

COLORADO END-OF-LIFE OPTIONS ACT, 2022 DATA SUMMARY, WITH 2017-2022 TRENDS AND TOTALS

Prepared by:

Center for Health and Environmental Data

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For more information, visit cdphe.colorado.gov/center-for-health-and-environmental-data/registries-and-vital-statistics/medical-aid-in-dying

Introduction

In 2016, Colorado voters approved Proposition 106, “Access to Medical Aid in Dying,” which amends Colorado statutes to include the Colorado End-of-Life Options Act, Article 48 of Title 25, Colorado Revised Statutes (C.R.S.). This Act allows an eligible terminally-ill individual with a prognosis of six months or less to live to request and self-administer medical aid-in-dying medication in order to voluntarily end his or her life; authorizes a physician to prescribe medical aid-in-dying medication to a terminally ill individual under certain conditions; and creates criminal penalties for tampering with a person’s request for medical aid-in-dying medication or knowingly coercing a person with a terminal illness to request the medication.

This Act requires prescribing physicians and health care professionals dispensing aid-in-dying medication to report to the Colorado Department of Public Health and Environment (CDPHE) specific information outlined by the Act. This information is to be used to ensure documentation requirements outlined in the Act are met, as well as to make available to the public an annual statistical report. Rules for reporting were adopted by the Board of Health in 2017 (6 CCR 1009-4, Reporting and Collecting Medical Aid-in-Dying Medication Information).

This report is the sixth annual statistical report published per this Act, and describes Colorado’s participation in End-of-Life Options activities in 2022; incorporates updates to previously-published statistics; and includes summary statistics for the complete six-year period of participation, 2017-2022.

Data Collection and Statistics

Statistics presented in this report reflect patients for whom prescriptions for aid-in-dying medication were written; among those, patients to whom aid-in-dying medications were dispensed; and deaths among patients subsequent to prescription of aid-in-dying medication. Data used for this report are based on required reporting forms and death certificates received by CDPHE. More information about the reporting process and required forms as well as this annual report are available at: cdphe.colorado.gov/center-for-health-and-environmental-data/registries-and-vital-statistics/medical-aid-in-dying.

It is important to note that the Colorado End-of-Life Options Act does not authorize or require the Colorado Department of Public Health and Environment to follow up with physicians who prescribe aid-in-dying medication, patients, or their families to obtain information about use of aid-in-dying medication. Additionally, the Colorado End-of-Life Options Act requires that the cause of death assigned on a patient’s death certificate be the underlying terminal illness.



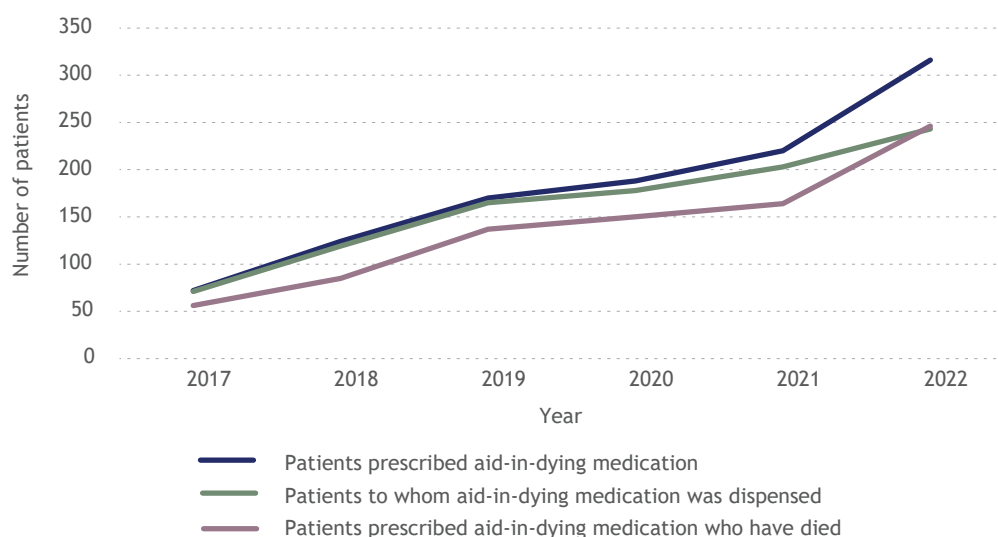
Thus, statistics in this report for deaths are based on all deaths identified among individuals prescribed aid-in-dying medication, whether or not they used this medication, and noting that death may have been caused by ingestion of medical aid-in-dying medication, the underlying terminal illness or condition, or some other cause.

Since the publication of past annual statistical reports, additional or amended reporting forms from health care providers concerning prescriptions in earlier years may have been submitted to CDPHE throughout 2022. More death certificates associated with patients who were prescribed aid-in-dying medication in the prior year were also received by CDPHE in 2022. This report incorporates this additional information received about patients participating in End-of-Life Options activities in prior years in addition to the new data for 2022.

Participation in End-of-Life Options Activities

In 2022, 316 patients received prescriptions for aid-in-dying medications under the provisions of the Colorado End-of-Life Options Act. This represents an 44% increase in the number of prescriptions compared to 2021. Among those prescribed aid-in-dying medication in 2022, CDPHE has received reports for 246 patients to whom aid-in-dying medication was dispensed. Also among those prescribed aid-in-dying medication, CDPHE has received death certificates for 243 patients through routine vital records registration. Note that not all of these deceased patients were dispensed aid-in-dying medication, and deaths may have been due to ingestion of aid-in-dying medication, the underlying terminal illness or condition, or other causes.

Figure 1. Trends in patients prescribed or dispensed aid-in-dying medication, or who have died following receiving a prescription, 2017-2022.



Prescriptions written in 2022 for aid-in-dying medication were provided by 74 unique Colorado physicians. Over the six-year period 2017-2022, prescriptions were provided by 219 unique Colorado physicians. In 2022, the median age of patients prescribed aid-in-dying medication was 74 years (minimum age was in the early-30's, maximum age was in the upper-90's). Among patients prescribed aid-in-dying medication, the most common illnesses or conditions were malignant neoplasms (cancer), progressive neurological or neurodegenerative disorders (including amyotrophic lateral sclerosis /ALS, Parkinson's disease, multiple sclerosis and progressive supranuclear palsy), major cardiovascular diseases (including heart disease, stroke and vascular diseases) and chronic lower respiratory diseases (including chronic obstructive pulmonary disease, or COPD). (Table 1)

Table 1. Underlying terminal illnesses/conditions among patients prescribed aid-in-dying medication, 2018-2022 with 2017-2022 totals.

	2018		2019		2020		2021		2022		2017-2022 Total	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
Total number of patients prescribed aid-in-dying medication	124	100	170	100	188	100	220	100	316	100	1,090	100
Malignant neoplasm - Total	79	63.5	103	60.7	126	66.9	137	62.4	184	58.1	676	62.1
Lung and bronchus	9	7.3	15	8.8	19	10.1	22	10	39	12.3	115	10.6
Breast	7	5.6	12	7.1	17	9	12	5.5	19	6	68	6.2
Pancreas	9	7.3	13	7.6	14	7.4	22	10	14	4.4	80	7.3
Colon, rectum and anus	5	4	7	4.1	15	8	11	5	14	4.4	56	5.1
Kidney and urinary tract	2	1.6	2	1.2	2	1.1	8	3.6	10	3.2	24	2.2
Ovary	5	4	4	2.4	3	1.6	4	1.8	9	2.8	27	2.5
Prostate	4	3.2	5	2.9	9	4.8	7	3.2	8	2.5	40	3.7
Multiple myeloma	2	1.6	3	1.8	1	0.5	2	0.9	8	2.5	16	1.5
Central nervous system	4	3.2	8	4.7	10	5.3	12	5.5	7	2.2	42	3.9
Head and neck	5	4	8	4.7	5	2.7	4	1.8	6	1.9	34	3.1
Esophagus	4	3.2	1	0.6	5	2.7	5	2.3	6	1.9	23	2.1
Melanoma	4	3.2	2	1.2	1	0.5	4	1.8	5	1.6	17	1.6
Stomach	1	0.8	3	1.8	1	0.5	2	0.9	5	1.6	12	1.1
Uterus	3	2.4	5	2.9	4	2.1	2	0.9	4	1.3	18	1.7
Bladder	1	0.8	2	1.2	2	1.1	2	0.9	4	1.3	12	1.1
Lymphoma	0	0	2	1.2	0	0	4	1.8	4	1.3	10	0.9
Bile duct	2	1.6	1	0.6	4	2.1	0	0	2	0.6	10	0.9
Leukemia	1	0.8	2	1.2	1	0.5	1	0.5	2	0.6	7	0.6
Cervix	1	0.8	0	0	1	0.5	1	0.5	1	0.3	4	0.4
Other cancers	10	8.1	8	4.7	12	6.4	12	5.5	17	5.4	61	5.6
Progressive neurological or neurodegenerative disorders - Total	27	21.7	34	20	25	13.3	39	17.8	45	14.2	182	16.8
Amyotrophic lateral sclerosis	14	11.3	19	11.2	12	6.4	22	10	23	7.3	99	9.1
Parkinson's disease	4	3.2	5	2.9	3	1.6	6	2.7	10	3.2	29	2.7
Other progressive neurological or neurodegenerative disorder	2	1.6	7	4.1	5	2.7	6	2.7	6	1.9	26	2.4
Multiple sclerosis	2	1.6	1	0.6	0	0	1	0.5	3	0.9	7	0.6
Progressive supranuclear palsy	5	4	1	0.6	4	2.1	3	1.4	2	0.6	15	1.4
Corticobasal degeneration	0	0	1	0.6	1	0.5	1	0.5	1	0.3	6	0.6
Cardiovascular disease	6	4.8	13	7.6	15	8	13	5.9	24	7.6	78	7.2
Chronic lower respiratory disease	7	5.6	9	5.3	12	6.4	9	4.1	25	7.9	67	6.1
Interstitial lung disease	0	0	4	2.4	1	0.5	6	2.7	9	2.8	21	1.9



	2018		2019		2020		2021		2022		2017-2022 Total	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
Cerebrovascular disease	2	1.6	0	0	2	1.1	3	1.4	3	0.9	10	0.9
Chronic liver disease	0	0	1	0.6	1	0.5	5	2.3	3	0.9	10	0.9
Chronic kidney disease	2	1.6	2	1.2	0	0	2	0.9	0	0	6	0.6
Other illnesses/ conditions	1	0.8	4	2.4	6	3.2	6	2.7	23	7.3	40	3.7

In 2022, aid-in-dying medications were dispensed by 23 unique pharmacists in Colorado. Medications dispensed included combinations of diazepam, digoxin, morphine sulfate, and propranolol (DDMP or DDMP2), substitution of propranolol with amitriptyline (DDMA), or DDMA with addition of phenobarbital (DDMAPh). Secobarbital has not been prescribed or dispensed in Colorado for medical aid-in-dying since 2018; while DDMAPh began to be used commonly in early 2021. (Table 2)

Table 2. Categories of medications dispensed to patients prescribed aid-in-dying medication, 2018-2022 with 2017-2022 totals.

	2018		2019		2020		2021		2022		2017-2022 Total	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
Total number of patients to whom aid-in-dying medication was dispensed	85	100	137	100	150	100	164	100	246	100	838	100
Secobarbital	26	30.6	0	0	0	0	0	0	0	0	49	5.8
DDMP/DDMP2 combination	59	69.4	87	63.5	81	54	33	20.1	42	17.1	334	39.9
DDMA combination	0	0	49	35.8	64	42.7	66	40.2	114	46.3	293	35
DDMAPh combination	0	0	0	0	4	2.7	65	39.6	88	35.8	157	18.7
Other (morphine sulfate alone, or in some other combination)	0	0	1	0.7	1	0.7	0	0	2	0.8	5	0.6

Characteristics of Patients Prescribed Aid-in-Dying Medication Who Have Died

Among patients who died following an aid-in-dying prescription written in 2022, the median duration of time between the date of prescription and date of death was 16 days (minimum of zero days, maximum of approximately eight months). Table 3 presents characteristics of patients who have been prescribed aid-in-dying medication, and for whom a death certificate was subsequently registered with CDPHE. Again, it is important to note that these statistics reflect all deaths identified among individuals prescribed aid-in-dying medication, whether or not they used this medication, and irrespective of whether their death was caused by ingestion of medication, the underlying terminal illness or condition, or some other cause.

Table 3. Summary of patients who died following prescription of aid-in-dying medication, 2018-2022 with 2017-2022 totals.

	2018		2019		2020		2021		2022		2017-2022 Total	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
Total number of decedents prescribed aid-in-dying medication	119	100	165	100	178	100	203	100	243	100	979	100
Sex												
Female	61	51.3	79	47.9	93	52.2	94	46.3	134	55.1	493	50.4
Male	58	48.7	86	52.1	85	47.8	109	53.7	109	44.9	486	49.6
Age group												
18-34	1	0.8	2	1.2	0	0.0	2	1	0	0.0	5	0.5
35-44	2	1.7	1	0.6	2	1.1	5	2.5	2	0.8	13	1.3
45-54	12	10.1	14	8.5	10	5.6	12	5.9	8	3.3	58	5.9
55-64	21	17.6	32	19.4	37	20.8	27	13.3	43	17.7	170	17.4
65-74	42	35.3	55	33.3	45	25.3	67	33	70	28.8	302	30.8
75-84	25	21	36	21.8	50	28.1	59	29.1	69	28.4	261	26.7
85+	16	13.4	25	15.2	34	19.1	31	15.3	51	21	170	17.4
Race/ethnicity												
White, non-Hispanic	111	93.3	159	96.4	170	95.5	188	92.6	226	93	921	94.1
White, Hispanic	7	5.9	2	1.2	3	1.7	8	3.9	7	2.9	30	3.1
Black/African American	1	0.8	1	0.6	1	0.6	0	0.0	1	0.4	4	0.4
Asian/Pacific Islander	0	0.0	3	1.8	4	2.2	5	2.5	5	2.1	18	1.8
American Indian/Alaska Native	0	0.0	0	0.0	0	0.0	0	0.0	1	0.4	1	0.1
Other or not stated	0	0.0	0	0.0	0	0.0	2	1.0	3	1.2	5	0.5
Marital status												
Married	60	50.4	74	44.8	84	47.2	88	43.3	103	42.4	444	45.4
Divorced	24	20.2	55	33.3	44	24.7	59	29.1	59	24.3	260	26.6
Widow/widower	21	17.6	21	12.7	40	22.5	40	19.7	59	24.3	197	20.1
Never been married	14	11.8	15	9.1	9	5.1	13	6.4	21	8.6	73	7.5
Unknown or not stated	0	0.0	0	0.0	1	0.6	3	1.5	1	0.4	5	0.5
Educational attainment												
8th grade or less	1	0.8	2	1.2	4	2.2	1	0.5	1	0.4	10	1.0
9th-12th grade, no diploma or no GED completed	1	0.8	3	1.8	7	3.9	4	2	5	2.1	21	2.1



	2018		2019		2020		2021		2022		2017-2022 Total	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
High school graduate or GED completed	24	20.2	36	21.8	35	19.7	37	18.2	40	16.5	190	19.4
Some college credit but no degree	22	18.5	23	13.9	25	14	21	10.3	24	9.9	128	13.1
Associate's degree	7	5.9	14	8.5	19	10.7	18	8.9	23	9.5	90	9.2
Bachelor's degree	25	21	46	27.9	52	29.2	60	29.6	77	31.7	279	28.5
Master's degree	24	20.2	26	15.8	25	14	45	22.2	50	20.6	173	17.7
Doctorate or professional degree	15	12.6	15	9.1	9	5.1	17	8.4	22	9.1	85	8.7
Unknown	0	0.0	0	0.0	2	1.1	0	0.0	1	0.4	3	0.3
Region of residence (county location)												
Denver Metro Area	79	66.4	99	60	96	53.9	129	63.5	159	65.4	607	62
Other Front Range Counties	22	18.5	38	23	43	24.2	42	20.7	52	21.4	214	21.9
Other Counties	18	15.1	28	17	37	20.8	32	15.8	30	12.3	154	15.7
Unknown	0	0.0	0	0.0	2	1.1	0	0.0	2	0.8	4	0.4
Region of residence (population density)												
Urban Counties	102	85.7	140	84.8	143	80.3	175	86.2	214	88.1	837	85.5
Rural Counties	11	9.2	20	12.1	28	15.7	22	10.8	23	9.5	110	11.2
Frontier Counties	6	5	5	3	5	2.8	6	3	4	1.6	28	2.9
Unknown	0	0.0	0	0.0	2	1.1	0	0.0	2	0.8	4	0.4
Place of death												
Residence	102	85.7	131	79.4	152	85.4	168	82.8	198	81.5	810	82.7
Nursing home/long-term care facility	6	5	12	7.3	11	6.2	20	9.9	20	8.2	78	8
Hospice facility	3	2.5	11	6.7	8	4.5	7	3.4	13	5.3	42	4.3
Hospital inpatient	2	1.7	3	1.8	1	0.6	4	2	4	1.6	14	1.4
Other or unknown	6	5	8	4.8	6	3.4	4	2	8	3.3	35	3.6
Hospice enrollment status												
Under hospice care	101	84.9	130	78.8	155	87.1	173	85.2	195	80.2	817	83.5
Not under hospice care or unknown	17	14.3	35	21.2	23	12.9	30	14.8	48	19.8	161	16.4
Unknown	1	0.8	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1

'Denver Metro Area' includes Adams, Arapahoe, Boulder, Broomfield, Denver, Douglas and Jefferson Counties.

'Other Front Range' includes El Paso, Larimer, Pueblo and Weld Counties.

'Rural counties' represent a non-metropolitan county with no cities over 50,000 residents.

'Frontier counties' represent counties with population density of 6 or fewer residents per square mile.

'Place of death - Other/unknown' includes outpatient facilities, emergency departments or unspecified locations.

Monitoring Compliance with Reporting Requirements

To comply with the Colorado End-of-Life Options Act, physicians who prescribe aid-in-dying medication, and those health care providers who dispense such medication, must submit documentation to CDPHE per rules promulgated by the Colorado Board of Health.

Physicians who prescribe aid-in-dying medication must submit:

- Attending/prescribing physician form
- Patient’s completed written request for medical aid-in-dying medication
- Written confirmation of mental capacity from a licensed mental health provider (if applicable)
- Consulting physician’s written confirmation of diagnosis and prognosis

Health care providers who dispense aid-in-dying medication must submit:

- Medication dispensing form

Table 4 contains a summary of documentation received by CDPHE concerning patients who were prescribed aid-in-dying medication. This information is based on reporting forms and supplemental documentation received by CDPHE as of February 20, 2023.

Table 4. Documentation received for patients participating in the Colorado End-of-Life Options Act, 2018-2022 with 2017-2022 totals.

Form/Document	2018	2019	2020	2021	2022	2017-2022
	Count	Count	Count	Count	Count	Total Count
Attending/prescribing physician form	108	146	160	188	260	925
Patient’s completed written request	93	130	157	185	258	873
Mental health provider’s confirmation	0	1	3	0	3	8
Consulting physician’s written confirmation	89	130	156	185	259	852
Medication dispensing form	85	137	150	164	247	839
Death certificate	119	165	178	203	243	979

While reporting of the required documentation (including prescribing forms, patients’ written requests, consulting physicians’ written confirmations, and mental health provider confirmation when applicable) may be incomplete, attending/prescribing forms received contained physicians’ signed attestations that all requirements of the Colorado End-of-Life Options Act have been met, and that required documentation is complete and contained in patients’ records. Efforts continue to educate physicians and other health care providers about reporting requirements.

Additional instructions for reporting, including specific regulations and forms, and past reports are available on the Colorado Medical Aid in Dying website at <https://cdphe.colorado.gov/center-for-health-and-environmental-data/registries-and-vital-statistics/medical-aid-in-dying>.



Confidentiality

Colorado’s End-of-Life Options Act states that the information reported to CDPHE is not a public record and is not available for public inspection. To comply with that statutory mandate, CDPHE will not disclose any information that identifies patients, physicians, pharmacists, family members, witnesses or other participants in activities covered by the Colorado End-of-Life Options Act. The information presented in this report is limited to such categories within a reporting field to ensure that confidentiality is preserved.