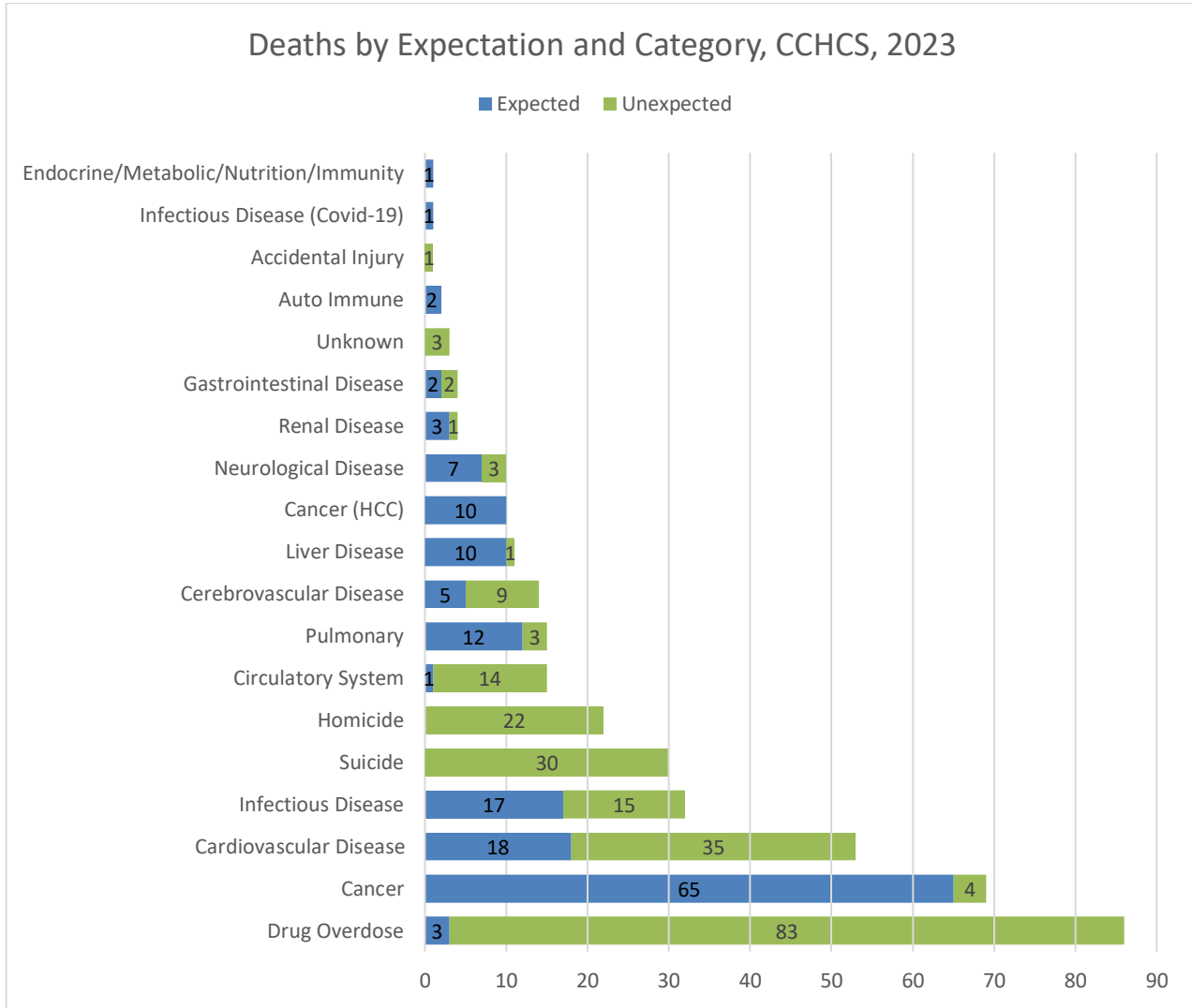
There were 157 expected deaths in 2023. They were the result of chronic disease processes such as cancer, end stage liver disease, infections, and chronic cardiovascular, pulmonary, neurologic and gastrointestinal diseases. Three drug overdose deaths were categorized as expected due to the unusual length of time between overdose and death.

### 2. Unexpected deaths

There were 226 cases of unexpected death in 2023. Suicides, homicides, and all but three drug overdoses together accounted for 135 (58%) of these. Sudden cardiac arrests, acute myocardial infarctions and strokes were mostly unexpected.

Figure 3 compares unexpected and expected deaths in each category.

Figure 3. Deaths by Expectation and Category, CCHCS 2023



A horizontal stacked bar chart showing the breakdown of expected and unexpected deaths for each categoric cause of death.

### D. Discussion of mortality trends

This section examines mortality trends in key areas. Where referenced, comparative U.S. State Prison data through 2019 are sourced from the U.S. Bureau of Justice Statistics (BJS), *Mortality in State and Federal Prisons, 2001-2019 - Statistical Tables*, Table 4 (NCJ 255970, December 2021). Sources for more recent statistics are noted where used.

#### 1. CCHCS mortality rates

The following table shows the number of deaths and the corresponding mortality rates in California prisons from 2006-2023, compared to mortality rates in all U.S. state prisons.

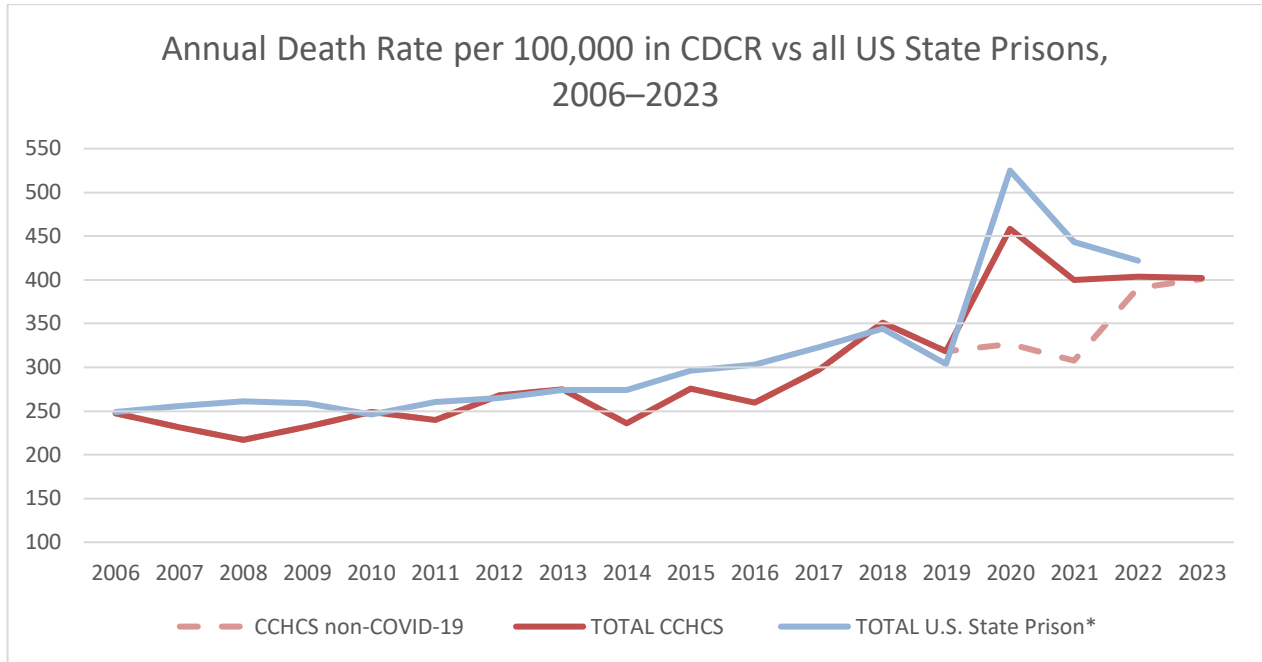


Table 3. Annual Mortality Rates Among California and U.S. State Prisons, 2006-2023

YEAR	CDCR Number of Deaths	CDCR Population	Death Rate per 100,000	
			CDCR	U.S. State Prisons*
2006	424	171,310	248	249
2007	395	170,786	231	258
2008	369	170,022	217	261
2009	393	169,459	232	259
2010	415	166,700	249	246
2011	388	161,843	240	260
2012	362	134,929	268	266
2013	366	133,297	275	274
2014	319	135,225	236	276
2015	355	128,824	276	298
2016	334	128,705	260	304
2017	388	130,807	297	327
2018	452	128,875	351	347
2019	399	125,270	319	330
2020	(all) 492 (COVID-19) 141 (non-COVID-19) 351	107,347	458 131 327	525
2021	(all) 392 (COVID-19) 90 (non-COVID-19) 302	98,077	400 92 308	443
2022	389 (COVID-19) 13 (non-COVID-19) 376	96,341	404 13 390	422
2023	383 (COVID-19) 1 (non-COVID-19) 382	95,267	402 1 401	N/A

\*U.S. figures may have been revised by BJS from previously published statistics. Years 2007-2019 from [Mortality in State and Federal Prisons, 2001-2019 - Statistical Tables | December 2021](#); NCJ 300953. Years 2020 and later from Tables 1 and 9, ["Prisoners in \[2020, 2021, 2022\] - Statistical Tables"](#), NCJ 302776, 305125, 307149; U.S. Department of Justice, Office of Justice Programs, Bureau of Justice Statistics.

Figure 4. Annual Death Rates per 100,000, CCHCS vs all U.S. State Prisons 2006-2023



A line chart illustrating trends in annual death rates, based on the numbers in the table above.

The 2023 mortality rate of 402 is the highest recorded except for the years 2020-2022, when covid deaths inflated the overall CCHCS mortality rate.

## 2. Drug overdose

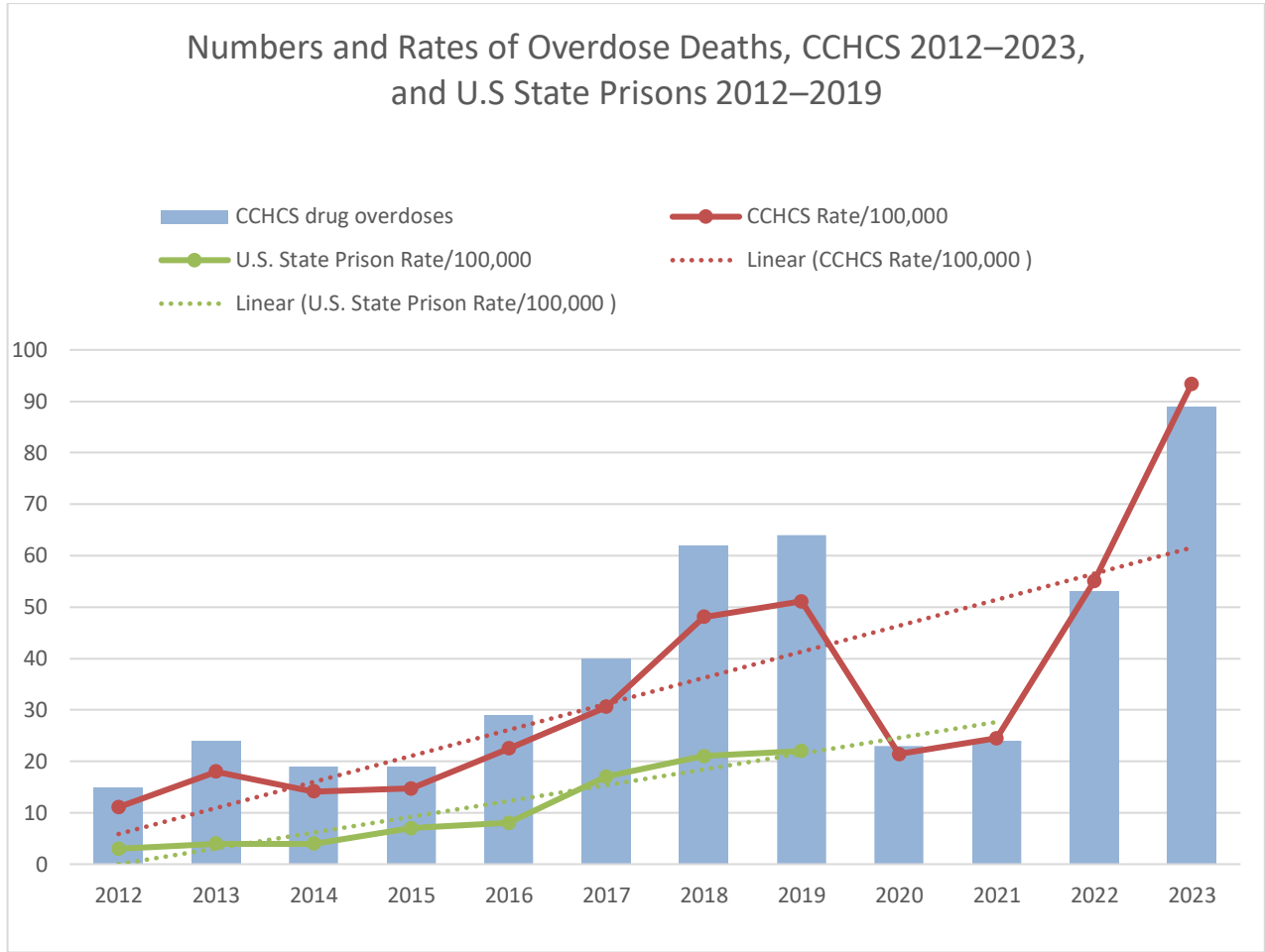
There were 89 drug overdose deaths in 2023 (86 accidental overdose deaths and 3 suicides by intentional drug overdose), for an annualized mortality rate of 93/100,000. This was the number one cause of mortality in 2023, and the highest overdose mortality rate in the history of the Receivership, exceeding the record 2022 rate of 56/100,000 by 64%.

Table 4. Numbers and Rates of Overdose Deaths, CCHCS 2012–2023, and U.S. State Prisons 2012–2019

Year	CCHCS Drug Overdoses	CCHCS Rate/100,000	U.S. State Prison Rate/100,000
2012	15	11	3
2013	24	18	4
2014	19	14	4
2015	19	15	7
2016	29	23	8
2017	40	31	17
2018	62	48	21
2019	64	51	22
2020	23	21	NA
2021	24	25	NA
2022	53	55	NA
2023	89	93	NA

Table 4, above, and Figure 5, below, show the numbers and mortality rates from drug overdose in CCHCS from 2012-2023 and in all US prisons from 2012 to 2019.

Figure 5. Numbers and Rates of Overdose Deaths, CCHCS 2012–2023, and U.S. State Prisons 2012–2019



A combination chart illustrates the rising trend in drug overdose deaths, despite a significant dip in the years 2020 and 2021.

Fentanyl was again the most overdosed drug, used in 59 of the 89 deaths from drug overdose in 2023 (alone in 44 cases and in combination with other drugs in 15 cases). Methamphetamine was used alone in 3 cases, and in combination with fentanyl in 7 cases. There was one case in which death was attributed to medications (fluoxetine, hydroxyzine and clozapine) prescribed by a physician to a patient with severe mental illness. One case in which a narcotic used in the MAT program (buprenorphine) was found, two cases in which heroin was the only drug found and two cases in which an unspecified opiate was attributed. In thirteen cases, no specific drug was implicated, but clinical circumstances weighed in favor of death by overdose (drug paraphernalia or other signs of recent drug use). The full list of drugs involved in drug overdose deaths can be found in Table 1.

In 2023, two prisons account for 34% of total overdose deaths; one of which had ten overdose deaths while the other had 20 drug overdose deaths. There were no overdose deaths in nine of the 33 California state prisons. Of the remaining 22 institutions in which overdose deaths occurred, eight institutions had one occurrence each, five institutions had two occurrences, two institutions had three overdoses, while another four sites had four overdoses each. Three prisons had six overdose deaths each.

The dramatic rise in drug overdose deaths has mirrored what is happening in the general population. In CCHCS, this has occurred despite the aggressive promotion of ongoing statewide initiatives as described in the Analysis of 2022 California Correctional Health Care Services Inmate Mortality Reviews. The Integrated Substance Use Disorder Treatment (ISUDT) program, and Medication Assisted Treatment (MAT) availability, are integrated into all prison practices. This multidisciplinary program frames drug addiction as a chronic illness. All patients should be screened using the National Institute on Drug Abuse (NIDA) quick screening questionnaire within days of intake for substance use. Medical treatment should be offered to all appropriate SUD patients. Cognitive behavioral intervention, supportive housing, monthly newsletters, and transition to community-based programs after release are other key elements. In addition, CDCR and CCHCS are expanding access to naloxone (the narcotic antagonist), making it widely available to healthcare and custody personnel at all institutional locations, and directly to patients as a keep-on-person medication.

The ISUDT program was started in 2019, and the Care Guide for SUD was released in May 2020. According to the Receiver's 55th Triannual Report, there were 16,649 patients receiving MAT by December 2023.

Of the 89 patients with drug overdose deaths, there were the following interactions with elements of the Integrated Substance Use Disorder Treatment (ISUDT) program:

- NIDA screening not done - 4
- NIDA screening declined - 1
- NIDA screening negative - 16
- ISUDT program indicated but patient not referred - 13
- ISUDT program offered but patient refused - 11
- MAT offered but patient refused - 14 patients
- Enrolled in the MAT program - 26 patients
- Nonadherent to MAT treatment - 21 patients

- MAT requested by patient but refused - 1

The third annual ISUDT Overdose Outcomes Report, published in April 2024, contained a detailed description of the drug overdose epidemic in the United States and the effect of synthetic opioids such as fentanyl on the “unprecedented” numbers of overdose deaths. The ISUDT program is described in detail.

Despite the implementation of this state-of-the-art program, overdose deaths are high and rising. The pandemic years of 2020 and 2021, when CCHCS began to treat opioid use disorder using medication assisted treatment, saw a temporary reduction in California prison overdoses, but in 2022, drug overdose mortality reached pre-pandemic levels. By 2023, drug overdoses were the leading cause of California prison deaths, and 67% of these were caused by fentanyl.

### 3. Lung cancer

Lung cancer has been the leading cause of cancer death, both in CCHCS and in the general population. In 2023, nineteen percent (13 of the 69) of cancer deaths were due to cancer of the lung.

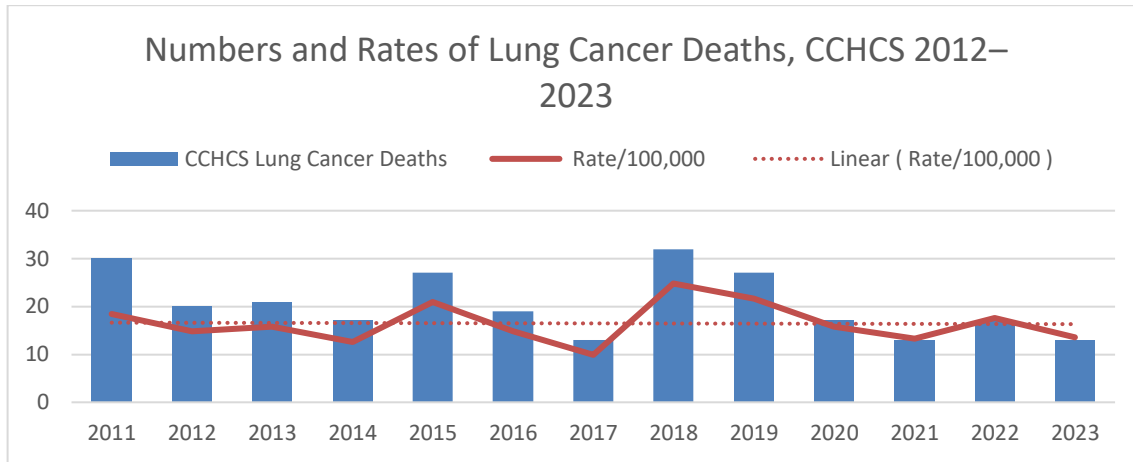
Table 5 and Figure 6 show the numbers, rates, and trends of lung cancer deaths from 2012 through 2023.

*Table 5. Numbers and Rates of Lung Cancer Deaths, CCHCS 2012-2023*

Year	CCHCS Lung Cancer Deaths	Rate/100,000
2012	20	15
2013	21	16
2014	17	13
2015	27	21
2016	19	15
2017	13	10
2018	32	25
2019	27	22
2020	17	16
2021	13	13
2022	17	18

Year	CCHCS Lung Cancer Deaths	Rate/100,000
2023	13	14

Figure 6. Numbers and Rates of Lung Cancer Deaths, CCHCS 2012-2023



This chart illustrates the numbers from the previous table and shows a recent downward trend and relatively flat linear trend over the full period.

In 2023 the lung cancer mortality rate was 14/100,000. In 2021, CCHCS incorporated the US Preventative Services Task Force recommendation to detect early lung cancer by screening all heavy smokers over age 55 with annual low dose CT scanning.

#### 4. Cardiovascular disease

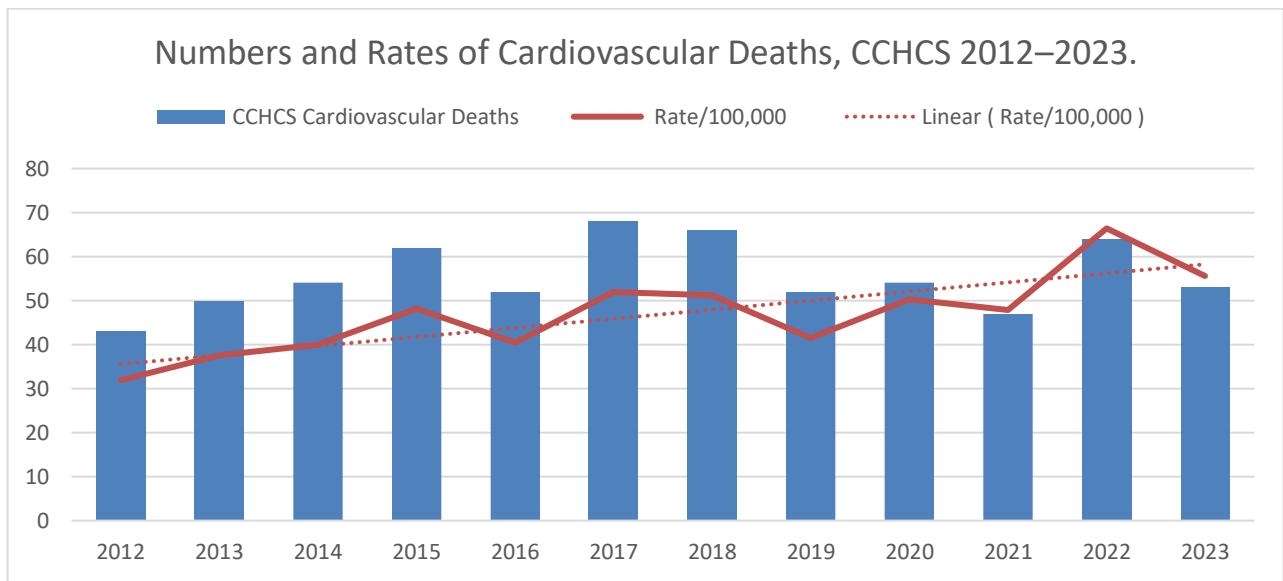
Cardiovascular disease was the third most common cause of death in 2023 with 53 deaths for a mortality rate of 56/100,000. Table 6 and Figure 7 show the numbers, rates, and trends of cardiovascular death from 2012 through 2023.

Table 6. Numbers and Rates of Cardiovascular Deaths, CCHCS 2012-2023

Year	CCHCS Cardiovascular Deaths	Rate/100,000
2012	43	32
2013	50	38
2014	54	40
2015	62	48

	CCHCS Cardiovascular Deaths	Rate/100,000
2016	52	40
2017	68	52
2018	66	51
2019	52	42
2020	54	50
2021	47	48
2022	64	66
2023	53	56

Figure 7. Numbers and Rates of Cardiovascular Deaths, CCHCS 2012-2023



This chart illustrates the numbers from the previous table and shows a slightly increasing linear trend.

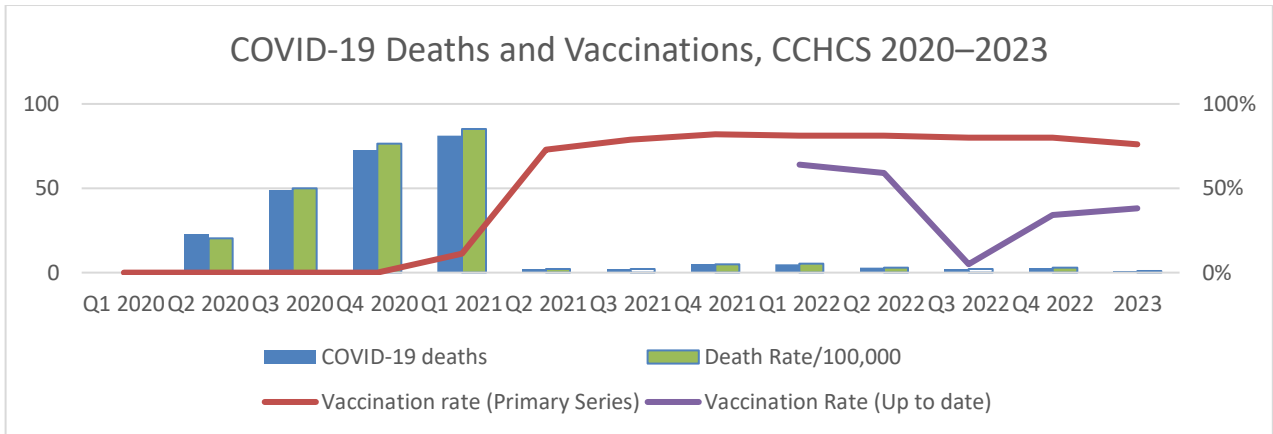
CCHCS Care Guides for chest pain, diabetes, dyslipidemia, and hypertension have stressed the importance of estimating cardiac risk in all patients and the appropriate use of education and medication to manage risk factors for coronary heart disease. There has also been an increased awareness of recognizing and managing red flag symptoms indicative of acute coronary syndromes or exacerbations of congestive heart failure.



### 5. Infectious Disease (Including COVID-19)

In 2023 there was only one death caused by COVID-19. Figure 8 shows how the COVID-19 pandemic has been controlled, attributable initially to the widespread acceptance of covid vaccine by the incarcerated population.

Figure 8. COVID-19 Deaths and Vaccinations in California State Prisons, CCHCS 2020–2023



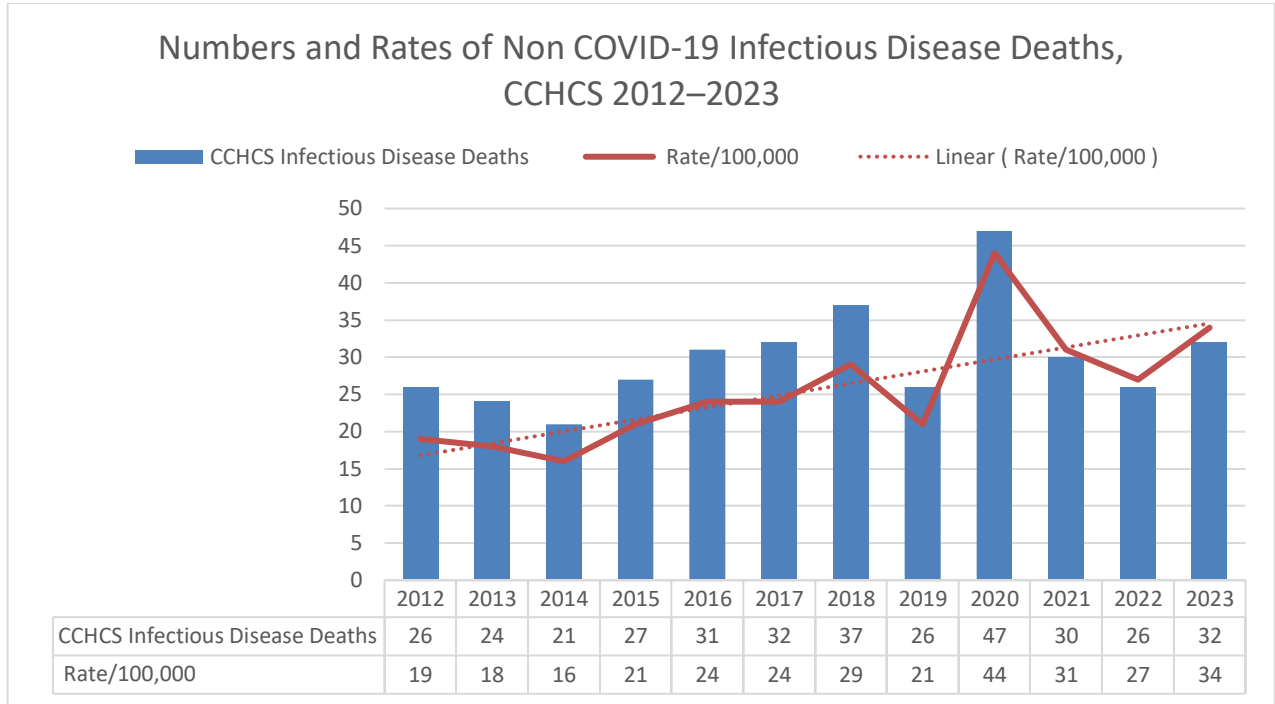
This chart illustrates a dramatic drop in COVID-19 deaths in Q2 2021 coinciding with a high rate of vaccine acceptance.

Overall, deaths from COVID-19 dropped by about 69% in the United States, decreasing from roughly 246,000 deaths in 2022 to 76,000 in 2023, according to provisional data released by the US Centers for Disease Control and Prevention (CDC). This shifted COVID-19 from the fourth leading cause of death in 2022 to the tenth, researchers noted in the Morbidity and Mortality Weekly Report. COVID-19 was the underlying cause for 1.6% of all US deaths in 2023 but was responsible for only 0.3% of deaths in CDCR.

In 2023 there were 32 deaths from infectious diseases other than COVID-19. Sepsis (22 deaths) and pneumonia (6 deaths) accounted for 88% of those cases. Infectious endocarditis caused only one death in 2023.

The next figure shows the non-COVID-19 infectious disease mortality rate for the years from 2012 to 2023.

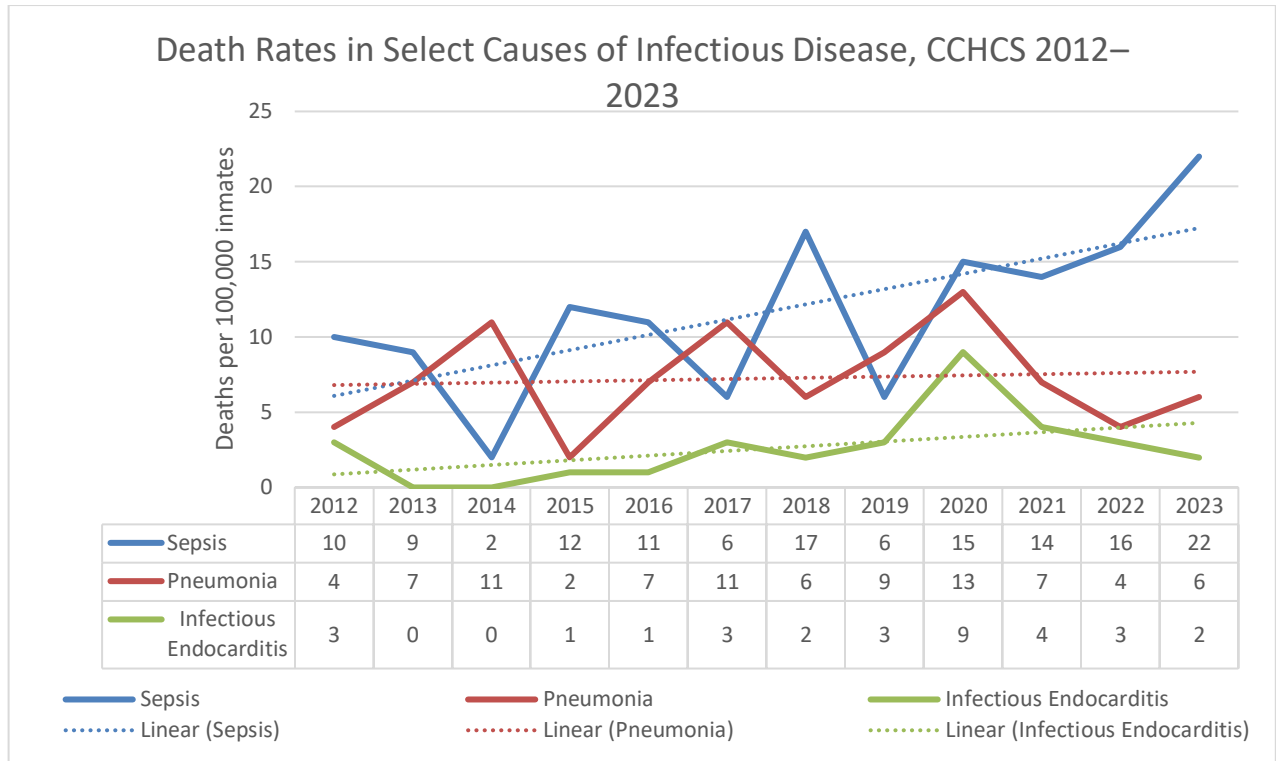
Figure 9. Numbers and Rates of Non COVID-19 Infectious Disease Deaths, CCHCS 2012-2023



*This chart shows an increasing linear trend in non COVID-19 infectious disease deaths, due in part to a spike in 2020.*

Figure 10 shows the sepsis, pneumonia, and infectious endocarditis mortality rates for each of the years from 2012 to 2023.

Figure 10. Death Rates in Select Causes of Infectious Disease, CCHCS 2012–2023



*This chart shows an increasing linear trend in sepsis death rates, a flat trend in pneumonia death rates, and a slightly increasing trend in infectious endocarditis deaths.*

Sepsis is a clinical syndrome manifested by a poorly regulated patient response to infection; the failure of multiple organ systems resulting in death. Sepsis mortality rates for 2012 to 2023 ranged from a low of two per hundred thousand in 2014 to a high of 23/100,000 in 2023. Reasons for the rising incidence of sepsis may be related to an evolution in the definition and recognition of sepsis and septic syndromes. One reference cites a fifty percent increase in septic shock hospitalizations in the United States from 2005-2014. (Chest. 2017 (2) 278-285 27452768 PMID.)

The source of systemic infection in the twenty-two cases in 2023 included five cases of sepsis secondary to pneumonia, three cases in patients with recurrent aspiration and debilitating disease, two each in patients with osteomyelitis and urinary tract infections, and single patients with cholecystitis, COVID-19, endocarditis, diverticulitis, peritonitis, and necrotizing fasciitis. Four patients had no obvious underlying source for systemic infection.

Pneumonia mortality rates ranged from two in 2015 to thirteen in 2020. There were six cases of pneumonia in 2023, in addition to the five cases of sepsis arising from pneumonia infected patients.

Infective endocarditis mortality rates range from zero in 2013 and 2014 to nine in 2020. In 2023 there were three cases of death from infectious endocarditis, one of which produced sepsis and therefore is counted in that category.

## **6. Suicide**

There were 30 deaths by suicide in 2023, nine more than in 2022, for a suicide mortality rate of 31/100,000.

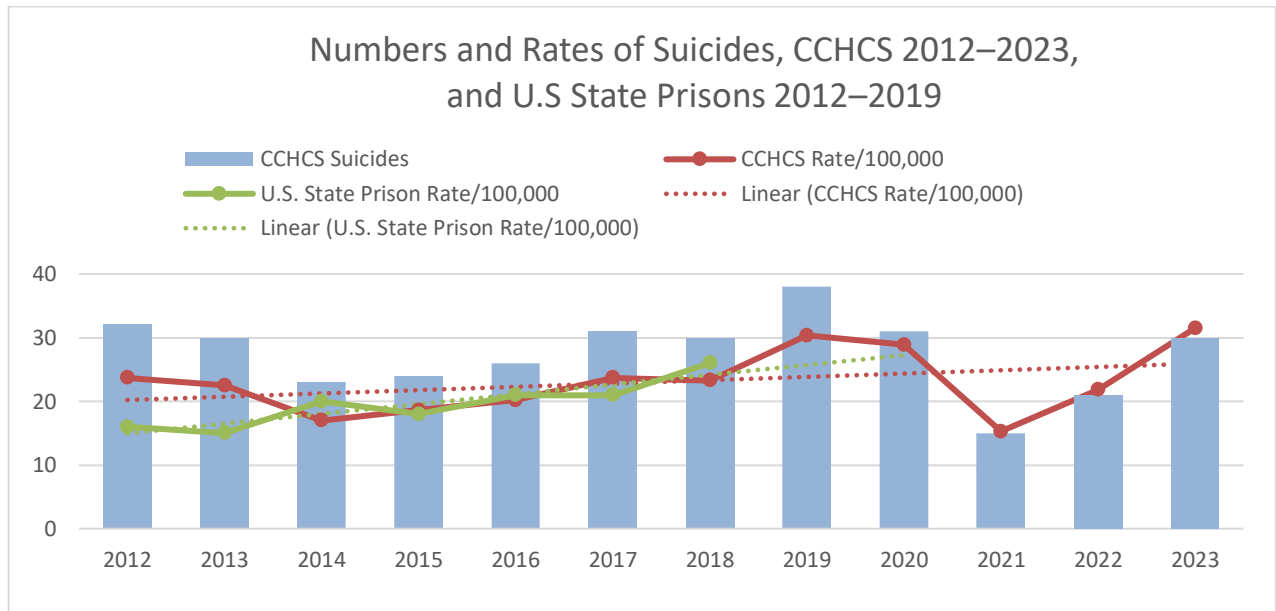
The most recent estimates of suicide rates in all U.S. state prisons, published by the Bureau of Justice Statistics, are for years 2001 through 2019. The national state prison suicide rate in 2019 was 27 per 100,000 incarcerated individuals. Suicide rates in all state prisons increased from 15/100,000 in 2001-2004 to 22/100,000 in 2015-2019.

Table 7 and Figure 11 list the numbers, rates, and trends of suicide from 2012 through 2023.

Table 7. Numbers and Rates of Suicide, CCHCS 2012-2023 and U.S. State Prisons 2012-2019

Year	CCHCS Suicides	CCHCS Rate/100,000	U.S. State Prison Rate/100,000
2012	32	24	16
2013	30	23	15
2014	23	17	20
2015	24	19	18
2016	26	20	21
2017	31	24	21
2018	30	23	26
2019	38	30	27
2020	31	29	NA
2021	15	15	NA
2022	21	22	NA
2023	30	31	NA

Figure 11. Numbers and Rates of Suicide, CCHCS 2012-2023 and U.S. State Prisons 2012-2019



A combination bar and line chart illustrating the information in the preceding table.

A system to evaluate all CCHCS patients for suicide risk, to treat suicide risk factors and to closely monitor all high-risk patients is in place. All CDCR staff, especially first responders and mental health clinicians, are involved in suicide prevention and response. The recognition and treatment of severe depression and suicidal ideation and liaison between the mental health and medical departments of CCHCS have been systematized.

The 2020 annual report to the California State Legislature on Suicide Prevention and Response in CDCR audited all 2020 suicides and found that 83% (N = 19 of 23) had deficiencies in risk assessment and 87% had poor treatment planning. The report identified the inadequacy of suicide risk assessment. Management of that risk remains an area of concern across the California prison system.

Of the 30 suicide patients in 2023, nineteen were being actively followed by mental health providers. Ten patients were enrolled in the basic Correctional Clinical Case Management System (CCCMS). Eight were followed in the Enhanced Outpatient Program (EOP), the highest level of outpatient mental care in the Mental Health Delivery System. Eleven patients had no mental health interaction, although one had recently requested to be on suicide watch.

The overall suicide rate in CCHCS has been rising since 2012.

## 7. Homicide

There were 22 homicides in CCHCS in 2023 for a homicide rate of 23/100,000.

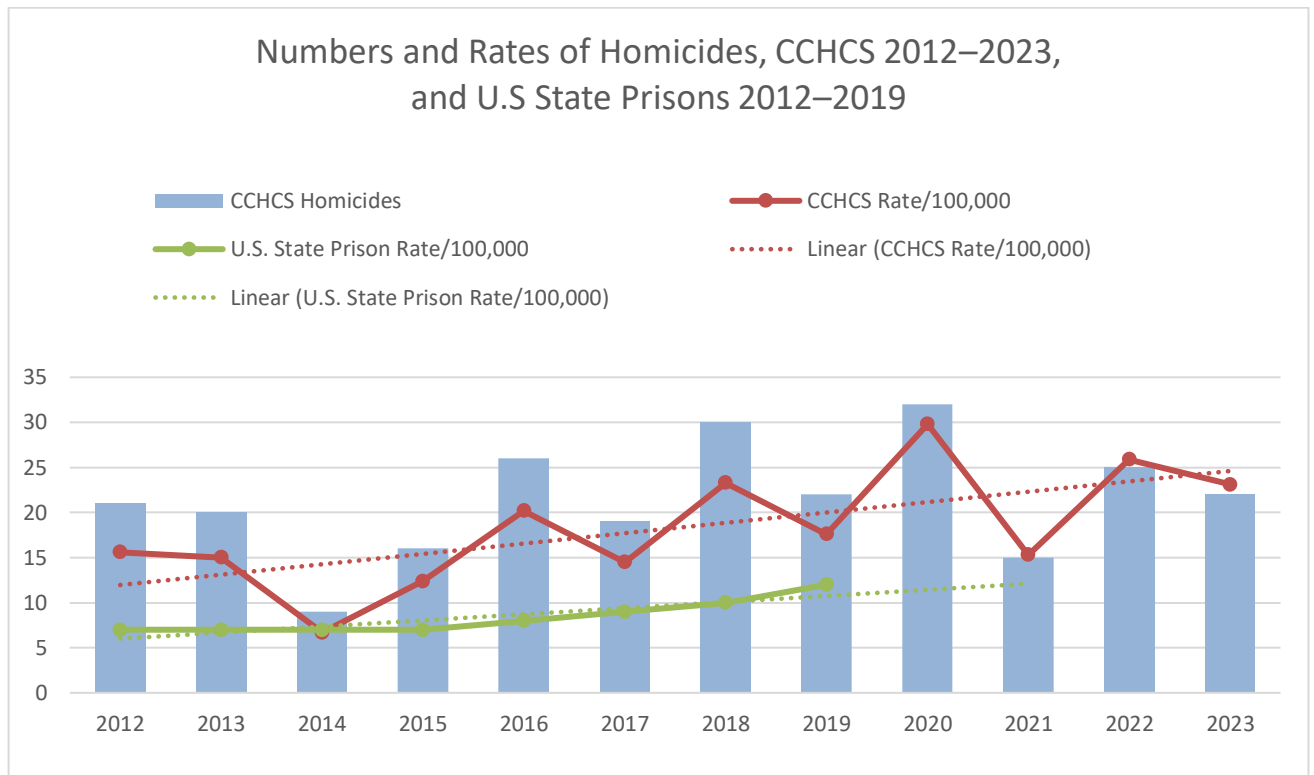
Table 8 and Figure 12 show the numbers of deaths and mortality rates from homicides in CCHCS from 2012-2023 and in all US prisons from 2012-2019.

Table 8. Numbers and Rates of Homicides, CCHCS 2012-2023 and U.S State Prisons 2012-2019

Year	CCHCS Homicides	CCHCS Rate/100,000	U.S. State Prison Rate/100,000
2012	21	16	7
2013	20	15	7
2014	9	7	7
2015	16	12	7
2016	26	20	8
2017	19	15	9
2018	30	23	10

Year	CCHCS Homicides	CCHCS Rate/100,000	U.S. State Prison Rate/100,000
2019	22	18	12
2020	32	30	NA
2021	15	15	NA
2022	25	26	NA
2023	22	23	

Figure 12. Numbers and Rates of Homicides, CCHCS 2012-2023, and U.S State Prisons 2012-2019



A combination bar and line chart illustrating the information in the preceding table.

A 2021 report from the Prison Policy Initiative notes that prison violence is common. Male incarcerated persons have post-traumatic stress disorder at ten times the rate of that in the general population, and imprisonment itself represents another traumatic life experience. Racism and gang culture also contribute.

Through 2021, the California state prison homicide rate was higher and rising faster than the rate for all U.S. prisons.

### 8. Advanced (end stage) liver disease

Advanced liver disease (cirrhosis) and its sequelae, including liver cancer, was the seventh most common cause of death in 2023, with 21 deaths for a mortality rate of 22/100,000. In the prison population, both liver cirrhosis and liver cancer are mainly caused by a high prevalence of chronic hepatitis C virus (HCV) infection, which is primarily associated with intravenous drug use. In 2023, the overall prevalence of hepatitis C antibody in the CCHCS population was 25.1%. Chronic hepatitis C infection was the cause of 18, or 86%, of deaths due to advanced liver cirrhosis. Two deaths were from alcoholic cirrhosis, and one was from autoimmune hepatitis leading to cirrhosis.

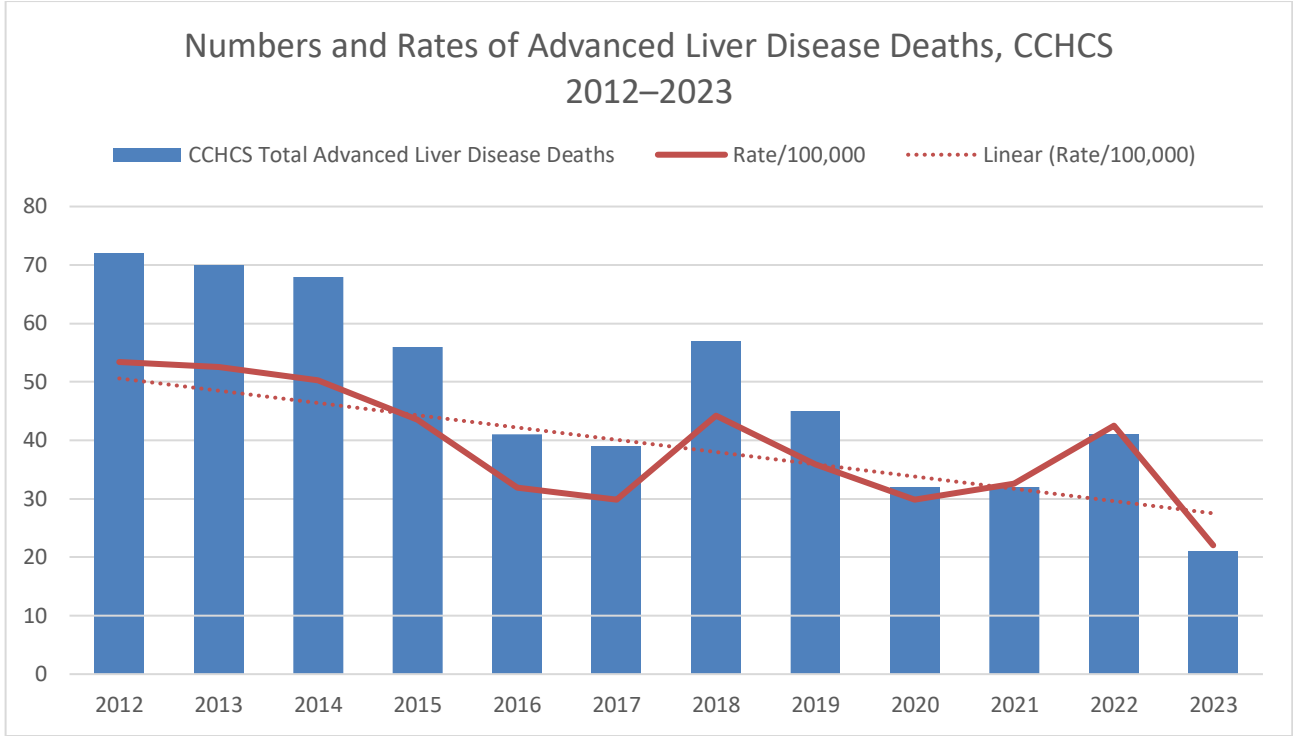
Table 9 and Figure 13 show the cases, rates and trends of liver disease deaths seen in the years 2012-2023.

Table 9. Numbers and Rates of Advanced Liver Disease Deaths, CCHCS 2012-2023

YEAR	CCHCS Liver Cancer Deaths	CCHCS Cirrhosis Deaths	CCHCS Total Advanced Liver Disease Deaths	Rate/100,000
2012	25	47	72	53
2013	27	43	70	53
2014	21	47	68	50
2015	19	37	56	44
2016	23	18	41	32
2017	18	21	39	30
2018	28	29	57	44
2019	32	13	45	36
2020	18	14	32	30
2021	24	8	32	33
2022	22	19	41	43
2023	10	11	21	22



Figure 13. Numbers and Rates of Advanced Liver Disease Deaths, CCHCS, 2012-2023



A combination bar and line chart illustrating the information in the preceding table and a downward linear trend.

CCHCS has adopted many initiatives to improve screening and treatment of active HCV infection and to prevent liver cancer and other complications of advanced liver disease. The Care Guide for Hepatitis C includes a comprehensive program for identification and treatment of HCV involving universal screening for HCV antibodies, with confirmatory testing for active infection; monitoring stages of liver injury (fibrosis); and access to safe, effective antiviral treatment for all patients with active HCV.

Education regarding the prevention of HCV is conducted for the entire population at entry and annually thereafter.

In the ISUDT Second Annual Outcome Report (April 2023), patients who were successfully treated for HCV and on medication for opioid use disorder had a 60% reduction in HCV reinfection compared with patients not on medication for opioid use disorder. Another study, "The hepatitis C care cascade in California state prisons: Screening and treatment scale-up and progress toward elimination, 2016-2023," found that the expansion of HCV screening, monitoring and treatment along with the ISUDT program resulted in a nearly 70% decrease in the prevalence of active HCV infection between 2018 and 2023. Although the prevalence of patients with any history of HCV

infection has remained relatively constant at around 25%, the prevalence of active infection has declined dramatically from 14% in 2018 to 4.4% in 2023.

The Care Guide for Liver Cirrhosis advocates staging of liver fibrosis to identify all candidates for biannual abdominal ultrasound screening for liver cancer. It contains routine measures for detecting and treating other potentially fatal complications such as esophageal varices, ascitic fluid collections, and avoiding the use of harmful medications.

Performance dashboards are published in monthly Health Care Services Dashboards for each institution. In 2023, monthly overall performance in HCV care ranged from 87% to 88%, and overall liver cirrhosis care trended upward from 86% in January to 91% in December.

All these initiatives have contributed to large improvements in the care of patients with advanced liver disease, and death rates have trended downward over the past twelve years. The mortality rate from advanced liver disease in 2023 (22/100,000 patients) was the lowest in the history of the Receivership.

## **9. Accidental deaths**

There were four accidental deaths in 2023. One patient died as the result of a gunshot wound inflicted by custody while trying to subdue an altercation involving the patient. One patient died from accidental ingestion and aspiration of food. One patient died as a consequence of accidental drug overdose (methanol). And one patient died following an accidental fall in the shower resulting in a closed head injury (subdural hematoma).

## **E. Opportunities for Improvement in 2023**

Opportunity for Improvement (OFI): An occasion or situation from which it is possible to improve systems or processes related to the delivery of health care.

The Mortality Review Discussion Group (MRDG) identifies OFIs, which are forwarded to the appropriate prison and region for review and further action if indicated.

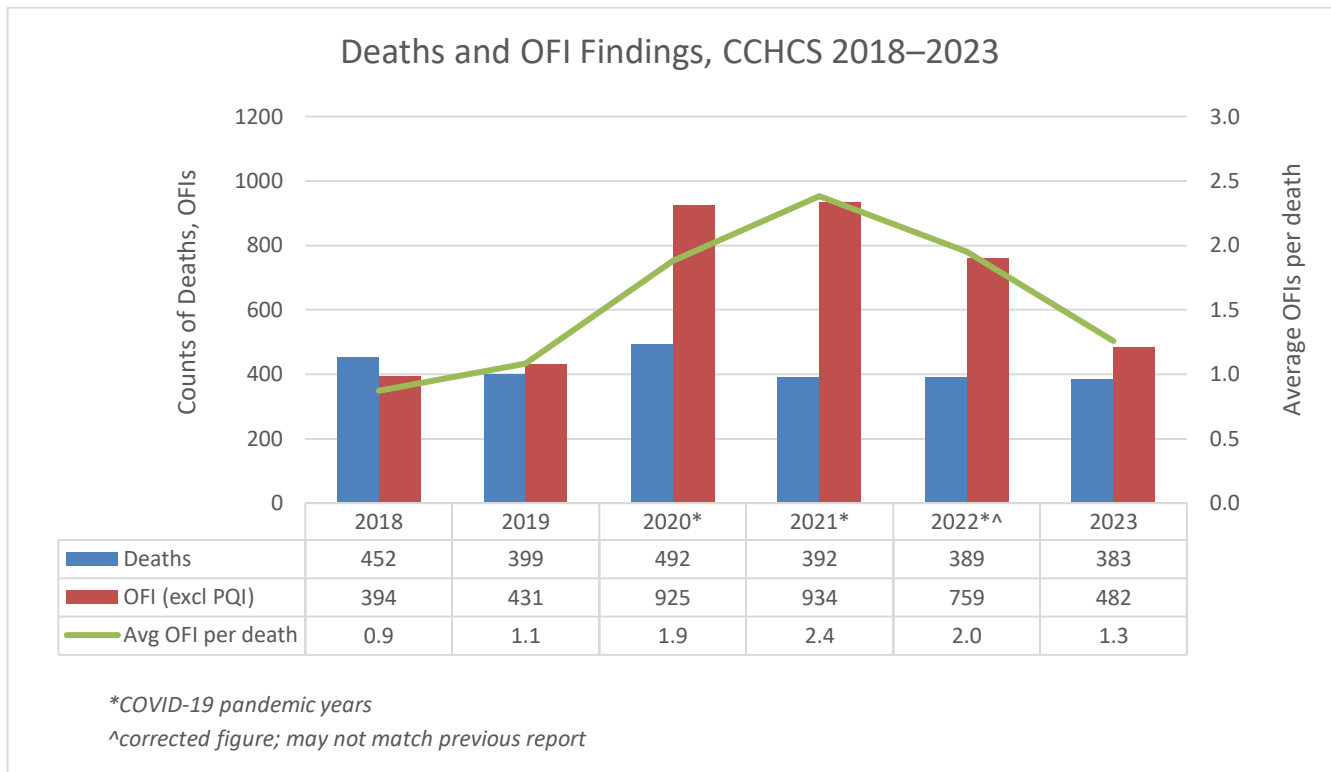
An OFI in Mortality Review can be relatively minor (documentation time inconsistency) or potentially serious (a specialist recommendation lost during a patient transfer, resulting in a significant delay in the diagnosis of a treatable condition). An OFI is an observation that rendered care might not have been consistent with CCHCS policies and procedures, recommendations in the CCHCS Care guides, or current known evidence-based practice recommendations in the medical literature.

A classification system for OFIs was devised in 2018 for use in this annual analysis and has been refined in each subsequent annual report.

The MRDG recorded 392 OFIs in 2018 and 431 OFIs in 2019. The three subsequent years generated about twice the number of OFIs annually; for example, in 2022, there were 821 OFIs. In 2023, there were 482 total OFIs, of which 281 occurred in unexpected deaths and 201 occurred in expected deaths.

The following chart shows the number of OFI per death by year since 2018.

Figure 14. Deaths and OFIs, CCHCS 2018-2023



This chart shows a significant rise in average OFIs per death coinciding with the COVID pandemic but currently trending downward to near pre-pandemic levels.

In 2020 and 2021, the larger number of OFIs were related to findings regarding adherence to new and rapidly changing policies and processes dealing with the COVID-19 pandemic. OFIs per death peaked at 2.4 in 2021, dropping to 2.0 OFIs per death in 2022. In 2023, there were 482 OFIs or 1.3 OFIs/death.

There are nine general categories of OFIs. The following table shows the numbers of OFIs in unexpected and expected deaths and the total number of OFIs in each category.

Table 10. Opportunities for Improvement in Expected and Unexpected Deaths, CCHCS, 2023

Opportunities for Improvement	Unexpected Deaths	Expected Deaths	Total
1. Opportunities to improve application of the “Model of Care” as described in the CCHCS Complete Care Model			
a. Access timeframes			
i. Meeting access timeframes for routine care	7	4	11
ii. Meeting access timeframes for urgent or emergency care	1	-	1
b. Applying complex care management for improved coordination or continuity	6	13	19
c. Transferring a patient to a more appropriate level of care	1	2	3
d. Management of nonadherent or non-compliant patient	11	5	16
e. Substance Use Disorder Program referral indicated but not made	37	3	40
2. Optimizing care near the end of life			
a. Physician’s Orders for Life Sustaining treatment (POLST) and Do Not Resuscitate (DNR) orders addressed and documented when indicated or changed when a patient’s clinical condition changes	5	11	16
b. Honoring POLST and DNR orders	3	11	14
c. Improving pain and other symptom management, especially in cancer care	-	2	2
d. Offering hospice care to terminally ill patients	-	9	9
e. Compassionate release request indicated but not made	1	10	11
3. Opportunities to improve clinical decision making by improved recognition and management of important clinical signs and symptoms	38	31	69
4. Opportunities to improve recognition and action in response to abnormal laboratory, imaging and other diagnostic test results	15	14	29
5. Opportunities to improve adherence to policies and procedures, and adherence to Care Guides for specific diseases, conditions, or risk factors			

<b>Opportunities for Improvement</b>	<b>Unexpected Deaths</b>	<b>Expected Deaths</b>	<b>Total</b>
a. Fall risk (institution-specific protocols and evidence-based practice)	1	5	6
b. Chronic Wound Management - prevention/avoidance	1	2	3
c. Medication Management (multiple care guides and evidence-based practice)	11	11	22
d. Cardiovascular Risk	2	1	3
e. Advanced Liver Disease	-	3	3
f. Preventive Services - Lung Cancer Screening	1	3	4
g. Other Care Guides, protocols and evidence-based practice	17	4	21
6. Opportunities to improve communication between primary care teams and various care transitions			
a. Specialty referral	2	3	5
b. Hospital	-	2	2
c. Mental Health	2	-	2
d. Custody -Primary Care Physician and Nursing	2	-	2
e. Primary Care Physicians	2	-	2
f. Orders not followed	3	1	4
7. Opportunities to improve medical record documentation			
a. Inadequate or inaccurate record	6	4	10
b. Missing Report	3	9	12
c. Missing Provider notes	4	-	4
d. Missing Nurse notes	2	2	4
e. Legacy Charting (cloning of medical records)	5	3	8
f. Incomplete Problem List	3	2	5
g. Electronic Health Record not closed	-	-	-
8. Opportunities to prevent delays in diagnosis and/or treatment	-	14	14

<b>Opportunities for Improvement</b>	<b>Unexpected Deaths</b>	<b>Expected Deaths</b>	<b>Total</b>
9. Opportunities to improve the practice and documentation of CCHCS Emergency Protocols			
a. Delay calling 9-1-1	26	6	32
b. Documentation lapse	35	7	42
c. Other	27	3	30
10. Miscellaneous	2	1	3
<b>TOTAL CCHCS Opportunities for Improvement</b>	<b>281</b>	<b>201</b>	<b>482</b>
11. Potential Quality Issue (PQI) referrals	6	8	14

A detailed discussion of each OFI category follows.

**1. Opportunities to improve the application of the “Model of Care” as described in the CCHCS Complete Care Model**

Since 2015, the Complete Care Model (CCM) has been the foundation for delivery of all care in CCHCS.

The CCM assigns every patient to an Interdisciplinary Care Team. Each Care Team delivers continuous, comprehensive, coordinated, and patient centered care for its panel of assigned patients. A care team follows written standards for access and disease prevention, promotes wellness, provides episodic care as well as chronic disease management, addresses urgent and emergent needs, and provides end-of-life care.

The CCM Care Team uses daily care team huddles, devises panel management strategies, reviews performance dashboards, patient registries and patient problem lists, and makes use of decision support tools such as CCHCS Care Guides for Clinical Support. Evidence-based standards for chronic disease management and for management of common acute disease processes are expected to be followed.

Application of this model should reduce the need for hospitalizations and emergency services, improve health outcomes, and enhance patient and staff satisfaction.

*a) Meeting access standards for Routine Care or Urgent/Emergency Care.*

*12 total OFIs. (11 for routine care, 1 for urgent or emergency care)*

The standards for access in CCHCS are:

*Nursing triage:* Patient-generated requests for evaluation of medical symptoms are triaged by registered nursing (RN) staff within 24 hours. If an RN triage determines an emergency situation, an immediate arrangement for appropriate care is made; if a situation is urgent but not emergent, same day face-to-face evaluation is arranged; if any other medical symptom needs attention, a next business day evaluation is to be arranged.

*Primary care:* Nursing generates requests for primary care physician evaluation. Urgent: within 1 calendar day; Routine - within 14 days; Post hospital discharge - within 5 days

*Specialty care:* High priority - within 14 days; Medium priority - within 45 days; Routine priority - within 90 days

In 2023, seven of the eleven OFI in routine care access were patient-generated requests for symptom evaluation. In one case, a routine follow-up visit with the primary provider was never done. Another case involved a routine request for mental health referral which was not done because the patient transferred to another facility and the referral was lost. Of more concern was a routine request made by a cardiologist for referral to a pulmonary specialist to evaluate a patient's emphysema that was delayed for seven months. A later section discussing delays in care will summarize this case in more detail.

*b) Applying complex care management for improved care coordination or continuity*

*19 Total: 6 in cases of unexpected death; 13 in cases of expected death*

Primary care teams are expected to identify their patients who are at high risk for adverse outcomes. These patients often have complex care needs requiring coordination of visits to specialists, appointments for special diagnostic tests or procedures, and other special education and counseling. Candidates for such complex care management include patients with cancer, dementia or chronic degenerative neurological conditions, patients with multiple medical problems and complex medical regimens, patients who require assistance with activities of daily living, patients with serious mental health problems, and patients who have had multiple or prolonged recent hospitalizations or multiple specialists involved in their care. Specific selection for high-risk criteria and for candidates suitable for complex care management are given in the Health Care Department Operations Manual, section 3.1.6.

In 2023, there were nineteen OFI cited in which patients would have benefitted from better care coordination. They included five patients who had cancer. Two patients had severe dementia. One patient had chronic obstructive pulmonary disease with oxygen maintenance therapy. Two patients had seven prison transfers each, one all within one year and the other over three years. Two patients had multiple hospitalizations or repeated transfers to a higher level of care. There was one chronically nonadherent patient whose multiple myeloma care was difficult to coordinate. One patient had four hospitalizations despite a desire to forego aggressive care for advanced liver disease. Another patient who died a sudden cardiac death had multiple cardiac risk factors but was not referred to Cardiology, one court-ordered conservatorship was not pursued, and one elderly patient was not routinely assessed for risk factors associated with advanced age (mental capacity, fall risk, activities of daily living).

*c) Transferring a patient to a more appropriate level of care.*

*3 Total: 1 in cases of unexpected death; 2 in cases of expected death*

In 2023, examples of patients who might have benefitted from transfer to higher-level care included two patients with dementia requiring increased care for activities of daily living and increasing cognitive decline. One patient with autoimmune hepatitis and melanoma had recurrent and escalating difficulties with an indwelling catheter site.

*d) Better management of nonadherent or noncompliant patients*

*16 total: 11 in cases of unexpected death; 5 in cases of expected death*

The high frequency of mental illness and substance use disorders in CCHCS contributes to the significant problem of nonadherence or noncompliance in this patient population. Nonadherence is responsible for much redundant effort in the system, with frequent rescheduling and multiple delays leading to poor treatment outcomes. The management of nonadherence/noncompliance was an OFI in 16 cases in 2023.

*e) Integrated Substance Use Disorder Treatment (ISUDT) Program referral indicated*

*40 Total: 37 in cases of unexpected death; 3 in cases of expected death*

The Integrated Substance Use Disorder Treatment (ISUDT) program was implemented in 2019 and the Care Guide for Substance Use Disorder was issued in 2020. This program uses a variety of evidence-based strategies, including the use of medication assisted treatment (MAT), to help manage drug and alcohol addiction. Referral to the ISUDT program should be offered to any patient with SUD or at high risk for SUD identified by the universal screening test. The 2023 mortality reviews identified 35 patients with indications of drug or alcohol



addiction who might have benefitted from ISUDT program referral. Twenty-four of these patients died of drug overdose.

## 2. Optimizing care at the end of life

The principal of patient autonomy directs physicians to provide a Physician Order for Life Sustaining Treatment (POLST) for patients who are elderly, frail, burdened with serious chronic medical conditions, or have a life expectancy of one year or less. The primary care team is expected to have regular discussions regarding goals of treatment in these situations. Repeat discussions should occur when patients' clinical conditions change. During these discussions, a patient might choose to forego resuscitation in the event of a terminal emergency, generating a "do not resuscitate/do not intubate" (DNR/DNI) order.

### *a) POLST/DNR discussions in appropriate patients were not initiated*

*16 Total: 5 in cases of unexpected death; 11 in cases of expected death*

In 2022, there were 60 total OFIs in this category. As a response to that high number, there was an initiative to improve end-of-life care, including more coordinated care of complex patients, documenting and improving the implementation of appropriate end of life self-directed patient care, and seeking compassionate release when appropriate. These efforts resulted in a significant drop to 16 cases in 2023. These sixteen OFIs involved patients who were appropriate for POLST discussions, but in most cases care teams did not initiate them. In some cases, discussions were conducted but the patient's decision was not documented in the medical record. In some cases, a patient's clinical condition changed but a follow-up discussion was not conducted.

### *b) POLST/DNR in place but patient decisions were not honored*

*14 Total: 3 in cases of unexpected death; 11 in cases of expected death*

In 2023 there were 14 patients who desired limited life-sustaining treatment but who nevertheless experienced attempted cardiopulmonary resuscitation or were inappropriately sent to emergency rooms and experienced hospitalizations and other life-sustaining measures which they did not desire. This number was lower than in 2022, with 21 OFIs.

### *c) Opportunity for improved management of pain and other symptoms, especially in cancer*

*2 Total: 0 in unexpected deaths; 2 in expected deaths*

The Care Guide for Pain Management emphasizes a comprehensive approach to the diagnosis and management of all types of pain. The importance of chronic pain as a possible symptom of underlying malignancy (a "red flag") is emphasized. The importance of screening for coexisting depression and the judicious use of non-narcotic and narcotic

medications are covered in detail. In 2023 there were two cases in which patients might have experienced better management of pain and other symptoms. One of these died of pancreatic cancer and the other of advanced liver disease. There were eleven such OFIs in 2022.

*d) Opportunity to offer hospice care to eligible patients*

*9 total: 0 in cases of unexpected death; 9 in cases of expected death*

Hospice is a model of care that focuses on providing palliative care to patients with life-limiting illnesses. Hospice care can be provided at every inpatient medical facility, and a special hospice unit is located at the California Medical Facility. In 2023, there were nine OFIs for missed opportunities to offer hospice care to eligible patients. This was the same number of OFIs as in 2022.

*e) Compassionate release parole application indicated*

*11 Total: 1 in cases of unexpected death; 10 in cases of expected death*

In 2022, California state law was changed to make compassionate release for medical reasons easier to obtain. Patients who are on an “end of life trajectory” or who are permanently medically incapacitated are eligible if there is a place in the community where they can go for post parole care.

In 2023, the MRDG identified 11 patients for whom a compassionate release parole application might have been sought. This was significantly fewer than the 32 OFIs in 2022.

**3. Opportunities to improve clinical decision making by improved recognition and management of important clinical signs and symptoms**

*69 Total in 58 patients; 38 in unexpected death cases; 31 in expected death cases*

Previous reviews have discussed “red flag” symptoms or signs as indicators of potential serious diseases. The term “red flag” was originally associated with back pain but lists of red flag symptoms now exist for many other conditions. Examples cited in previous editions of this analysis have included chest pain or shortness of breath as indicators of acute coronary syndrome, unexplained weight loss or prolonged abdominal pain indicative of malignancy, and atypical headache or an alteration in mental status heralding brain tumor or hemorrhagic stroke. Specific red flags such as unilateral leg swelling, jaundice, hematemesis, or palpable tumors are definitely abnormal and should always be quickly investigated. An extensive medical literature on “red flags” is covered in this [review article](#).

In 2023, there were 69 OFI for symptoms or signs that were thought to have been incompletely evaluated or evaluated more slowly than was indicated (many fewer than the 96 OFIs in 2022). These OFI involved 58 patients, many of whom eventually received a significant diagnosis. Table 11 shows many of these OFIs and the eventual diagnoses, if related to the symptom or sign.

Table 11. Missed Clinical Signs and Symptoms, and Eventual Diagnoses, CCHCS 2023

<i>Clinical Sign or Symptom</i>	<b>Count of OFIs</b>	<b>Eventual Diagnoses (if related to the clinical symptom or sign)</b>
weight loss	17	cancer (11), drug overdose (2), cirrhosis liver (2), interstitial pulmonary disease, stroke
history of drug use	6	drug overdose (6)
history of suicidal ideation	5	suicide (5)
abdominal pain	3	gastrointestinal hemorrhage (1), cirrhosis (1)
leg swelling	3	pulmonary embolism (2), melanoma (1)
hypertension	2	hemorrhagic stroke (1)
altered mental status	2	dementia (1)
back pain	2	osteomyelitis (1), metastatic lung cancer (1)
hemoptysis	2	cancer (2)
shortness of breath	2	aspiration pneumonia
abnormal lung exam	1	congestive heart failure
brachycardia (slow pulse)	1	cardiac arrhythmia
chest pain	1	sudden cardiac death
recurrent cough	1	cancer of lung
skin infection	1	drug overdose
vomiting, recurrent	1	cancer of pancreas

#### 4. Opportunities to improve recognition and action in response to abnormal laboratory and other diagnostic test results

*29 total in 23 patients; 15 in unexpected deaths; 14 in expected deaths*

Any abnormality in a diagnostic test should be treated as an indicator of potentially serious disease. All abnormal test results should be flagged, noted, and explained. Care teams should have processes which identify, track and follow up all abnormal testing results. Results that are

released after hours, during shift changes and in care transitions are especially vulnerable to being lost or not followed up appropriately. In 2023, there were 29 OFI in this category (many fewer than the 54 OFIs in 2022). These included laboratory and radiological tests indicative of underlying malignancy in 8 cases, four patients with positive urine toxicology tests who later died of drug overdose, and abnormal ECGs in two patients who died of sudden cardiac arrest and acute myocardial infarction. Many of the OFI cited in this category were associated with delays in diagnosis or treatment and these will be discussed in a later section.

## 5. Opportunities to improve adherence to CCHCS Clinical Care Guides for specific diseases, conditions, or risk factors

*62 Total: 33 in cases of unexpected death; 29 in cases of expected death*

The Clinical Care Guides are tools created by CCHCS for use by clinicians and care teams in the management of patients. They are reviewed annually and are updated frequently. Each guide contains a summary section, decision support tools, and a section specifically designed for patient education and self-management. These guides are extensively researched, evidence based and well referenced. They can be accessed on the CCHCS website at [cchcs.ca.gov/clinical-resources](http://cchcs.ca.gov/clinical-resources). Similar resources for nursing staff are also in use, including standard nursing procedures and encounter forms for patients with common symptoms or conditions. These include allergic reactions, asthma, chest pain, constipation, dental or ear problems, nosebleed, eye conditions, female genitourinary complaints, headache, hemorrhoids, rashes, alterations in mental status, musculoskeletal complaints, respiratory distress, seizures, wound care and upper respiratory symptoms. The following sections discuss OFI in which recommended practices contained in these guides for providers and nurses were not considered or followed.

### *a) Opportunities to mitigate fall risk*

*6 Total: 1 in cases of unexpected death; 5 in cases of expected death*

Falls can lead to serious injury with potential for hospitalization, increased morbidity, and death. Patients at risk for falls should be identified by their care teams. Patients are screened for ambulatory status, vision and balance, chronic disease/disability, and any medications that might increase fall risk. Any patient who has suffered a fall should be frequently reassessed. Mitigation of fall risk includes adequate room lighting, beds placed in a lower and safer position, call devices available within easy reach, handrails, mobility support, non-slip footwear, and traffic paths free of clutter. The 6 OFI in this category involved 3 patients who had advanced cancer, one patient with chronic obstructive pulmonary disease, one patient with advanced liver disease and hepatocellular carcinoma, and one patient who died of sepsis from a urinary tract infection.

*b) Pressure Ulcer (Injury) Avoidance*

*3 Total: 1 in cases of unexpected death; 2 in cases of expected death*

Risk factors for pressure injury are immobilization, malnutrition, sensory loss and decreased circulatory perfusion. Patients with stroke, severe arthritis, paralysis or weakness, advanced age, and patients in restraints are at increased risk for developing pressure injury. Any patient with these risk factors or diagnoses should be screened frequently for pressure injury risk and any patient at risk is given a prevention and treatment plan. The development of a pressure injury or ulcer (known as a decubitus ulcer) increases the risk for local and systemic infection which can lead to sepsis and death. Pressure injuries are a major source of morbidity at hospitals and long-term care facilities. Of the three OFI cited for pressure injury in 2023, one was acquired during an inpatient stay at a contracted hospital, generating a Potential Quality Issue (PQI) OFI.

*c) Medication Management*

*22 Total: 11 in cases of unexpected death; 11 in cases of expected death*

There were 22 OFI in 21 patients for whom the management of prescribed medication could have been improved. Seven patients were prescribed medications contraindicated by their medical condition or by other medications they were receiving. One patient with diabetes mellitus was being poorly managed. Three patients were being prescribed narcotics despite high risk of addiction. Two patients with a cardiac dysrhythmia known as the long QT syndrome were being prescribed medications which were contraindicated or being prescribed at a dose higher than indicated putting the patients at risk for life threatening arrhythmias. The twenty-two OFI in this category were fewer than the thirty OFIs in 2022.

*d) Management of cardiovascular risk*

*3 total: 2 in cases of unexpected death; 1 in cases of expected death*

Any patient over the age of 18 should undergo a risk assessment for cardiovascular disease, using the American College of Cardiology 10-year risk assessment tool, which incorporates the patient's family history and personal risk factors such as sex, age, race, total cholesterol, HDL-cholesterol, blood pressure, history of diabetes mellitus (DM), and smoking history. Patients at intermediate or high risk should be considered for statin therapy and further noninvasive cardiac evaluation. One patient had no cardiac risk screening at age 41, when he first entered the system, and died of an acute myocardial infarction at age 48. In 2023 there were three OFI cited in this area, whereas there were two such OFIs in 2022.

*e) Hepatitis C and Liver Cirrhosis*

*3 total: 0 in cases of unexpected death; 3 in cases of expected death*

The comprehensive care guides for hepatitis C and liver cirrhosis management have been described previously.

In 2023 there were 3 OFIs, all for failure to regularly screen patients with advanced liver disease for hepatocellular cancer. One of these patients subsequently died of advanced liver disease with liver cancer.

*f) Screening for lung cancer*

*4 total: 1 in cases of unexpected death; 3 in cases of expected death*

In 2021, CCHCS incorporated the US Preventive Services Task Force recommendation to screen all heavy smokers over age 55 for lung cancer using annual low dose CT scanning.

In 2023 there were 4 OFIs for failure to do so, compared to 8 such OFIs in 2022.

These 4 patients were among the 13 who died of cancer of the lung.

*g) Other Care Guides, Programs, and Protocols*

*21 total: 17 in cases of unexpected death; 4 in cases of expected death*

In 2023 there were 21 additional OFI in 17 patients citing nonadherence to recommended practices in other care guides, nursing or custody protocols or other CCHCS programs. The following table shows the Care Guide or program, the number of relevant OFI finding(s) and final cause of death when related to the finding.

*Table 12. Other Care Guides, Programs and Protocols OFI and related deaths, CCHCS, 2023*

<b>Program or Care Guide</b>	<b>Number of OFIs</b>	<b>Cause of Death</b>
Suicide risk /suicide watch (RN rounding protocols)	6	suicide (5)
Custody protocols	2	suicide (1), drug overdose (1)
Atrial fibrillation management	2	stroke, ischemic
Urine drug monitor post overdose	2	drug overdose (2)
Medication Assisted Therapy (MAT)	1	drug overdose
Prostate cancer surveillance	1	prostate cancer

Single OFIs were noted in four additional patients in the following areas: Foley catheter management, dialysis catheter site monitoring, visitation protocol lapse, abdominal aortic aneurysm monitoring. In these cases, the finding was unrelated to the final cause of death.

## 6. Opportunities to improve communication between primary care teams and in care transitions

*16 Total: 10 in cases of unexpected death; 6 in cases of expected death*

The accurate transfer of clinical information between care teams at transitions of medical care is essential for coordination of patient care. Poor communication between specialists and primary care teams can lead to critical tests being delayed or not done. Information missing or lost when patients are transferred can lead to missed diagnoses or delayed treatment. Within care teams there is also potential for miscommunication. In 2023 there were 16 cautions for poor communication, compared to 40 in 2022.

There were five OFIs for specialist - primary care miscommunication. All these involved specialist recommendations that were not acted upon.

There were two cited miscommunications between the primary care team and the hospital and both involved hospital discharge orders not being followed when the patient returned to the facility.

There were two cited miscommunications between Mental Health and the primary care team. One involved a patient with psychogenic polydipsia in whom the need for fluid restriction was not clarified. A second patient had an altered mental status which was not communicated by the interdisciplinary mental health team (IDST) to primary care.

There were two OFIs due to communication issues between custody and primary care. One involved a patient who lacked decision making capacity who refused to be transferred to hospital after a drug overdose. Custody sided with the patient, refusing to send to a higher level of care. The second case involved an initial refusal by custody to send a possible overdose patient to the Standby Emergency System area as recommended by the on-duty RN after a self-reported ingestion of prescribed medication.

There were four OFIs for physician orders not followed. These included orders for daily weights, a follow-up visit with the PCP, initiation of a suicide watch, and an order to send the patient to a higher level of care.

One OFI involved a communication issue between a local jail and the prison primary care teams. In this case, multiple recommendations made by the patient's primary care providers in the county jail were not acted upon by the prison primary care system when the patient was transferred to CDCR. There were no OFIs for communication problems between primary care teams within the prison system.

The 15 OFIs for miscommunication in 2023 are a significant decrease from the 40 OFIs in the prior year.

## 7. Opportunities to improve medical record documentation

*43 Total: 23 in cases of unexpected death; 20 in cases of expected death*

The Cerner electronic medical record (EMR) installation was completed in 2017. It has resulted in more complete documentation of visits and improved systems for storing and sharing medical information. The 43 OFIs in 2023 are a significant reduction from the 139 documentation lapses cited in 2022. However, there are several areas in which opportunities for improvement remain.

### *a) Inadequate or inaccurate documentation of care which occurs inside CCHCS.*

*10 Total: 6 in cases of unexpected death; 4 in cases of expected death*

### *b) Incomplete or missing documentation of care*

*12 Total: 3 in cases of unexpected death; 9 in cases of expected death*

When care is provided outside of CCHCS, the record of the patient encounter in an emergency room, hospital, or specialist's office may be incomplete, unavailable or missing.

### *c) Missing physician or other provider notes*

*4 Total: 4 in cases of unexpected death; 0 in cases of expected death*

Examples include a medication dose being changed without documentation of a rationale for the change, a missing provider consent form for prescribing a psychiatric medication, and a mental health provider visit not recorded accurately when the patient was hospitalized.

### *d) Missing RN notes*

*4 total: 2 in unexpected death; 2 in expected deaths*

Examples in this category include a missing RN note prior to a patient transfer to a higher level of care, a missing RN note on a suicide watch protocol, and a missing RN documentation of a gastric tube evaluation.



e) *Legacy charting*

*8 Total: 5 in cases of unexpected death; 3 in cases of expected death*

“Legacy charting” is a term used to describe a workaround by some providers who “cut and paste” sections of previous patient encounter documentation in order to save time. This can result in an inaccurate record if careful editing of the pasted material is not done. This is a practice which should be utilized infrequently, if at all. Legacy charting was seen in many of the COVID-19 protocol OFIs noted in prior years. There were eight OFIs for legacy charting in 2023, a reduction from the 12 OFIs in 2022 and the 34 OFIs in 2021.

f) *Incomplete problem lists*

*5 total: 3 in cases of unexpected death; 2 in cases of expected death*

The problem list includes all a patient’s known medical and psychiatric conditions and should be kept current. Examples of missing entities from problem lists in 2023 included metastatic colon cancer, a congenital bone deformity, treated hepatitis C viremia, a significant 30-year smoking history, and a case missing multiple prior diagnoses. These missing diagnoses have implications for patients’ further evaluations and management.

The OFI captured in this category do not include the documentation lapses cited during an Emergency Medical Response, the documentation of POLST and DNI/DNR orders or the documentation lapses cited for the ISUDT program, which are all accounted for in their respective sections.

## **8. Opportunities to prevent delays in diagnosis or treatment**

*14 Total: 0 in cases of unexpected death; 14 in cases of expected death*

In 2023, there were 14 OFIs, in 13 deaths, in which delays were noted in the MRDG reports. Table 13 describes the reason for delay, the approximate duration of delay, and the eventual diagnosis in each of these thirteen cases.

Table 13. Delayed Diagnoses, CCHCS 2023

Abnormality	Length of Delay	Eventual Diagnosis
<i>Red flag symptoms or signs</i>		
hemoptysis	2 weeks	metastatic sarcoma
foot swelling, unilateral	6 weeks	deep vein thrombosis
chest pain	3 months	lung cancer
abdominal pain	6 months	pancreatocobiliary cancer
hemoptysis MRI ordered, not timely obtained	11 months 4 months	laryngeal cancer
<i>Abnormal imaging and laboratory test results</i>		
abdominal ultrasound	1 month	pancreatic cancer
fecal occult blood test	2 months	colon cancer
rectal biopsy	9 months	colon cancer
gastric biopsy ("metaplasia")	11 years	gastric cancer
prostate biopsy	2 mo	prophylactic treatment for metastatic prostate cancer
<i>Referral delays</i>		
Oncology referral to Interventional Radiology	3 months	hepatocellular cancer
<i>Multiple delays</i>		
abnormal chest Xray; chemotherapy	4 years	lung cancer
abdominal bloating, recurrent abnormal chest CT referral to Surgery request for abdominal CT Surgery request for endoscopy abnormal chest CT abnormal biopsy	total delay 6 years	metastatic cholangiocarcinoma

A delay in diagnosis can occur when clinical "red flags" are not pursued expeditiously. In 2023, hemoptysis (coughing of blood) was a red flag for metastatic cancer in two cases. Abdominal

pain or bloating was indicative of pancreatic cancer and biliary cancer, respectively. Recurrent chest pain was the first symptom of lung cancer in another patient. Unilateral leg swelling was indicative of underlying deep vein thrombosis in one patient.

Prompt recognition and management of an abnormal laboratory or diagnostic imaging result is dependent on an integrated care team process. In 2023, five cases had delays in responding to abnormal test results in which the final diagnosis was an underlying malignancy. In one case, a delay in responding to a prostate biopsy resulted in delay in prophylaxis for bone metastases in a case of prostate cancer.

One case in which multiple delays contributed to a six-year delay in diagnosing and treating a patient with metastatic gall bladder cancer illustrates the importance of cancer care coordination strategies in all patients with abnormal tests.

## **9. Opportunities for improving the practice and documentation of emergency medical responses.**

*104 Total: 88 in cases of unexpected death; 16 in cases of expected death*

The 2018 statewide quality initiative resulted in a redesigned Emergency Medical Response (EMR) Program, intended to eliminate delays in the activation of emergency responses, improve documentation, and standardize subsequent care in clinical emergencies.

Delays in activation of a 9-1-1 call or in first responder arrival to a medical emergency were noted in 32 cases. These delays ranged from three to 57 minutes.

Documentation lapses were noted in 42 cases. The vast majority of these were related to nursing documentation lapses; most of which were referred to the Nursing Professional Practices Committee for followup.

There were 30 miscellaneous emergency medical response OFIs. These included five cases of underuse or inappropriate use of Narcan; the underuse of cervical collars to stabilize the neck in four cases; problems with the electric defibrillator in four cases; oxygen given by nonrebreather mask in two cases; single delays in hemostasis and delay in difficulty in securing intravascular access; inappropriate termination of CPR in one case; and post emesis suction not done in one case. There were four more OFIs in this area in 2023 than in the prior year.

## 10. Miscellaneous

*3 total: 2 in unexpected deaths; 1 in expected deaths*

There were three miscellaneous OFI recorded in 2023; inappropriate use of durable medical equipment in one case, a missing supply of glucagon/dextrose to treat hypoglycemia in another case, and one case of a hospital record found in a custody incident report (a possible HIPAA violation).

## 11. Potential Quality Issues (PQI)

*14 Total: 6 in cases of unexpected death; 8 in cases of expected death*

CCHCS defines a *Potential Quality Issue (PQI)* as "a health care incident, regardless of severity, which occurs during the course of treatment by a Healthcare Provider Network facility or provider and requires submission of a written referral." Mortality reviews may generate a PQI which is then forwarded to the appropriate emergency department, hospital, or specialist for their further review and action.

In 2023, there were 14 PQIs, compared with 22 in 2022, 16 in 2021, 34 in 2020, and 24 in 2019.

One patient was discharged prematurely from the hospital on two separate occasions (generating two PQIs) and was readmitted to a higher level of care within 24 hours. One patient developed a pressure ulcer while hospitalized. There were two PQIs generated for inadequate evaluations of patients - one with abdominal pain which resulted in a significant delay in the diagnosis of pancreatic cancer. Another patient had sepsis but there was an inadequate evaluation as to the cause of the sepsis. Two PQIs were submitted for inadequate evaluation of abnormal lab results - a low potassium level and a high white blood cell count. Two hospitals were cited for not performing a urine drug screen in patients admitted for drug overdose. A patient fall was not followed by a CT scan. A patient with multiple rib fractures and significant difficulty breathing was not considered by a consulting surgeon for a rib stabilizing procedure and the patient later succumbed to pneumonia. Another patient had an abnormal abdominal CT scan which was not recognized as indicative of a bowel perforation. And one hospital was cited for not communicating discharge recommendations to the PCP at the receiving institution.

Although these PQIs may represent significant breaches in quality of care, they are managed by the entity to which the PQI was forwarded, and CCHCS does not necessarily receive any follow-up communication.

## 12. Referral from the Mortality Review Discussion Group to quality review committees.

### *a) Referrals to the Nursing Professional Practices Committee*

In 2023 there were 111 referrals to the Nursing Professional Practices Committee (NPPC), which represented 23% of the 481 OFIs. The vast majority of these referrals (80 of 111) were in the areas of emergency medical response protocols (51 referrals); responses to abnormal patient signs and symptoms, including patient requests for services (18 referrals); and potential lapses in Care Guide recommendations (11 referrals).

### *b) Referrals to the Health Care Incident Review Committee*

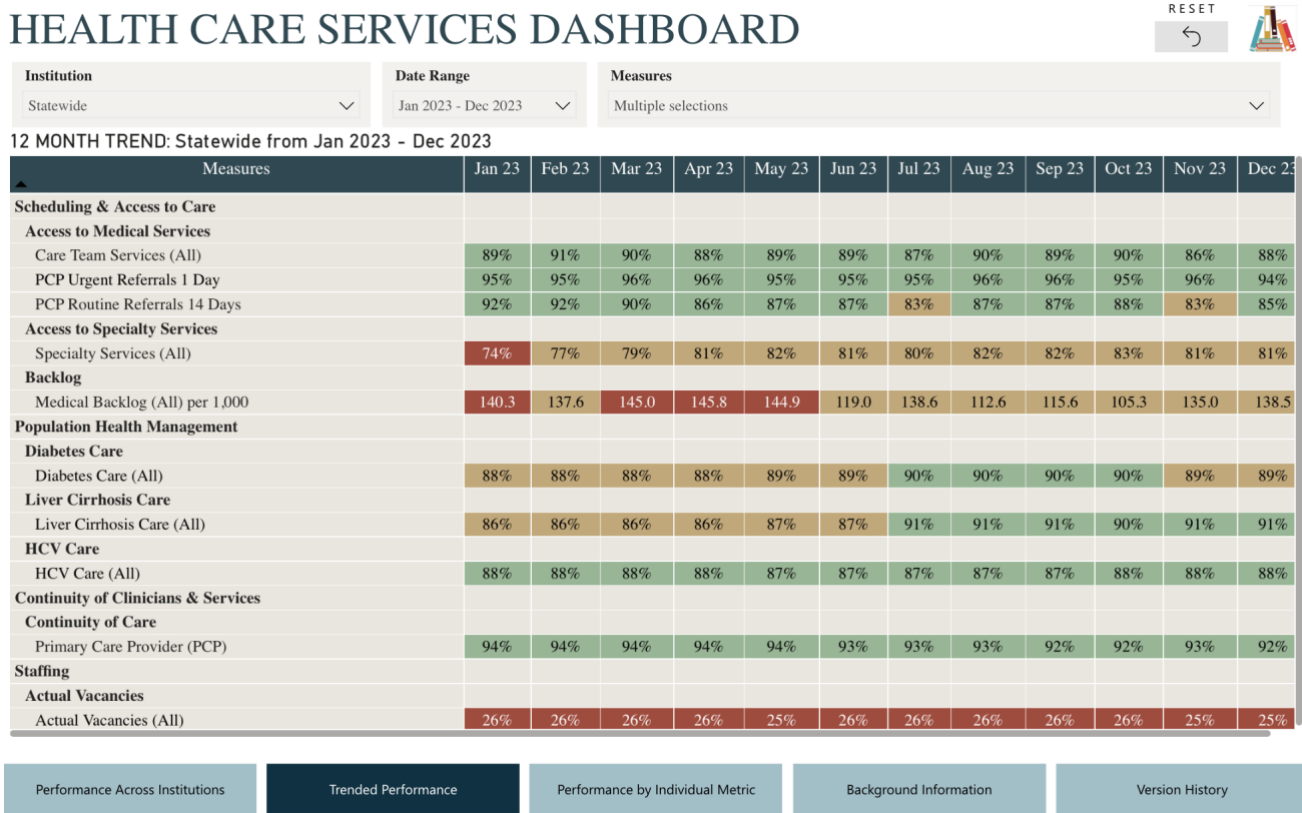
The multidisciplinary Health Care Incident Review Committee (HCIRC) reviews all serious health care incidents (levels 4-6) and makes recommendations regarding potential sentinel events and events worthy of a root cause analysis to protect patient safety and improve the overall health care delivery system. In 2023 there were 12 case referrals to HCIRC generated by mortality case review. They involved four patients who died of drug overdose, two patients who died of advanced liver disease, and single patients who died of congestive heart failure, sudden cardiac death, hemorrhagic stroke, pulmonary embolism, end stage renal disease, and suicide.

## V. Quality Initiatives and Performance Improvement Tools

The 2015 Complete Care Model continues to form the basis of healthcare in CCHCS. Its core principles of comprehensive and continuous patient centered healthcare depend on a well-functioning health information system, supported by additional tools which help staff reach performance targets.

The Health Care Services Dashboard has been in existence since 2012 and is continually refined. Recommendations for good practice that appear in the Care Guides can be monitored. The dashboard allows healthcare leaders and managers to see and trend statewide and individual institutional performance over time for 286 measures organized into 12 domains including Scheduling and Access to Care, Population Health Management, Resource Management, Staffing, and Costs.

Figure 15. Example View of CCHCS Health Care Services Dashboard for 2023



A screenshot showing 12-month trends in selected statewide metrics from the California Correctional Health Care Services Dashboard

Patient registries allow monitoring of performance in areas such as cancer screening, cancer care management, advanced liver disease, diabetes, and hypertension.

Care Guides for specific clinical conditions have been described previously. These point of service guides for clinicians and patients are well referenced and should be useful in the day-to-day management of patients.

Other major quality initiatives in 2023 included the Emergency Medical Response program, the Hepatitis C Treatment program, the Integrated Substance Use Disorder Treatment Program (including Medication Assisted Therapy for narcotic addiction), Cancer Screening Programs (for breast, cervical, colon, liver, and lung), Adult Immunizations for contagious diseases, and the Suicide Prevention and Response Program.

## **VI. Conclusions**

The overall mortality rate in 2023 was 402, nearly the same as in 2022, when the rate of 404 was the highest since the inception of the receivership in 2006. This was mainly driven by the large increase in drug overdoses, which rose to become the number one cause of death. The COVID-19 mortality rate continued to decrease in 2023, with only a single death signaling an end to the COVID-19 epidemic which had driven record setting mortality rates in 2020 and 2021. Longer term there were upward trends in suicide and deaths from sepsis. Advanced liver disease mortality continued to trend significantly downward, as did cardiovascular mortality.

The process of finding opportunities for systemic improvement continued to evolve, resulting in a further reduction of total OFIs, particularly in areas of red flag symptom evaluation, follow-up of abnormal diagnostic tests, meeting Care Guide recommendations for specific clinical conditions, medical record maintenance, and optimizing care near the end of life, including seeking compassionate release for terminal health conditions. There remain significant opportunities for improvement in coordinated care of complex patients, and in the practice and documentation of CCHCS Emergency Management protocols.