

HENNEPIN COUNTY
MINNESOTA

Hennepin County Medical Examiner

Annual Report for 2017



Contents

Welcome	3
Jurisdiction map	5
History of the Medical Examiner’s Office.....	6
Organizational Chart	7
Functions of the Medical Examiner.....	8
Types of reportable cases	9
Sharing a wealth of knowledge at the Forensic Science Seminar.....	10
A new facility for a smarter future	11
Investigating a fatal new drug.....	12
Hennepin, Dakota, and Scott Counties data.....	13
Hennepin County data	18
Dakota County data	20
Scott County data.....	22

Welcome

Thank you for reading our 2017 Hennepin County Medical Examiner's Office annual report. We deliver forensic death investigation and autopsy services to three counties — Hennepin, Dakota, and Scott. We also provide forensic autopsy services on a referral basis to counties throughout Minnesota and Wisconsin.

The Hennepin County Medical Examiner's Office is accredited by the National Association of Medical Examiners and administers an American College of Graduate Medical Education approved fellowship in forensic pathology.

All physicians at the Hennepin County Medical Examiner's Office are certified by the American Board of Pathology in Anatomical and Forensic Pathology. Other board certifications — Neuropathology and Clinical Pathology — are also represented among the physician staff. Death investigators are certified by the American Board of Medicolegal Death Investigators.

2017 was a year of change in our office. The metropolitan area continued to see increased deaths from drug toxicity. For the first time, carfentanyl — a synthetic fentanyl analog 10,000 times more powerful than morphine — was detected in our area. Our physicians and investigators, allied with our partners in toxicology and emergency medicine, were instrumental in detecting this new threat to the public's health. We started working on designing our brand new facility and starting looking at options for land. The 34th Annual Forensic Science Seminar was held in St. Louis Park with over 210 participants.

I invite you to learn more about our accomplishments as highlighted in the pages that follow. Finally, this report reflects a statistical breakdown of the total caseload of the three counties we are proud to work with — Hennepin, Dakota, and Scott.



Respectfully,



Andrew Baker, MD

Chief Medical Examiner of
Hennepin, Dakota and Scott counties.



Hennepin County Medical Examiner

Mission

To investigate and determine cause and manner of death in all cases within the jurisdiction of the office in compliance with Minnesota statutes, and to advance the knowledge of death investigative professionals and partnering agencies through training and education to improve health, safety and quality of life.

Vision

The Medical Examiner envisions a standard of excellence whereby death investigative professionals conduct thorough, accurate death investigations by harnessing innovative technologies and solutions in a regional office that serves a diverse population with timely, accurate and compassionate investigations run by professional staff equipped with state-of-the-art technology and resources.

Jurisdiction map

The Hennepin County Medical Examiner's Office has jurisdiction to investigate all sudden or unexpected deaths in Hennepin, Dakota and Scott counties.

Population by county (2017)

- Scott 141,463
- Dakota 421,751
- Hennepin 1,164,367

Area by county, in square miles

- Scott 368
- Dakota 587
- Hennepin 607

Number of cities, by county

Scott

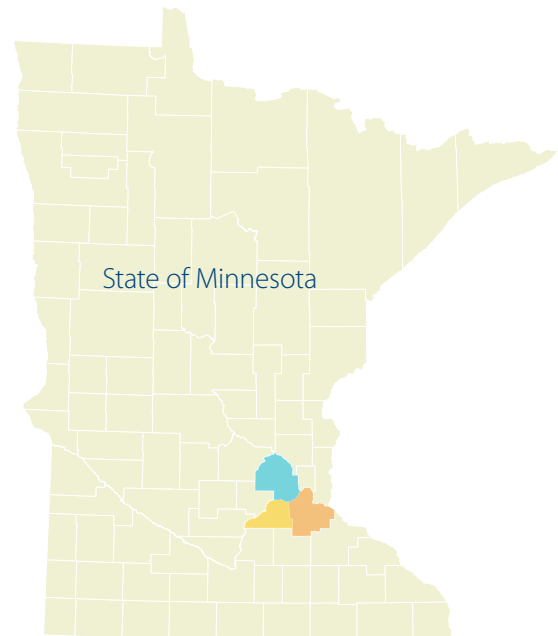
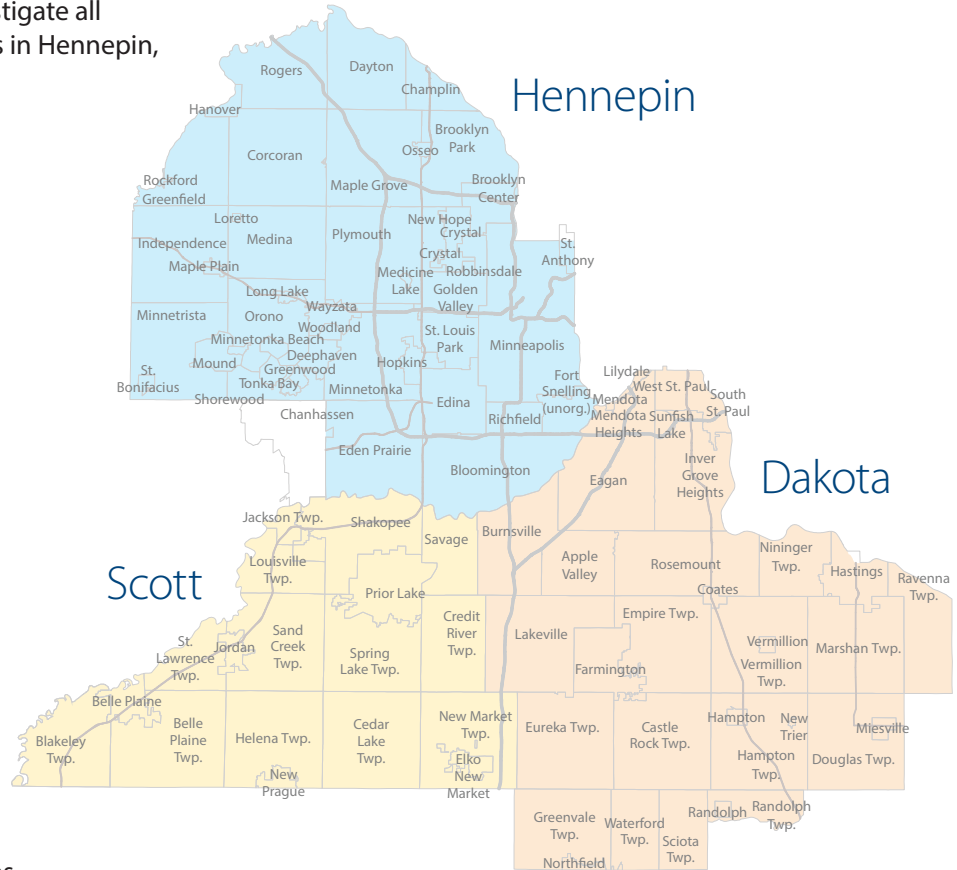
7 cities and multiple townships and unincorporated communities

Dakota

21 cities and multiple townships and unincorporated communities

Hennepin

45 cities and 1 unorganized territory (Fort Snelling)



Andrew M. Baker, M.D., Chief Medical Examiner of Hennepin, Dakota and Scott counties.

History of the Medical Examiner's Office

The Office of the Hennepin County Medical Examiner was established by law in 1963, with Dr. John Coe subsequently appointed in 1964 as the first Chief Medical Examiner. Since then, the department has only had two other chief medical examiners, Dr. Garry Peterson and the current chief medical examiner, Dr. Andrew Baker.

The Hennepin County Medical Examiner's Office has held full accreditation status from the National Association of Medical Examiners since 1978. This accreditation represents the highest standards of medicolegal death investigation.

The department has occupied several spaces in its history, including Hennepin County General Hospital, Hennepin County Medical Center and its current location at the Forensic Sciences Building.

In 2013, the office partnered with the former Minnesota Regional Medical Examiner's Office, based in Hastings, to provide death investigation services to Hennepin, Dakota and Scott counties. Hennepin County serves roughly one-third of the state's population.

The Hennepin County Medical Examiner has a close training relationship with University of Minnesota medical students and residents. In addition, the department offers an accredited fellowship program in forensic pathology. Past fellows hold positions in medical examiner offices in multiple states and several other countries.

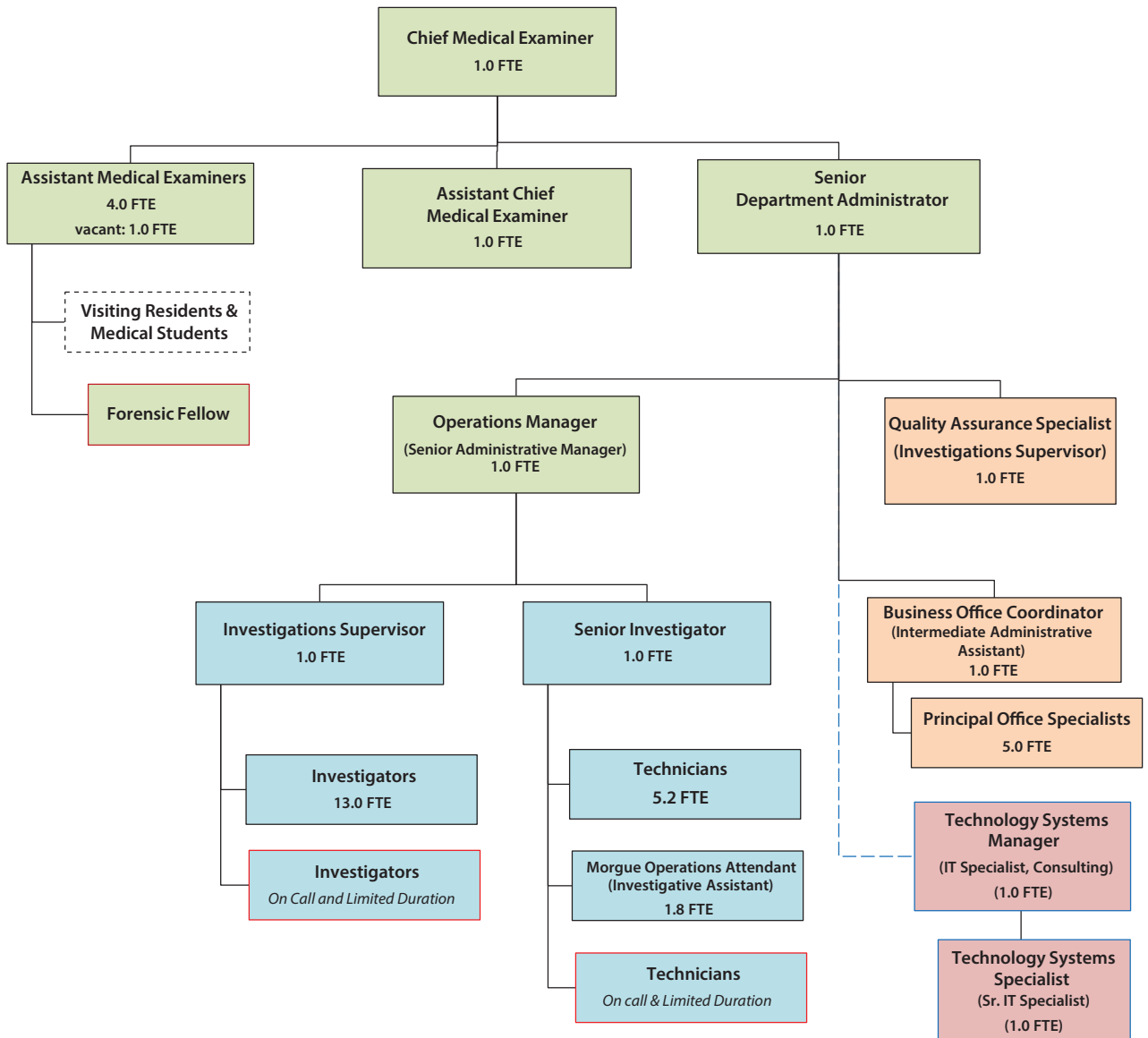


The Hennepin County Medical Examiner's Office has had only three chief medical examiners since its establishment in 1963. Dr. Andrew Baker, left, current chief medical examiner, has served since 2004. Dr. Garry Peterson, center, led the department from 1984 to 2004. Dr. John Coe, right, was the first chief medical examiner, serving from 1964 to 1984.



The Forensic Sciences Building, at the corner of 6th Street and Chicago Avenue, has been home to the department since 1999.

Organizational Chart



- Permanent
- Limited Duration
- Health line of business FTE

2017 Organizational Chart 37.0 FTE

Note: On call, limited duration and health line of business FTE staff are not included in the total FTE count.

Functions of the Medical Examiner

Receiving death reports

When a reportable death occurs, the Medical Examiner's Office gathers pertinent data, including the person's name, address, age, sex, race, marital status, next of kin, a summary of medical history, physical findings, and name of last attending physician.

Preserving evidence

At the location of the death, the Medical Examiner Investigator takes custody and arranges transport of the body, personal property and associated evidence.

Deciding jurisdiction

The Medical Examiner decides who has jurisdiction to investigate the death, and reserves the right to accept or decline jurisdiction. If the person died from natural causes, and has seen an attending physician within 120 days, the office usually declines jurisdiction. If the office accepts jurisdiction, or if the death is due in part to an injury, the Medical Examiner must sign the death certificate.

Facilitating tissue, eye and organ donation

The Medical Examiner must receive notification and provide authorization before any agency arranges to recover an organ, tissues or eyes.

Performing autopsies

The Medical Examiner determines whether state interest compels an autopsy to answer medical and legal questions in the public interest, to protect public health, or to address a question of law. Families have the right under state law to object to an autopsy under some circumstances.

Determining cause and manner of death

The Medical Examiner assists families, law enforcement agencies, and the legal system by determining a scientifically unbiased and logical cause and manner of death. In many cases, family members benefit from the information derived from a death investigation and autopsy.

Managing public and private information

Basic demographic information and the cause and manner of death are matters of public record under Minnesota law (Minnesota Statute §13.83). The Medical Examiner treats the rest of the information as confidential and gives it the same discretion as a medical record.

In homicide cases, the Medical Examiner provides information and autopsy reports only to the law enforcement agencies investigating the death and to the prosecutor in the county where the homicide occurred.

Types of reportable cases

Deaths that meet certain criteria in Hennepin, Dakota or Scott County must be reported, including all sudden or unexpected deaths and all deaths that may be due entirely, or in part, to any factor other than natural disease. These include:

1. Unnatural deaths, including violent deaths arising from homicide, suicide, or accident;
2. Deaths due to a fire or associated with burns or chemical, electrical, or radiation injury;
3. Unexplained or unexpected perinatal and postpartum maternal deaths;
4. Deaths under suspicious, unusual or unexpected circumstances;
5. Deaths of people whose bodies are to be cremated or otherwise disposed of in such a manner that the bodies will later be unavailable for examination;
6. Deaths of inmates of public institutions and people in custody of law enforcement officers, who have not been hospitalized primarily for organic disease;
7. Deaths that occur during, in association with, or as the result of diagnostic, therapeutic, or anesthetic procedures [these include operating room deaths];
8. Deaths due to culpable neglect;
9. Stillbirths of 20 weeks or longer gestation, not attended by a physician;
10. Sudden deaths of people not affected by recognizable disease;
11. Unexpected deaths notwithstanding a history of underlying disease;
12. Deaths in which a fracture of a major bone such as a femur, humerus, or tibia has occurred within the past six months;
13. Deaths not attended by a physician, occurring outside of a licensed health care facility or licensed residential hospice program;
14. Deaths of people not seen by their physician within the past 120 days;
15. Deaths occurring in an emergency department;
16. Stillbirths or deaths of newborn infants in which there has been maternal use of or exposure to unprescribed controlled substances, including street drugs, or in which there is history or evidence of maternal trauma;
17. Unexpected deaths of children;
18. Solid organ donors;
19. Unidentified bodies;
20. Skeletonized remains;
21. Deaths occurring within 24 hours of arrival at a health care facility, if death is unexpected;
22. Deaths associated with the decedent's employment;
23. Deaths of nonregistered hospice patients or patients in unlicensed hospice programs; and
24. Deaths attributable to acts of terrorism.

Sharing a wealth of knowledge at the Forensic Science Seminar

Our office supports the annual Forensic Science Seminar as an educational opportunity that advances death investigative services throughout the region.

More than 200 physicians, medical personnel, attorneys, law enforcement personnel, death investigators, morticians and funeral directors gathered in St. Louis Park in September 2017, to attend the 34th annual seminar.

Participants attended presentations on drug usage trends, how to prepare for mass disasters within their communities, and other topics designed to keep them up to date with all aspects of death investigations. In all, attendees participated in 21 sessions from 29 different speakers.

Colleagues from near and far

This seminar is held in conjunction with the Minnesota Coroners' and Medical Examiners' Association and the Minnesota Medical Association. The Hennepin County Medical Examiner's Office provided conference support for this annual event. Although most participants were from the Midwest region, we welcomed colleagues from as far away as Texas, Florida, and Canada.

Highlights of the seminar included several presentations that showcased the roles and responsibilities of the various disciplines in our field, and how working together helps the families and the communities we serve.



More than 200 participants attended the 2017 Forensic Science Seminar in St. Louis Park.

A new facility for a smarter future



A new Hennepin County Regional Medical Examiner facility is essential for the success of our educational mission. An up-to-date, appropriately sized facility that supports our educational mission well into the future is an investment in the safety and security for all residents of the state of Minnesota.

Unlike any other accredited medical examiner's office in Minnesota, we have a formal teaching mission that includes medical students, pathology residents, and a fellowship program in forensic pathology, which trains future medical examiners. All pathology residents from the University of Minnesota spend at least one month with us. We operate one of 43 accredited fellowship programs in the county and have done so for more than 30 years. The chief medical examiners of the Hennepin, Anoka, and Ramsey offices are all alumni of our training program.

A benefit beyond our borders

Our Medical Examiner's Office provides training, support, and infrastructure far beyond our primary service area for local, state, and regional mass fatality preparedness. We serve as the administrative office for the state Medical Examiner Consortium, which supports mobile units for use in the event of a mass fatality in our region. Our employees hold key positions with state

and national organizations. County emergency managers and state homeland security offices routinely seek our subject matter expertise for training.

Ready to move forward

In December 2012, the Hennepin County Medical Examiner's Office decided to embark on a Regional Services Study to assess the need for a new regional medical examiner's facility. This led to a Regional Office Study in 2014 by RSP/SmithGroup and a plan to move forward.

In 2017, the Hennepin County Design Selection Committee recommended to move forward with Leo A Daly as the architectural firm for the new facility, and with McClaren Wilson & Lawrie Inc. (MWL Architects) as the specialty design firm for the technical areas of the facility.

In 2017, the project received \$2.68 million through Omnibus State Bonding funds.

The work we do every day informs law enforcement, the courts, the media, and every facet of public safety and public health. Support for a new regional medical examiner facility will ensure that we can continue to provide world-class death investigation services to all that we serve.

Investigating a fatal new drug

In early 2017, the Hennepin County Medical Examiner investigated 11 apparent opioid toxicity deaths that occurred in urban, suburban, and rural regions.

In all cases, the investigations centered on people who were known substance abusers with a history of heroin use. Most were found with drug paraphernalia. Despite complete autopsies and extensive toxicological screening at Hennepin County Medical Center, all of the cases tested negative for heroin, and none of the investigations identified a cause of death.

Aware that medical examiners in other parts of the country were detecting new and novel fentanyl analogs, Hennepin County staff conferred with toxicology laboratory staff, toxicologists and emergency physicians. This information sharing prompted additional testing for novel opioids at a referral laboratory, which detected carfentanil in all 11 cases.

Morphine x 10,000

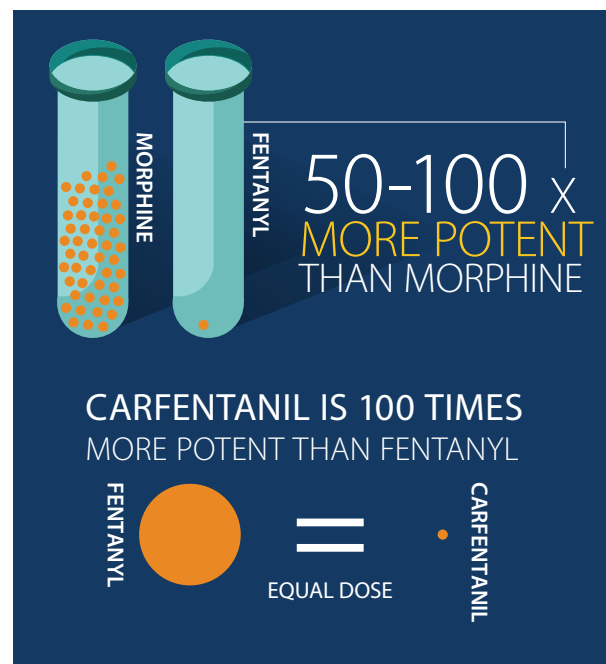
Carfentanil, which has no approved human use, is an extremely powerful synthetic opioid, 10,000 times more potent than morphine and 100 times more potent than fentanyl.

The Medical Examiner's Office alerted the Drug Enforcement Agency, the Hennepin County Sheriff's Office, local police, and Hennepin County Communications to coordinate a press conference and public announcement regarding the presence of this powerful opioid in Minnesota.

Sharing our knowledge

Assistant Medical Examiner Dr. Rebecca Wilcoxon received a major public health award from the National Association of Medical Examiners for her platform presentation about the carfentanil experience at a national meeting. In addition, the journal *Academic Forensic Pathology* published her paper, "The Elephant in the Room: Outbreak of Carfentanil Deaths in Minnesota and the Importance of Multiagency Collaboration."

The experience also prompted several policy changes within the Medical Examiner's Office, including new practices to ensure safe documentation of suspicious substances at death scenes by investigators, and immediate release of apparent drugs and drug paraphernalia to law enforcement to shorten the chain of custody and allow for more prompt testing.

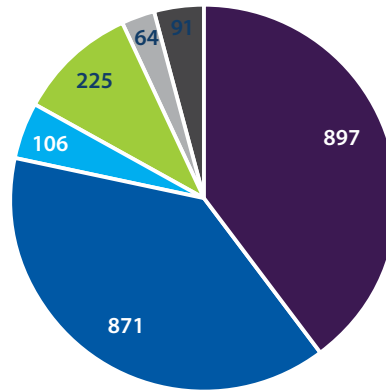


2017 Aggregate Data: Total, Hennepin, Dakota, and Scott Counties:

	Total	Hennepin	Dakota	Scott
Total Cases	7,727	5,891	1,421	379
Jurisdiction Accepted	2,254	1,823	320	111
Jurisdiction Declined	5,075	3,713	1,096	266
Jurisdiction Accepted	2,254	1,823	320	111
Naturals	897	712	136	49
Accidents (does not include MVA)	871	710	116	45
Traffic Accidents	106	89	9	8
Suicides	225	170	50	5
Homicides	64	58	5	1
Undetermined	91	84	4	3
Total Medical Examiner Autopsies	1,310	1,025	191	60
HCME Autopsies (not including HCMC Autopsies)	1,090	850	180	60
Autopsies at Other Institutions (JA cases)	11	10	1	0
Partial Autopsies (not including HCMC Autopsies)	39	29	10	0
Referral Autopsies	34	0	0	0
HCME-HCMC inpatient autopsies	70	70	0	0
HCME-HCMC ER autopsies	66	66	0	0
Total Donations	449	331	83	30
Eyes	238	159	59	17
Tissue/Bone (ME & Hospital referred)	178	139	24	13
Organs	33	33	0	0
Scene Visits	1,470	1,149	243	78
Cremations Approved	8,766	7,092	1,295	379
Subpoenas Answered	82	66	5	6
Bodies Transported	2,110	1,771	226	77
Hospice Deaths	4,021	2,843	956	222

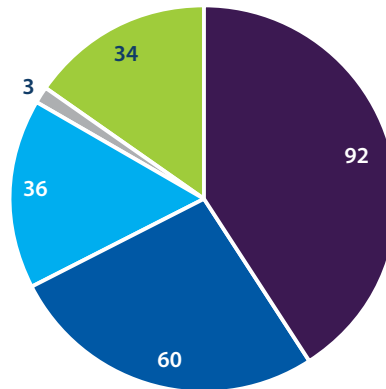
Accepted Cases by Manner of Death; Hennepin, Dakota, and Scott Counties 2017

Total	2,254
Naturals	897
Accidents (excludes Traffic)	871
Traffic Accidents	106
Suicides	225
Homicides	64
Undetermined	91



Suicide Deaths; Hennepin, Dakota, and Scott Counties 2017

Total	225
Gunshot/Shotgun Wound	92
Hanging	60
Drug Toxicity	36
CO Poisoning	3
Other Suicides	34
Undetermined	0



Natural Deaths Autopsied; Hennepin, Dakota, and Scott Counties 2017

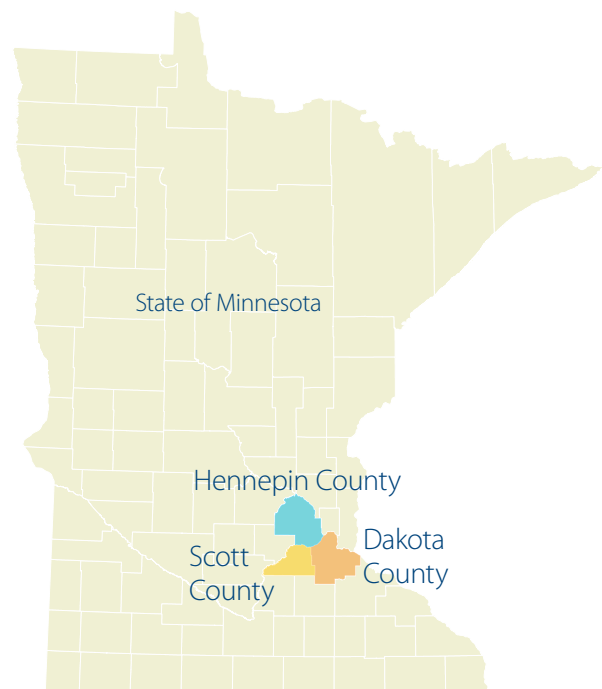
Total	494
Arteriosclerotic Heart Disease	113
Arteriosclerotic and Hypertensive Heart Disease	42
Hypertensive Heart Disease	27
Valvular Heart Disease	1
Aortic Disease	11
Cardiac (miscellaneous)	26
Natural Causes	86
Chronic Alcoholism	41
Cerebrovascular Disease	18
Seizure Disorder	3
Neurological Disease (other)	6
Respiratory (asthma, COPD)	7
Gastrointestinal and Hepatic	16
Genitourinary and Renal	2
Infectious Diseases	24
Diabetes and metabolic	35
Pulmonary Thromboemboli	22
Prematurity	0
Malignancy	6
Congenital Diseases	5
Debility	0
Other	3

Accident Deaths; Hennepin, Dakota, and Scott Counties 2017

Total	977
Fall	505
Drug Toxicity	279
Vehicular	96
Asphyxia	25
Thermal/Fire	18
Drowning	10
Pedestrian	19
Blunt Trauma	13
Hypothermia	8
Carbon Monoxide (not fire)	
Other	2
Perioperative/Therapeutic	
Electrocution	
Firearms	1
Hanging	
Bomb/Explosion	
Hyperthermia	1

Homicide Deaths; Hennepin, Dakota, and Scott Counties 2017

Total	64
Asphyxia	3
Blunt Trauma	2
Complex homicidal violence	3
Firearms	39
Pedestrian	1
Sharp Force	9
Thermal/Fire	1
Mixed	3
Other	3

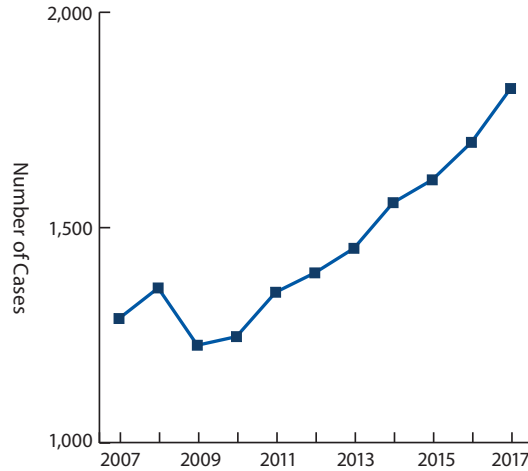


Natural Deaths non-autopsied; Hennepin, Dakota, and Scott Counties 2017

Total	403
Natural Causes	329
Arteriosclerotic Heart Disease	4
Arteriosclerotic and Hypertensive Heart Disease	1
Hypertensive Heart Disease	0
Valvular Heart Disease	1
Aortic Disease	2
Cardiac (miscellaneous)	4
Chronic Alcoholism	4
Cerebrovascular Disease	14
Seizure Disorder	0
Neurological Disease (other)	8
Respiratory (asthma, COPD)	2
Gastrointestinal and Hepatic	1
Genitourinary and Renal	1
Infectious Diseases	7
Diabetes and metabolic	6
Pulmonary Thromboemboli	1
Prematurity	0
Malignancy	15
Congenital Diseases	0
Debility	0
Other	3

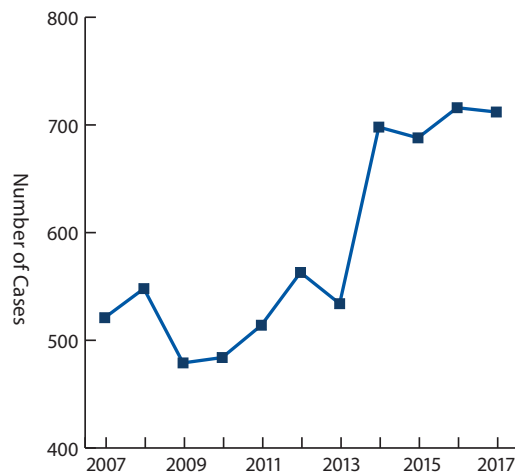
Cases Accepted: Hennepin County 2007–2017

Year	Number of Cases
2007	1,289
2008	1,360
2009	1,227
2010	1,247
2011	1,350
2012	1,395
2013	1,452
2014	1,558
2015	1,611
2016	1,698
2017	1,823



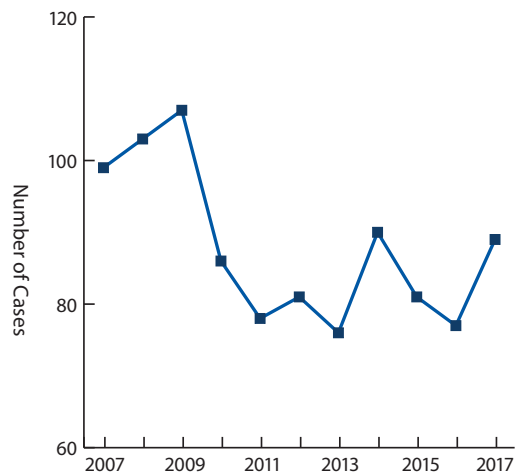
Natural Deaths: Hennepin County 2007–2017

Year	Number of Cases
2007	521
2008	548
2009	479
2010	484
2011	514
2012	563
2013	534
2014	698
2015	688
2016	716
2017	712



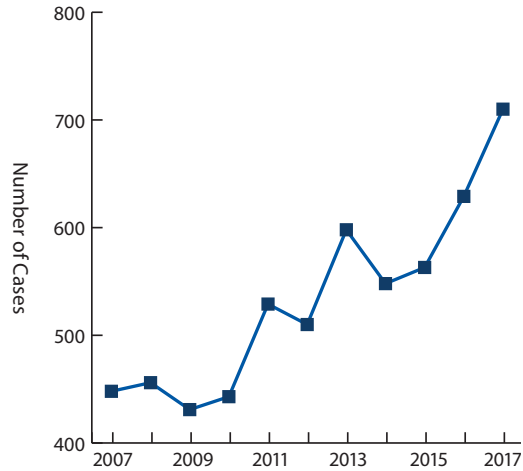
Traffic Accidents: Hennepin County 2007–2017

Year	Number of Cases
2007	99
2008	103
2009	107
2010	86
2011	78
2012	81
2013	76
2014	90
2015	81
2016	77
2017	89



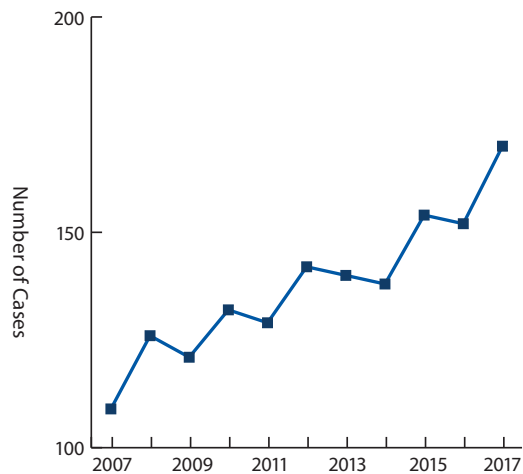
Accidents (Non Traffic): Hennepin County 2007-2017

Year	Number of Cases
2007	448
2008	456
2009	431
2010	443
2011	529
2012	510
2013	598
2014	548
2015	563
2016	629
2017	710



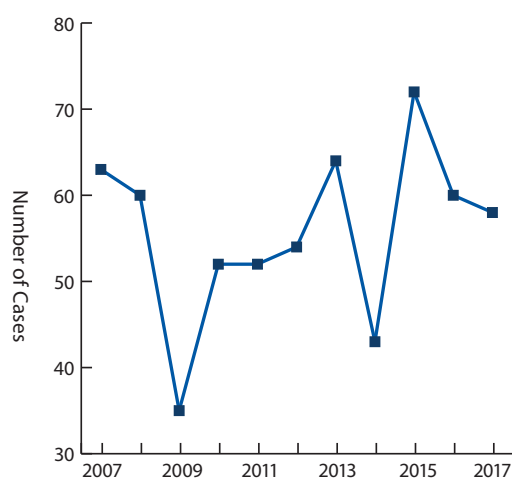
Suicide Deaths: Hennepin County 2007-2017

Year	Number of Cases
2007	109
2008	126
2009	121
2010	132
2011	129
2012	142
2013	140
2014	138
2015	154
2016	152
2017	170



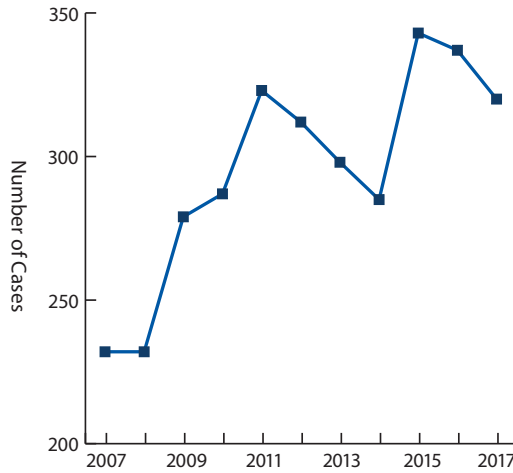
Homicide Deaths: Hennepin County 2007-2017

Year	Number of Cases
2007	63
2008	60
2009	35
2010	52
2011	52
2012	54
2013	64
2014	43
2015	72
2016	60
2017	58



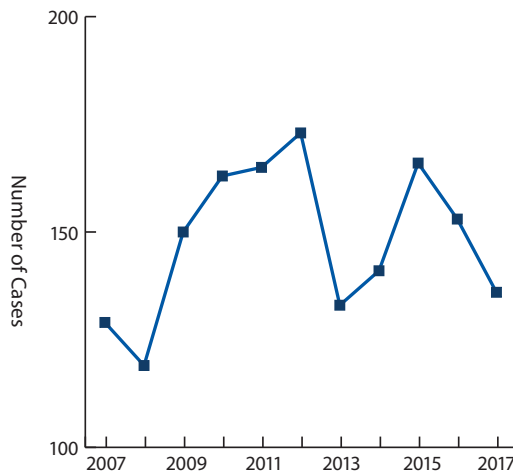
Cases Accepted: Dakota County 2007–2017

Year	Number of Cases
2007	232
2008	232
2009	279
2010	287
2011	323
2012	312
2013	298
2014	285
2015	243
2016	337
2017	320



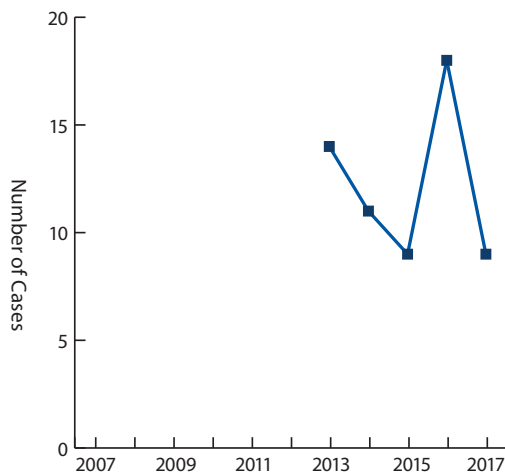
Natural Deaths: Dakota County 2007–2017

Year	Number of Cases
2007	129
2008	119
2009	150
2010	163
2011	165
2012	173
2013	133
2014	141
2015	166
2016	153
2017	136



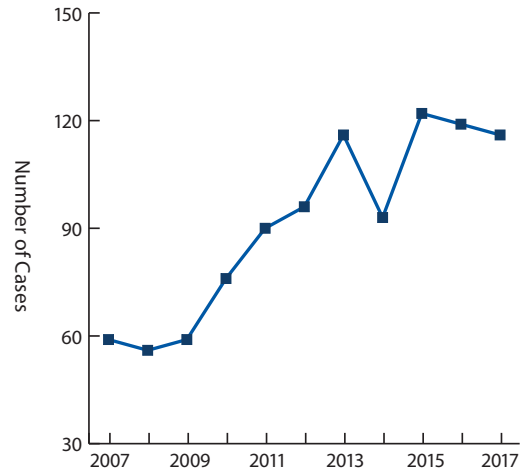
Traffic Accidents: Dakota County 2007–2017

Year	Number of Cases
2007	–
2008	–
2009	–
2010	–
2011	–
2012	–
2013	14
2014	11
2015	9
2016	18
2017	9



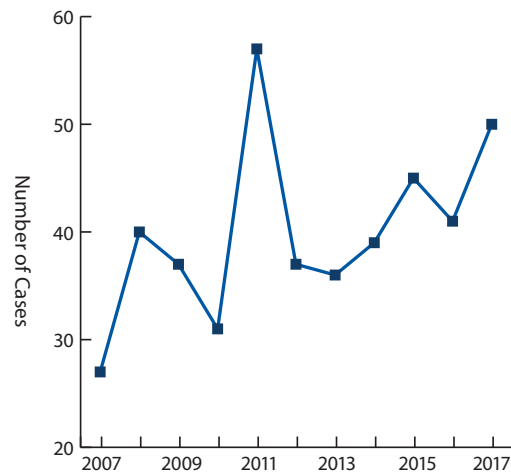
Accidents (Non Traffic): Dakota County 2007–2017

Year	Number of Cases
2007	59
2008	56
2009	59
2010	76
2011	90
2012	96
2013	116
2014	93
2015	122
2016	119
2017	116



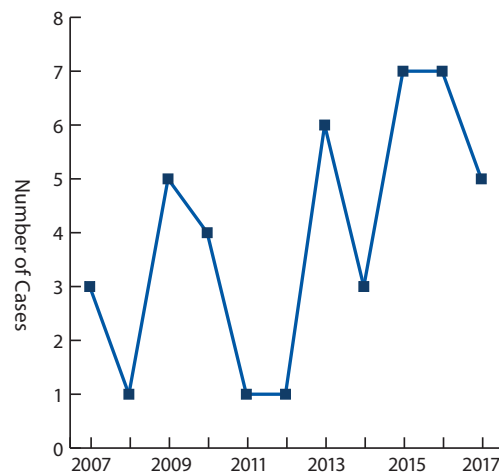
Suicide Deaths: Dakota County 2007-2017

Year	Number of Cases
2007	27
2008	40
2009	37
2010	31
2011	57
2012	37
2013	36
2014	39
2015	45
2016	41
2017	50



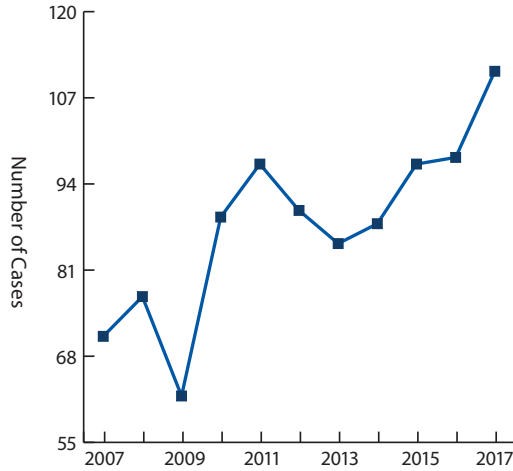
Homicide Deaths: Dakota County 2007–2017

Year	Number of Cases
2007	3
2008	1
2009	5
2010	4
2011	1
2012	1
2013	6
2014	3
2015	7
2016	7
2017	5



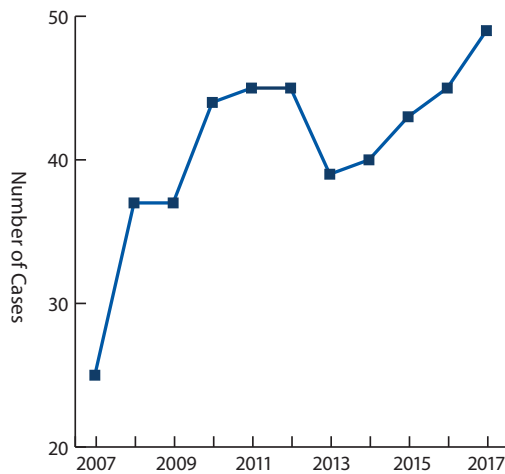
Cases Accepted: Scott County 2007–2017

Year	Number of Cases
2007	71
2008	77
2009	62
2010	89
2011	97
2012	90
2013	85
2014	88
2015	97
2016	98
2017	111



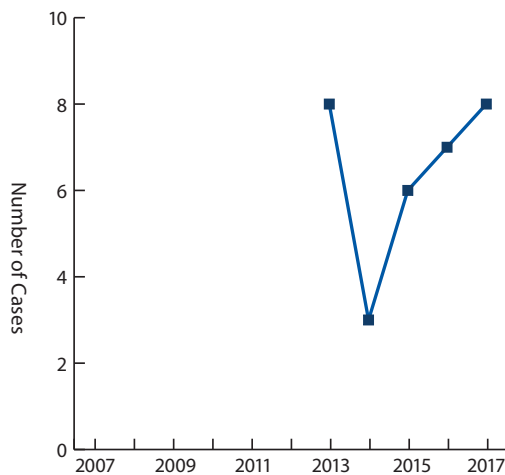
Natural Deaths: Scott County 2007–2017

Year	Number of Cases
2007	25
2008	37
2009	37
2010	44
2011	45
2012	45
2013	39
2014	40
2015	43
2016	45
2017	49



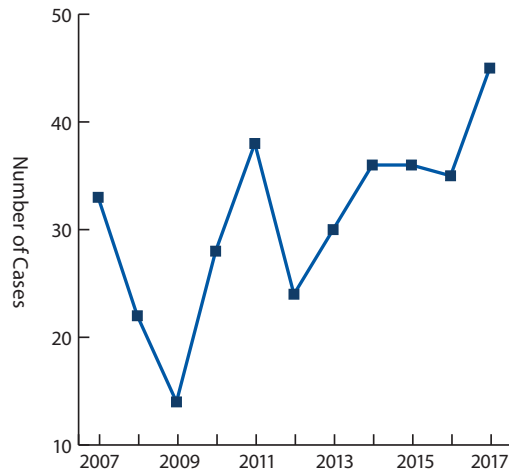
Traffic Accidents: Scott County 2007–2017

Year	Number of Cases
2007	–
2008	–
2009	–
2010	–
2011	–
2012	–
2013	8
2014	3
2015	6
2016	7
2017	8



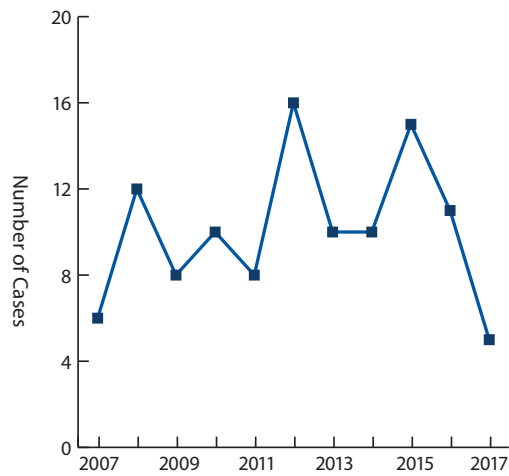
Accidents (Non Traffic): Scott County 2007-2017

Year	Number of Cases
2007	33
2008	22
2009	14
2010	28
2011	38
2012	24
2013	30
2014	36
2015	36
2016	35
2017	45



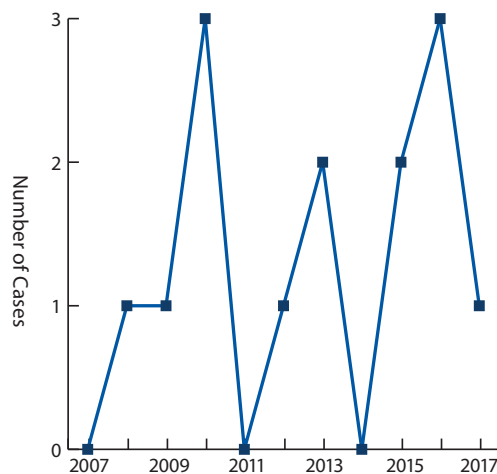
Suicide Deaths: Scott County 2007-2017

Year	Number of Cases
2007	6
2008	12
2009	8
2010	10
2011	8
2012	16
2013	10
2014	10
2015	15
2016	11
2017	5



Homicide Deaths: Scott County 2007-2017

Year	Number of Cases
2007	0
2008	1
2009	1
2010	3
2011	0
2012	1
2013	2
2014	0
2015	2
2016	3
2017	1





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