State of Illinois
Department of Public Health

Annual Report Illinois Health and Hazardous Substances Registry

July 2016 through June 2017

September 2017

IDPH
ILLINOIS DEPARTMENT OF PUBLIC HEALTH

Annual Report
Illinois Health and Hazardous Substances Registry
July 2016 through June 2017

A Report to Governor Bruce Rauner
and the 100th General Assembly
from the
Illinois Department of Public Health
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Prepared by the
Division of Epidemiologic Studies
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Table of Contents

Acronyms

Acronyms used in the Illinois Health and Hazardous Substances Registry Annual Report

ABLR	Adult Blood Lead Registry
ACS	American Cancer Society
AHRQ	Agency for Healthcare Research Quality
APORS	Adverse Pregnancy Outcomes Reporting System
BLS	Bureau of Labor Statistics (U.S. Department of Labor)
CDC	U.S. Centers for Disease Control and Prevention
CFOI	Census of Fatal Occupational Injuries
CINA	Cancer in North America
FY	Fiscal Year
GIS	Geographic Information System
IARC	International Agency for Research on Cancer
IBCCP	Illinois Breast and Cervical Cancer Program
ICCCP	Illinois Comprehensive Cancer Control Program
IDHFS	Illinois Department of Healthcare and Family Services
IDPH	Illinois Department of Public Health
IHDDI	Illinois Health Data Dissemination Initiative
IHHSR	Illinois Health and Hazardous Substance Registry
IMMB	IDPH's Illinois Morbidity and Mortality Bulletin
IRB	Institutional Review Board
ISCR	Illinois State Cancer Registry
MMWR	CDC's Morbidity and Mortality Weekly Reports
NAACCR	North American Association of Central Cancer Registries
NAD	North American Datum
NBDPN	National Birth Defects Prevention Network
NCI	National Cancer Institute
NIH	National Institutes of Health
NIOSH	National Institute of Occupational Safety and Health
NPCR	National Program of Cancer Registries
ODR	Occupational Disease Registry
OSH	Occupational Safety and Health Survey
OSHA	Occupational Safety and Health Administration
SEER	Surveillance of Epidemiology and End Results
SOII	Survey of Occupational Injuries and Illnesses
VA	Veteran's Administration
VR	Division of Vital Records

1. Executive Summary

The Illinois Department of Public Health's (IDPH) Division of Epidemiologic Studies is responsible for developing and managing the Illinois Health and Hazardous Substances Registry (IHHSR). The registry was created by the Illinois Health and Hazardous Substances Registry Act (410 ILCS 525/1 *et seq.*), enacted on September 10, 1984, and currently includes the following components: the Illinois State Cancer Registry (ISCR), the Adverse Pregnancy Outcomes Reporting System (APORS), the Occupational Disease Registry (ODR) [which further contains the Adult Blood Lead Registry (ABLR), Census of Fatal Occupational Injuries (CFOI) and the Survey of Occupational Injuries and Illnesses (SOII)], and a research and data dissemination section. This is the registry's 31st annual report and it describes major registry activities and accomplishments from July 2016 through June 2017 (FY17).

The mission of the IHHSR includes the following:

- collect and maintain statewide reports on the incidence of cancer, adverse pregnancy outcomes, and occupational diseases and injuries;
- conduct epidemiologic analyses on health outcomes;
- provide a source of information for the public;
- monitor changes in incidence to detect potential public health problems, trends, and progresses;
- use data to help target intervention resources for communities, patients, and their families;
- inform health professionals and citizens about risks, early detection, and treatment of cancers in their communities; and
- promote high quality research to provide better information for disease prevention and control.

1.1 Illinois Health and Hazardous Substances Registry (IHHSR) Goal

The basic goal of the registry, according to the Act, is to develop and to maintain a unified system for the collection and compilation of statewide information on cancer incidence, adverse pregnancy outcomes, occupational diseases and injuries, and hazardous exposures; for correlation and analysis of information on public health outcomes and hazardous substances; and to use this information in decision making and public health policy development.

1.2 Fiscal Year 2017 Highlights

- Received $2.2 million from federal funds and nearly $33,000 from other non-general revenue sources, mostly through a competitive process, to support activities of the IDPH Division of Epidemiologic Studies

- Collected detailed case reports on Illinois residents with 66,732 newly diagnosed cancer cases (2014), 11,993 children with adverse pregnancy outcomes (2015), 2,918 adult lead poisoning cases (2016), 39,700 representative non-fatal occupational disease and injury sample records (2015), and 172 fatal occupational injuries (2015)

- Responded to 39 requests for general information about the registry, 32 requests for epidemiologic reports and registry data, and 22 special data requests or collaborations from outside researchers

- Responded to six inquiries about perceived cancer excesses in local communities and neighborhoods

- Prepared and submitted seven grant proposals to support the registry's operations and research

- Released two research papers in the Illinois Morbidity and Mortality Bulletin, eight reports in the Epidemiologic Report Series, and prepared five written reports for quality control studies of registry data

- Authored or co-authored two scientific papers for peer-reviewed journals

- Data released by the registry were used in more than 21 published studies by outside researchers

- Actively participated in national and statewide health programs; provided data, information, and epidemiologic support as needed

- Referred Illinois children with adverse birth outcomes to programs that provide follow-up services

- Referred 10 employees from seven employers with elevated blood lead levels to the U.S. Occupational Safety and Health Administration (OSHA) for onsite inspection

- Delivered presentations at seven professional meetings

- Provided leadership and management support to IDPH Institutional Review Board (IRB), with two Division of Epidemiologic Studies staff serving as members, one as vice chair, and one as the IRB's standing coordinator

- On behalf of IDPH, reviewed, edited and published the Illinois Morbidity and Mortality Bulletin (IMMB) which features scientific articles based on analyzing Illinois data

1.3 Illinois Health and Hazardous Substances Registry Coordinating Council

The IHHSR Act included that the Health and Hazardous Substances Coordinating Council should be comprised of the following persons, ex officio or their designees: Dean of the School of Public Health of the University of Illinois at Chicago, the Directors of the Illinois departments of Agriculture, Labor, Natural Resources, Nuclear Safety (now part of the Illinois Emergency Management Agency), Public Health, and of the Illinois Environmental Protection Agency. Due to time and budgetary constraints, the Council did not have a face-to-face meeting in fiscal year 2017. Instead, the Council reviewed and approved the annual report via written ballot.

1.4 Goals for Fiscal Year 2018

1. Continue to collect complete, timely, and quality data to monitor disease distributions and trends among Illinois residents

2. Engage partners, stakeholders, and communities in data dissemination and utilization to support health research and programs

3. Respond to public concerns about disease clusters in Illinois with registry data and information

4. Conduct activities stipulated or required by federal cooperative or research grants

5. Pursue grants and other funding opportunities in order to sustain and enhance the Division of Epidemiologic Studies' programs

6. Conduct epidemiologic studies with registry data to provide information to the public health community and to policy makers

7. Provide epidemiological data and information to federal, state, and local health education and intervention programs

8. Work through the Division of Epidemiologic Studies Program Review and IDPH's Institutional Review Board (IRB) to provide researchers with high-quality and timely registry data to support research advancing scientific knowledge and improving public health

9. Provide health regulatory agencies with health surveillance information to enhance their intervention and regulatory programs and to improve public health and safety

10. Participate in national registry certification and data submission activities to maintain the registry’s certification status and data utilization.

2. Program Data

Tables 2.1 and 2.2 summarize the registry's data collection and dissemination activities for last year compared with data from the previous years. In order to be consistent with the common reporting schedule, numbers in Table 2.1 are expressed in calendar years during which cases were diagnosed or defined. There is normally a two-year time delay for cases being reported to IHHSR. Due to the dynamic nature of the registry databases, the numbers in the table may not be the same as previously reported. These numbers represent cases processed or estimated by the registry and they do not reflect rate calculations that would require population denominators, nor case completeness that would require independent evaluations. Projections or forecasts for the future year also are included.

Table 2.1 Registry Data Collection

	Calendar 2011	Calendar 2012	Calendar 2013	Calendar 2014	Calendar 2015	Estimated 2016
ISCR Invasive Neoplasms						
(including bladder *in situ*)	66,664	65,453	65,881	66,732	61,130[1]	68,870
Breast *in situ* female only	2,476	2,543	2,578	2,474	2,388[1]	2,400
Brain – benign/borderline	2,264	2,239	2,253	2,333	1,971[1]	2,000
APORS Cases	11,977	12,102	9,739[2]	10,413	11,993	12,200
Occupational Disease Reports						
ABLR lead poisoning						
New reports	237	484	623[3]	1,060	1,704	852[4]
Total reports	506	726	2,161[3]	2,347	3,056	2,918[4]
Occupational Fatality Cases	235	146	176	164	172	175
Injuries	177	146	176	164	172	175
Illnesses[5]	54	N/A	N/A	N/A	N/A	N/A
Occupational Safety and Health Survey[7]						
Estimated Cases based on Sample	38,100[6]	39,630	38,690	38,280	39,700	38,880
Sprains, strains	14,460[6]	14,610	13,580	14,320	15,309	14,450
Bruises, contusions	2,890[6]	3,350	3,110	2,880	3,255	3,100
Cuts, lacerations	3,750[6]	3,510	3,170	2,600	3,613	3,300
Fractures	2,540[6]	3,070	3,340	4,010	4,405	3,400
Multiple injuries	870[6]	830	790	1,450	715	800
Carpal tunnel syndrome	560[6]	590	380	270	238	350
Heat burns	280[6]	590	380	310	596	500
Tendonitis	130[6]	80	200	70	38	100
Amputations	330[6]	190	260	160	199	200
Chemical burns	90[6]	120	180	60	238	130
Hazardous Substances (GIS)						
Geocoding registry cases	All	All	All	All	All	

[1]Reporting is not complete for the calendar year indicated. The numbers are estimated based on the current projected incidence.
[2] The numbers for 2013 are lower because APORS case definition changed in 2013 and a new reporting mechanism was introduced. It took a while for hospital staffs to adjust to the changes.
[3] IHHSR Rule change to lower threshold for reporting cases of elevated adult lead levels to mirror the federal requirements from ≥25µg/dL to ≥10µg/dL.
[4]Actual counts for 2016.
[5] Operation changes occurred in 2009 when paper death certificates were no longer available for review and in 2012 when BLS changed the operational process to discontinue collecting occupational illnesses. (See Section 5.2)
[6]Starting Collection Year 11, BLS conducted a pilot to collect the same information for cases with job transfer or restriction as it has for cases with days away from work in selected industries.
[7]Private industries only, cases with days away from work include those that result in days away from work with or without job transfer or restriction.

Table 2.2 Registry Data Dissemination, Reports and Publications

	FY13	FY14	FY15	FY16	FY17	Estimated FY18
Data Requests						
General information	41	31	27	23	39	35
Data and reports	108	71	77	59	32	30
Cluster inquiries	30	21	22	8	6	8
Confidential data released and research collaborations	24	25	23	17	22	15
Confidential data applications	6	4	4	1	0	0
Quality Assurance Studies						
Casefinding visits						
APORS	225	70[1]	22	4	4	2
ISCR	253	120	74	31	51	40
Cases added from casefinding visits						
APORS[2]	5,025	4,493	8,350[3]	7,158	9,729[4]	8,500
ISCR[5]	1,689	1,089	856	683	1,142	800
External audits of facility data						
ISCR		179	204	229	244	0
Internal quality control reports issued						
APORS	4	3	6	3	2	3
ISCR	2	4	3	3	3	3
ABLR	0	0	0	1	0	0
Public Use Microdata Files	3	3	5	5	5	5
Publications						
Epidemiologic report series	7	4	7	6	8	6
IMMB and other publications	0	0	0	3	2	1
Peer-reviewed publications	2	1	2	5	2	2
Publications by outside researchers	20	22	16	21	18	20
Oral/poster presentations	13	10	8	5	7	3
Grant Proposals Funded	6	5	5	5	7	6

[1] Fewer hospital casefinding visits have been conducted since FY14 because field staff access medical records remotely for almost all reporting hospitals.

[2] Represents additional birth defects identified and confirmed through the active case verification process where the medical records or previously submitted cases are reviewed.

[3] Represents additional birth defects added from review of children identified from past years from a variety of data sources, and improved abstractor case finding.

[4] The APORS program has been doing additional chart review on infants born in 2015, 2016 and 2017 with zika-associated birth defects in collaboration with the U.S. Zika Birth Defects registry.

[5] Represents cases missed by hospital reporting, but identified by ISCR during casefinding visits.

3. Illinois State Cancer Registry

As the only population-based source for cancer incidence information in Illinois, the Illinois State Cancer Registry (ISCR) collects cancer cases through mandated reporting by hospitals, ambulatory surgical treatment centers, non-hospital affiliated radiation therapy treatment centers, independent pathology labs, physicians, and through the voluntary exchange of cancer patient data with 11 other states. For the 2014 diagnosis year, ISCR received reports from three Veteran's Administration (VA) facilities in Illinois.

ISCR continues to require reporting facilities to submit cases in an electronic format. There are currently 187 reporting hospitals in Illinois and all are reporting electronically. Dermatologists and pathology labs have been set up with access to a web-based reporting system. Ambulatory centers and radiation therapy centers use either the free Abstract Plus reporting software or the Internet-based Web-Plus program.

3.1 Review and Evaluation of Fiscal Year 2017 Goals

3.1.1 Maintain Completeness and Timeliness of Reporting of Cancer Incidence Cases to the Illinois State Cancer Registry

- Met NAACCR gold certification standard for complete, accurate, and timely data for the 19th consecutive year
- Maintained case reporting at all non-federal facilities by conducting 51 facility case finding visits for the 2015 diagnosis year; 1,142 missed cases were identified
- Completed interstate data exchange by transmitting 1,523 de-duplicated, edited state specific cases to 11 states and received and processed 5,065 cases from six states
- Completed death clearance for the 2014 death year and maintained a death certificate only rate of 2.2 percent. In total, 2,841 cancer diagnoses were followed with 415 letters or lists mailed to hospitals, physicians, nursing homes, and hospice centers
- Added 90 percent of cases for the 2015 diagnosis year to the ISCR database by December 2016
- Added 100 percent of cases for the 2014 diagnosis year to the ISCR database by December 2016

3.1.2 Maintain and Enhance Activities Related to Physician and Pathology Reporting

- Maintained reporting by physicians and pathology labs

- Expanded reporting by physicians in Illinois by 8.2 percent through focused targeting and training

3.1.3 Provide Training for Reporting Facilities and for Central Registry Staff

- Provided basic training by entering into a limited, six-month personal services contract with the North American Association of Central Cancer Registries (NAACCR) to provide two basic training sessions, two advanced training sessions, and four staging training sessions; the onsite basic and advanced training sessions were presented in April, May, and June 2017 in central and northern Illinois; the onsite staging training sessions were May and June 2017 in south, central, and northern Illinois;. the trainer position (required by the National Program of Cancer Registries (NPCR)) has not been filled
- Provided on demand access to a SEER Summary Staging training webinar available to all cancer reporters across the state
- Provided on demand access to a nine-part "Introduction to Cancer Reporting" webinar training series available to all cancer reporters across the state
- Provided individual phone or e-mail support for 2,267 requests related to technical support and reporting issues
- Attended the national educational conferences of the National Cancer Registrar's Association and the NAACCR
- Attended the annual educational conference sponsored by the Cancer Registrars of Illinois in September 2016
- Provided access to 172 advanced training workshops for 670 reporters via WebEx® utilizing nationally developed advanced training materials
- Provided limited individual training by the quality control field staff at 25 facilities
- Provided ongoing educational opportunities for central registry staff through participation in 12 nationally broadcast education webinars
- Provided additional educational opportunity to central registry staff through a one day coding in-service workshop utilizing National Cancer Registrar Association case studies and workbooks.

3.1.4 Ensure Data Quality

- Maintained a duplicate rate of fewer than one per 1,000 primary cases
- Met NPCR/NAACCR standards for data quality

- Applied GenEDITS metafiles to the ISCR database and ran all standard-setter required edits and performed reconciliation for identified errors

- Matched vital records death data to the ISCR database to update unknown values in the latter; Race codes: of 16,390 cases with an unknown or missing race, 455 (2.8 percent) cases were matched and updated with a valid race; Maiden name: 19,153 cases (4.3 percent) were matched and updated with valid maiden names; Hispanic origin: 400 cases, or 4.5 percent, were matched and updated with valid data element codes for Hispanic origin.; Birthplace: of 500,297 cases with unknown or missing birthplace, 22,925 cases (4.2 percent) were matched and updated with a valid birthplace; Death variable information also was updated

- Added census tract information to the cancer database; All records were geocoded using MapMarker® Version 29; 92.4 percent of the addresses were geocoded to an address specific level

- Ensured override flags were within the NPCR average by reviewing the NPCR Data Evaluation Reports revealing that the percentage of override flags in the ISCR submission file were lower for all associated edits than the NPCR median

3.1.5 Maintain Data Use Activities

- Produced annual cancer statistics, including the public use data file, annual state cancer report, annual county cancer report, and updated the cancer query system

- Provided general cancer information for cancer inquiries

- Provided data for the Illinois Comprehensive Cancer Control Program (ICCCP)

- Provided data for the Illinois Breast and Cervical Cancer Program (IBCCP)

- Performed data linkage with the IBCCP file and provided the required information back to the IBCCP program

- Produced two epidemiologic reports

- Produced one publication for the layperson on cancer in Illinois

- Produced three quality control reports

- Updated incidence projections

- Submitted 1,345,438 cases to NPCR and NAACCR for the 1995-2014 call for data

- Submitted 68,381 cases to NPCR for the 2015 diagnosis year call for data

3.1.6 Provide Adequate Program Management

- Kept registry staff informed of grant progress, standards changes, and reporting issues through monthly staff meetings

- Monitored registry operations activities to meet grant objectives via an electronic tracker; streamlined registry operations through more efficient use of staff and resources

3.2 Fiscal Year 2017 Major Accomplishments

3.2.1 North American Association of Central Cancer Registries Gold Certification

For the 19th consecutive year, ISCR has been recognized as having met the ***gold standard*** – the highest standard for registry certification. To be awarded this honor, a registry must have 95 percent or better completeness of case ascertainment; 98 percent validity of information recorded for selected data variables (age, sex, race and state/county); death-certificate only cases less than 3 percent; duplicate primary cases fewer than one per 1,000; 100 percent of the records passing the NAACCR EDITS without error; and data submissions within 24 months of the close of the accession year.

3.2.2 National Program of Cancer Registries (NPCR) Registry of Excellence

For the 4th consecutive year, ISCR has been recognized as a Registry of Excellence by the U.S. Centers for Disease Control's National Program of Cancer Registries – their highest standard for registry certification. To be awarded this honor, a registry must have met all CDC NPCR standards for data completeness and quality. ISCR is one of 19 states to receive this designation.

3.2.3 Collaboration with State and National Organizations

3.2.3.1 Illinois Comprehensive Cancer Control Program - Illinois Department of Public Health (IDPH)

IDPH has implemented the Comprehensive Cancer Control State Plan, which identified cancer prevention and control priorities for Illinois. Several Division of Epidemiologic Studies staff provided technical and operational support for the program through committee participation.

3.2.3.2 Illinois Health Data Dissemination Initiative

Staff continued to provide data to the initiative. The ISCR public data set (PDS) file, version 24 (1986-2014) was submitted in June 2017.

3.2.3.3 Vital Records – Illinois Department of Public Health

Death certificate data from the IDPH Division of Vital Records (VR) are matched with the registry database on an ongoing basis. Follow-back is performed on non-matched cancer cases and death information is added to matched cases. Death information available from the VR death file also is used to populate an Internet-based death query system that is accessible through password and ID. This system is used by hospital-based cancer registrars to obtain follow-up information on cancer patients seen at their facilities.

The VR death file also contributes to the data quality and item-specific completeness of the ISCR database through a matching protocol. Known information from the VR death file is imported into the ISCR database (when unknown on the ISCR database) for the following variables: race, birthplace, Hispanic origin, and maiden name.

3.2.3.4 North American Association of Central Cancer Registries (NAACCR)

ISCR provided comprehensive data from 1995-2014 to NAACCR in response to the call for data and registry certification process. The data were used to support research and generate cancer descriptions in North America publications. Staff also participated in various NAACCR committees and workgroups, contributing knowledge and expertise to this volunteer organization.

3.2.3.5 U.S. Centers for Disease Control (CDC) National Program of Cancer Registries (NPCR)

ISCR submitted comprehensive data from 1995-2014 to the CDC NPCR call for data. All malignant tumors, whether *in situ* or invasive, were included. The annual submission satisfies the program requirements for reporting registry progress to CDC and contributes information to the national cancer surveillance effort.

3.2.3.6 Illinois Breast and Cervical Cancer Program (IBCCP)

ISCR provided data support for this state and federally-funded program, which focuses on developing comprehensive education, outreach, and screening for breast and cervical cancer.

3.2.3.7 American Cancer Society (ACS)

Illinois statewide cancer incidence and mortality data were provided to ACS for its production of Illinois Cancer Facts and Figures. Registry staff regularly attend ACS activities in the area of data and epidemiology. The collaboration is ongoing.

3.2.3.8 Simmons Cancer Institute

Staff continued to participate in the establishment of Southern Illinois University School of Medicine's (SIU) Simmons Cancer Institute and its Population Science Program. In particular, registry staff continue to provide data and technical expertise to SIU Simmons Cancer Institute

as SIU undertakes activities that support the competitive grant award received in February 2012 from the ACS. It is anticipated staff will continue to engage in this collaboration.

3.2.4 Quality Control Reports

3.2.4.1 Parrish P. *Assessment of Duplicate Records for 1995-2014 Diagnosis Years.* Quality Control Report Series 16:06. Springfield, Ill.: Illinois Department of Public Health, November 2016.

3.2.4.2 Hebert L. *Linking Illinois State Cancer Registry Records with Vital Records Death Master File to Enhance Data Completeness.* Quality Control Report Series 16:07. Springfield, Ill.: Illinois Department of Public Health, October 2016.

3.2.4.3 Redeford B. *Invalid, Incorrect, and Not Issued Social Security Numbers.* Quality Control Report Series 17:02. Springfield, Ill.: Illinois Department of Public Health, March 2017.

3.3 Goals for Fiscal Year 2018

3.3.1 Maintain Completeness and Timeliness of Reporting of Cancer Incidence Cases to the Illinois State Cancer Registry

- Perform facility casefinding for the 2016 diagnosis year at selected reporting facilities in Illinois and track identified missed cases to ensure reporting
- Maintain interstate data exchange and complete exchanges by November 2017
- Continue death certificate clearance and maintain death certificate only rate of less than 3 percent
- Achieve 90 percent case reporting for the 2016 diagnosis year by December 2017
- Achieve 95 percent case reporting for the 2015 diagnosis year by December 2017

3.3.2 Maintain and Enhance Activities Related to Physician and Pathology Reporting

- Maintain contact with existing physician offices for reporting and training (n=145)
- Maintain contact with existing pathology labs for reporting and training (n=12)

- Expand reporting of physician offices in Illinois by identifying offices, training personnel, and implementing reporting for those not currently submitting cases to ISCR
- Perform facility case finding and implement any additional training needed at newly reporting physician offices in Illinois
- Implement Meaningful Use Stage 2 reporting with eligible providers to increase cancer reporting

3.3.3 Provide Training for Reporting Facilities and for Central Registry Staff

- Contract with NAACCR education staff to provide two basic training workshops, two advanced training workshops, and four staging training workshops
- Provide individual phone support for technical and operational issues from cancer incidence reporters and reporting facilities
- Provide monthly advanced training workshops via the Web, utilizing established seminars
- Provide on-demand basic training webinars for cancer reporting
- Provide on-demand staging training webinars for cancer reporting
- Provide ongoing educational opportunities for central registry staff through webinars and attendance at relevant regional and national association and grant meetings
- Update membership status in national associations

3.3.4 Ensure Data Quality

- Maintain duplicate rate of less than 0.01 percent using Link Plus to review submissions for duplicate tumor reports and apply NAACCR duplicate protocol
- Meet NPCR/NAACCR standards for data quality and override flags
- Perform gender verification using established ISCR procedure
- Apply NPCR, NAACCR and Illinois-specific GenEDITS metafiles to ISCR database for reconciliation of inter- and intra-record inconsistencies
- Update ISCR unknown variables by linking to the IDPH's death file

- Geocode all records on the ISCR database

3.3.5 Maintain Data Use Activities

- Produce public use data set file, annual state and county report file, update cancer query system, and produce annual report of incidence rates by local community
- Respond to cluster inquiries
- Provide data and support for IBCCP and ICCCP
- Perform linkage with IBCCP and update data files
- Produce one epidemiologic report
- Produce a publication for the layperson on cancer in Illinois
- Perform linkage with Indian Health Services and update code for Native American race
- Process applications for confidential data
- Update incidence and mortality projections
- Submit the 1995-2015 NPCR/NAACCR file for combined call for data and submit the 2016 data file for NPCR call for data

3.3.6 Provide Adequate Program Management

- Hold monthly staff meetings
- Monitor grant activities
- Update advisory committee on grant progress and activities

4. Adverse Pregnancy Outcomes Reporting System

The Adverse Pregnancy Outcomes Reporting System (APORS) collects information on Illinois infants and young children born with birth defects or other abnormal conditions. The purpose of APORS is to conduct surveillance on birth defects, to guide public health policy in the reduction of adverse pregnancy outcomes, and to identify and refer children who require special services in order to correct and prevent developmental problems and other disabling conditions.

Mandated statewide data collection began in August 1988. Licensed Illinois hospitals are required to report adverse pregnancy outcomes to APORS. In addition, APORS receives reports from four hospitals in St. Louis that are part of the southern Illinois perinatal network.

APORS cases meet one or more of the following criteria:

- the infant is diagnosed prior to hospital discharge as having a positive drug toxicity for any drug; shows signs and symptoms of drug toxicity or withdrawal; or the mother admits to illegal drug use (except cannabis) during the pregnancy;
- the infant or young child (younger than two years of age) is diagnosed with a congenital anomaly; a congenital infection; an endocrine, metabolic, or immune disorder; a blood disorder; or another high-risk medical condition;
- the infant was born at fewer than 30 weeks of gestation; or
- a neonatal or fetal death has occurred.

4.1 Review and Evaluation of Fiscal Year 2017 Goals

Improve Casefinding

- Ninety-one (74.0 percent) of the 123 birth facilities that are part of the Illinois Perinatal Network have been trained on and are using the APORS database introduced in FY14; More than 87 percent of cases are reported to APORS electronically. The database automatically generates APORS case reports for newborns who are premature (≤30 completed weeks); are part of triplet or higher order births; who have a serious infection, birth defect, or seizures marked on the birth certificate; or who die before the birth certificate is filed
- Training in APORS reporting continued through formal trainings, webinars, use of the SharePoint® site for hospital staff, computer-based trainings, conversations with hospital staffs, and responses to questions. The three-year training plan has been resumed

- Made 21 trainings in person, by phone or webinar and held 1,518 consultations via telephone or e-mail with Illinois hospitals to improve APORS reporting

- Updated Sharepoint® site with revised manuals and appendices, and the most recent of the quality control reports; reminders are posted when patterns of problems are identified

- Received hospital discharge data covering all hospitals containing data for children as old as two years of age - These data have been imported into the IDPH chart review database; an additional 680 children born in 2014, 746 born in 2015, 1,048 born in 2016 and 139 born in 2017 were identified as possible APORS birth defect cases

- APORS abstractors have been reviewing the medical records of infants identified from hospital discharge data; on average, 50 percent of the cases were found to have conditions that meet the APORS review criteria

- APORS abstractors began reviewing charts of mothers who experienced a fetal death associated with a congenital anomaly on the fetal death certificate, to verify the information on the certificate

- Avoided the need to travel to 122 of the 123 birth facilities, either by accessing electronic medical records remotely, or having the facilities send charts (in electronic or paper format)

- The APORS program still plans to begin case finding at genetic clinics. This work has been delayed by the intensive effort to undertake rapid case ascertainment of Zika-associated birth defects, and staffing changes during the year.

Improve Quality of APORS Data

- Evaluated the timeliness of hospital reporting for cases reported in January through December 2016; provided hospital-specific feedback and used results to identify hospital training needs. In 2016, 63.4 percent of hospitals met the APORS timeliness standard of reporting cases within seven days of infants' hospital discharge. This is an improvement from the previous year, but is still showing the impact over earlier years, since the new database identifies children that the hospitals overlooked. Hospitals are notified twice yearly of their timeliness status and provide more intensive education to facilities that are non-compliant.

- Evaluated the quality of abstractor reviews of birth defect cases. Generally staff do a very good job with accuracy over 95 percent for most fields. The diagnoses identified is the weakest area at 85.7 percent accuracy. Ongoing training is being provided to assure the best quality data possible.

- Hospitals are contacted if a report is incomplete, or is internally contradictory. These contacts are used as training opportunities when appropriate. If hospital staffs are unaware that reports have been automatically generated by the APORS database, APORS staff notifies them and asks for the reports to be completed.

Improve Program Effectiveness

- In addition to the Sharepoint® site updates of revised manuals, appendices, and quality control reports, hospitals and local health departments can access the forms to request additional materials
- Ten fact sheets on specific birth defects were added to the IDPH website.
- Avoided the need to travel to 122 of the 123 birth facilities, either by accessing electronic medical records remotely, or having the facilities send charts (in electronic or paper format)
- Maintained linkages with key organizations, such as the Illinois perinatal networks and the National Birth Defects Prevention Network, and provided data to these organizations for use in their efforts to promote birth defect prevention
- The APORS program worked with IDPH, state, and local programs to assure the ongoing provision of perinatal services for high risk infants
- Surveillance reports were not produced, in part because of the loss of staff, and the need to keep the routine activities timely
- Was awarded a renewed CDC cooperative agreement to do birth defect surveillance; a CDC cooperative agreement to perform rapid case ascertainment of birth defects associated with the Zika virus; and a one-year award through March of Dimes to undertake improved surveillance of neonatal abstinence syndrome (NAS).

4.2 Fiscal Year 2017 Major Accomplishments

4.2.1 Cooperative Agreement with the U.S. Centers for Disease Control and Prevention (CDC)

APORS was approved for the second year of a four-year cooperative agreement with the CDC to enhance Illinois birth defects surveillance, prevention and service referral. Funding for 2016 and 2017 is $210,000 each year.

APORS was approved for a CDC cooperative agreement to do rapid birth defect surveillance of defects potentially associated with the Zika virus (primarily brain and nervous system anomalies). The original funding for FY17 was $360,000, and a supplemental award of an additional $180,000 was made later in the year.

Originally, CDC was planning funding for five years, but did not have funds to support subsequent years.

4.2.2 Enhancement of the APORS Database

APORS staff began modifications to the APORS database to accommodate the fields needed to document the rapid Zika ascertainment. In addition, changes were initiated to contain information collected by the abstractors during chart review. These changes will be completed in the next fiscal year.

All local health departments are using the APORS database introduced in FY14; and 91 hospitals are registered. These hospitals report more than 87 percent of the cases received by APORS.

4.2.3 Improved Birth Defects Surveillance

Hospital-reported cases are a starting point for birth defect surveillance. Potential birth defect cases were sent electronically to regional field staff members, who then reviewed the infants' medical charts, verified the presence of birth defects, eliminated false positives, and collected additional diagnoses. In FY17, the abstractors reviewed 6,376 birth defects reported by hospitals.

Abstractors deleted 463 reported birth defects that could not be found in the charts, or that had been ruled out by the facility. Of the hospital-reported birth defects, 2,052 were not collected because the infant did not have a reportable major birth defect or because the birth defect did not meet specific criteria (often conditions that are considered normal in a premature infant).

The abstractors verified 3,133 hospital-reported diagnoses. They clarified 640 diagnoses and added 9,729 diagnoses. In total, 13,502 hospital-reported birth defects were verified. An additional 34 birth defect diagnoses were identified from vital record certificates or other sources.

Case abstraction for 2014 birth cohort was completed in December 2016. The goal is to be complete within two years of the birth year.

Abstractors continued to prioritize chart review for infants reported with microcephaly in response to Zika virus concerns. They began collection of additional information, such as head circumference, length, and weight measurements for infants with Zika virus-related birth defects. Most of these charts are being reviewed within 60 days of delivery.

4.2.4 Evaluation of Case Management Services Provided to APORS Cases

APORS collaborated with community health agencies (CHA's) in surveying APORS families offered or receiving case-management services through the High-risk Infant Follow-up Program.

4.2.5 Linkages with Other Programs and Activities

4.2.5.1 Perinatal Programs

4.2.5.1.1 Illinois Department of Human Services High-risk Infant Follow-up. APORS continued to identify infants for the Illinois Department of Human Services (IDHS) perinatal management and high-risk infant tracking program. Almost 10,000 (9,971) infants were referred for local health department nurse visits. Physical and psychological development monitoring and counseling for parents are provided through the nurse visits. Included are 60 children with neural tube defects, whose families were referred for prevention counseling.

4.2.5.1.2 IDPH Division of Infectious Diseases. APORS identified infants for the IDPH Division of Infectious Diseases' sexually transmitted disease (118 newborns) and perinatal hepatitis B programs (285 newborns), which ensure infants with congenital syphilis and infants prenatally exposed to or diagnosed with a hepatitis B infection are offered services.

APORS continued working with the Division of Infectious Diseases to monitor Zika virus exposed pregnant women and their babies. APORS reports de-identified information on neonates and infants at two, six, and 12 months of age to the U.S. Zika Virus Pregnancy Registry. The reports are linked to the maternal reports submitted by the Division of Infectious Diseases.

The APORS Manager has been part of collaboration with staff from throughout IDPH to revise and maintain the Illinois Zika Virus Action Plan

4.2.5.1.3 IDPH Craniofacial Anomaly Program. Data on all infants born with cleft lip and/or palate (198 newborns) were supplied to the IDPH Division of Oral Health Craniofacial Anomaly Program to ensure these infants receive appropriate services at multidisciplinary clinics throughout the state.

4.2.5.1.4 University of Illinois at Chicago Division of Specialized Care for Children (DSCC). APORS refers newborns to the DSCC for free diagnostic services and assistance with medical treatment. The infants have, or are suspected of having, a treatable chronic medical

condition. The conditions include orthopedic, visual, auditory, craniofacial, heart, and urinary defects. In FY17, APORS referred 4,496 cases.

4.2.5.1.5 Illinois Department of Human Services Early Intervention Program (EI). APORS refers newborns to the EI for free developmental services. The infants have, or are suspected of having, a condition that will impact their intellectual or physical development. The conditions include brain, spinal, visual, auditory, craniofacial, and chromosomal defects. In FY17, APORS referred 1,500 cases.

4.2.5.1.6 IDPH's Newborn Metabolic Screening (NMS) Program. APORS refers newborns reported to the program with possible metabolic conditions to IDPH's NMS Program. This program assures children receive timely follow-up for these severe conditions. Several children with hypothyroidism previously unknown to the NMS program have been identified.

4.2.5.1.7 Illinois Department of Children and Family Services (DCFS). Data are being provided to DCFS on a monthly basis through the IHFS data warehouse. The data are pulled into individual eHealth Passports that travel with children in DCFS custody as they move between placements. This helps assure children receive the services they need in a timely manner.

4.2.5.1.8 Illinois Department of Healthcare and Family Services. APORS data are provided monthly to DHFS for inclusion in the Enterprise Data Warehouse. This links APORS surveillance data to case management and public aid data. Before confidential APORS data can be accessed by anyone outside the program, requests are reviewed through the IDPH Division of Epidemiologic Studies' centralized review process. Any concerns about the application are then referred back to the researcher; once these are addressed, the application is submitted for IRB approval.

4.2.5.2 National Birth Defects Prevention Network (NBDPN)

APORS submitted data for the NBDPN's annual report. The APORS manager, Jane Fornoff, served on the state data committee.

4.2.5.3 Perinatal Networks

APORS maintained communications with the perinatal network administrators to facilitate hospital reporting of APORS cases.

Timeliness for APORS reporting is used as one quality measure for hospitals' annual perinatal assessment. Administrators also were kept notified about the need to provide remote access to electronic medical records and the new APORS data system.

4.2.5.4 Pregnancy Risk Assessment Monitoring System (PRAMS)

The APORS manager served on the PRAMS Steering Committee. The committee provided recommendations about the questions that should be retained or dropped from the PRAMS questionnaire.

4.2.6 Quality Control Reports

4.2.6.1 Fornoff J. *Quality of Abstractor Reviews of Adverse Pregnancy Outcomes*. Quality Control Report Series 16:05. Springfield, Ill.: Illinois Department of Public Health, August 2016.

4.2.6.2 Sandidge T, Fornoff J. *Timeliness Study – Hospital Reports of Adverse Pregnancy Outcomes Received in 2016.* Quality Control Report Series 17:01. Springfield, Ill.: Illinois Department of Public Health, January 2017.

4.3 Goals for Fiscal Year 2018

Improve Casefinding

- Train and support hospitals in the use of the APORS database to ensure that cases automatically generated by the database (premature infants, triplet, or higher order births and those with birth defects marked on the birth certificate) are completed in a timely manner
- Follow the three-year training plan to assure all hospitals receive ongoing training in APORS reporting
- Provide consultation and training to supplement the three-year and self-directed training for hospital nursing staff when indicated
- Enhance the SharePoint® site for hospital staff to include materials that supplement face-to-face and telephone consultation and training offered by APORS staff
- Match information from periodic hospital discharge information reports to the APORS newborn cases and identify potential birth defect cases
- Review medical reports of infants identified in hospital discharge matching to ascertain and collect new birth defect cases

- Complete rapid case ascertainment of birth defects associated with Zika virus in the 2015, 2016 and 2017 birth cohorts

- Begin case finding at genetic clinics

Improve Quality of APORS Data

- Evaluate the accuracy of hospital reporting in terms of timeliness, completeness, and accuracy; provide hospital-specific feedback and use results to identify hospital training needs

- Evaluate the quality of the active case verification process in terms of timeliness and accuracy, provide individual-specific feedback and use results to identify staff training needs

- Provide consultations and supplemental training to hospitals identified as problem reporters in terms of timeliness, accuracy, or case completeness

Improve Program Effectiveness

- Enhance SharePoint® sites for hospitals and community health agencies that contain relevant reference and training materials for the different groups

- Provide CHAs and families with a birth-defect affected child with information about birth defects through publication of additional factsheets

- Maintain linkages with key organizations, such as the Illinois perinatal networks, the Greater Illinois Chapter of the March of Dimes and the National Birth Defects Prevention Network

- Collaborate with IDPH, state, and local health programs to assure the provision of perinatal services for high-risk infants

- Collaborate with CDC to provide data to the U.S. Zika Pregnancy Registry

- Produce statewide and county surveillance reports

- Monitor activities and accomplishments associated with meeting the goals and objectives set forth in the CDC cooperative agreement

5. Occupational Disease Registry

The Occupational Disease Registry (ODR) has three components: the Adult Blood Lead Registry (ABLR); the Census of Fatal Occupational Injuries (CFOI); and the Survey of Occupational Injuries and Illnesses (SOII), formerly referred to as the Occupational Safety and Health Survey (OSH).

5.1 Adult Blood Lead Registry (ABLR)

ABLR collects data on all cases of elevated blood lead levels for adults 16 years of age and older and notifies federal enforcement agencies to trigger inspections and/or interventions. In 2012, the Illinois Administrative Code related to elevated blood lead definition and collection was changed to reflect the new guidelines defining elevated blood levels. Laboratories are now mandated to report levels ≥10 µg/dL. This program was funded through a purchase order for data with the CDC's National Institute for Occupational Safety and Health (NIOSH). However, in 2013, NIOSH canceled all contracts to fund state programs that use fiscal year 2013 funds in accordance with the Budget Control Act of 2011. Starting in 2014, due to lack of funding, ABLR staff only recorded cases of ≥40µg/dL to refer employers who have employees with elevated blood lead levels ≥40µg/dL to OSHA per the memorandum of understanding. Reports for cases less than 40µg/dL were archived. In 2015, Division staff developed a new Access database that automated the entry of electronic reports and streamlined the manual data entry of paper reports. As a result, the backlog of 2014 electronic lab reports and all of 2015's electronic lab reports were entered in FY15. Data collection continues and in calendar year 2016, 2,918 new lab reports were added to the ABLR database.

5.1.1 Fiscal Year 2017 Accomplishments

- Notified OSHA quarterly of any company that had employees with elevated blood lead levels ≥40 µg/dL of blood
- Notified OSHA within 24 hours of any case with an elevated blood lead level ≥60 µg/dL

5.1.2 Interventions Resulting From ABLR Notifications of Elevated Lead Results

In calendar year 2016, ABLR made 10 referrals (employees) to OSHA for seven companies with employees who had blood lead levels greater than or equal to 40 µg/dL of blood. OSHA conducted four safety inspections in Illinois because of the ABLR referrals. During these inspections, violations of OSHA rules were found and fines in the amount of $12,549 were proposed.

5.1.3 Goals for Fiscal Year 2018

- Notify OSHA quarterly of any company that has employees with elevated blood lead levels equal to or greater than 40 µg/dL

- Notify OSHA within 24 hours of any case with an elevated blood lead level equal to or greater than 60 µg/dL

5.2 Census of Fatal Occupational Injuries and Illnesses (CFOI)

The U.S. Bureau of Labor Statistics (BLS) developed CFOI as a cooperative venture between the states and the federal government to gather data about these events. IDPH has participated in CFOI since 1993. The data compiled by CFOI are published each year and contain information on the workers involved and the events surrounding each fatality.

In 2015 Illinois CFOI recorded 172 work related deaths. From January - June 2008, fatal occupational illnesses were collected by manually reviewing death certificates to collect information where the decedent's occupation, known occupational exposures, and cause of death were linked in scientific publications. In mid-2008, electronic death certificates were implemented in the Division of VR and the manual review was no longer possible. This operational change affected the number of fatal occupational illnesses collected in Illinois. Beginning in 2012 and moving forward, the Bureau of Labor Statistics has ceased collecting work related illness fatalities. BLS has determined that because the capture of illnesses cannot be comprehensive, they would prefer staff spend time collecting and verifying injuries only.

5.2.1 Review and Evaluation of Fiscal Year 2017 Goals

- Completed the summary report of the 2014 and 2015 fatal occupational injury data
- Provided information on fatal occupational injuries to the BLS, the funding source, in accordance with the required schedule

5.2.2 Goals for Fiscal Year 2018

- Publish a summary report of the 2016 fatal occupational injury data by January 2018
- Meet the deadlines for data completion required by BLS

5.3 Survey of Occupational Injuries and Illnesses (SOII) (formerly Occupational Safety and Health Survey)

SOII focuses on surveillance of non-fatal workplace injuries and illnesses. The Illinois SOII is supported through a cooperative agreement between the states and the BLS. The Illinois data are pooled with that from other states to provide the total injury and illness rate for each industrial group at the national level. Because of Illinois' participation, the data also are published annually and specifically for Illinois to give information on incidence rates for the type of injury, body part of the injury, the source of the injury, and the event causing the injury.

5.3.1 Review and Evaluation of Fiscal Year 2017 Goals

- Submitted data files on all reported occupational injuries and illnesses of the surveyed companies to the BLS
- Collected, coded, and entered all 2016 data prior to BLS deadlines

5.3.2 Survey Process and Achievements for Fiscal Year 2017

In January 2017, BLS and ODR sent survey forms to 5,073 private employers and 367 public employers for 2016 data. A second request for data was sent in February, a third request was sent in April, and a fourth request was sent in May. Non-responding companies were then contacted by telephone to solicit data. The final, overall survey response rate was 85 percent, which met the cooperative agreement minimum requirement for data publication.

5.3.3 Goals for Fiscal Year 2018

- Continue all data collection activities in FY18 and maintain the high standards achieved by the program
- Complete the descriptive report of 2016 Census of Fatal Occupational Injuries
- Meet the deadlines assigned by BLS
- Publish a summary report of the 2016 Survey of Occupational Injuries and Illnesses by February 2018.

6. Hazardous Substances Registry

The Hazardous Substances Registry component of the IHHSR is not funded. As a result, only geocoding activities are performed through support from funded components to create "value-added" registry data. The geocodes assigned to cancer and birth defect incident reports form the basis for development of a comprehensive geographic information system (GIS) capacity within the IHHSR system.

6.1 Geocoding Process and Accomplishments

6.1.1 Geocoding Cancer and Birth Defects Data

Population-based data for the Illinois State Cancer Registry and the Adverse Pregnancy Outcomes Reporting System were geocoded in-house using software program, Map Marker USA v.29®.

The records were assigned geocodes using the North American Datum (NAD) 83 standard, which is the most recent available. NAD is the base set of coordinate readings used to assign latitude and longitude coordinates in the United States. The new standard reflects emerging knowledge about the shape of the earth and corrects for large numbers of surveying errors accumulated in the old datum (NAD27).

The process includes: address standardization; verification of ZIP code based on city; assignment of ZIP +4 based on address and assignment of latitude and longitude codes, including specificity level of the code or reason the record could not be coded.

The level of completeness for each geocode element varied little by year of diagnosis (see range in Table 6.1.1.1). A detailed quality assessment of the geocoding results for cancer data has been completed and will serve as a reference document for researchers using geocoded registry data.

Table 6.1.1.1 Percentage of IHHSR Reports with Complete Geocoding as of November 2016

Range of Percentage Complete by Diagnosis Year			
	Average all years	**Lowest**	**Highest**
Cancer Reports (n=1,728,141 cases for diagnosis years 1986-2014)			
ZIP code	**100.0**	**100.0**	**100.0**
ZIP +4 code	96.0	92.0	99.0
Lat/Lon code [1]	100.0	100.0	100.0
address specific	92.4	87.1	96.5
centroid ZIP +4	0.4	0.2	0.8
centroid ZIP +2	0.6	0.4	1.1
centroid ZIP	6.5	2.5	11.7
APORS Reports (n= 495,624) cases for birth years 1989-2016)			
ZIP code	96.9	91.3	100.0
ZIP +4 code	92.9	87.2	99.0
Lat/Lon code [1]	96.9	91.3	100.0
address specific	91.7	86.0	98.3
centroid ZIP +4	1.2	0.5	1.8
centroid ZIP +2	1.7	0.2	3.7
centroid ZIP	2.3	0.2	5.3

[1] Latitude and longitude

6.2 Goals for Fiscal Year 2018

- Continue to geocode new records submitted to ISCR and APORS

7. Cluster Inquiries and Assessments

7.1 Review and Evaluation of Fiscal Year 2017 Goals

- Responded to all inquiries with information and educational materials regarding cancer diseases

7.2 Fiscal Year 2017 Accomplishments

In FY17, IDPH received six calls concerning perceived cancer excesses. The response protocol requires staff to first discuss general epidemiologic information about cancer with the caller, explain the cluster protocol and expected outcomes, and send educational materials when appropriate. Staff used published cancer rates by county, epidemiologic reports, and data from the public data files or general information about the frequency of cancer or causes of cancer to help address the callers' concerns. One call received in FY17 is ongoing and has required a more expansive approach to addressing community questions. This approach has included multiple conference calls, analysis of observed and expected cancer cases for specific geographic areas, and

additional explanation of cancer registry collection methods and quality control measures.

7.3 Fiscal Year 2018 Objectives

- Respond to all inquiries with information and educational materials regarding cancer diseases
- Complete cluster assessments within 12 months of the written request if there is a known carcinogenic exposure and a cancer assessment is launched

8. Research Program

The research section of the IHHSR provides a crucial link between data collection and data dissemination and between raw data and information. Through various formats, registry data were summarized, tabulated, analyzed, presented, and disseminated to policy makers, health professionals, and the public.

8.1 Fiscal Year 2017 Major Accomplishments

8.1.1 Provision of Epidemiologic Support to IDPH Committees and Workgroups

IDPH Division of Epidemiologic Studies staff continued to co-chair and participate in IDPH's IRB, the Open Data Forum, Illinois Health Data Dissemination Initiative (IHDDI), OPPS Public Use Data Group (PUDG), Opioids projects/databases, IDPH Academic Partnership, IVRS Steering Committee and Internal Data Sharing Workgroup. Six staff serve on different committees in various capacities.

8.1.2 Provision of Peer-Review Service to Scientific Publication

Division staff provided professional reviews to the Journal; Health Security, on articles about climate changes and data security.

8.1.3 Provision of Epidemiologic Supervision and Tutoring

Division staff provided supervisor roles and other assistance to various interns, CDC assignees and CSTE fellows during FY17.

8.1.4 Publication of the Department-wide Illinois Morbidity and Mortality Bulletin (IMMB)

The Division continued to publish this bulletin on behalf of IDPH. IMMB targets statewide public health professionals, researchers and policy makers. The inauguration issue contained three articles. Subsequent issues contained two reports each. A total of five issues have been published as of the end of FY17.

8.1.5 Technical Assistance

Technical assistance has been provided by staff in the areas of statistics/epidemiology, research methods, data confidentiality review, Freedom of Information Act (FOIA) and media requests, data linkage, SAS® programming, data analysis and interpretation, data de-duplication, surveillance system evaluation, quality control, and research data requests continued to be provided by researchers to various IDPH offices and divisions. IDPH Division of Epidemiologic Studies researchers were frequently called upon by the IDPH Office of the Director, the Institutional Review Board (IRB) and other IDPH programs for expertise on different technical and research issues, such as program evaluation, de-identification of individual data records, and updating State Health Improvement Plan (SHIP) documents and statistics. IDPH Division

of Epidemiologic Studies researchers also continued to provide guidance and technical assistance to IDHFS in its effort to establish new policy and practices for public data release. IDPH Division of Epidemiologic Studies staff also provided interviews and responses to medical requests on various disease issues.

8.2 Scientific Publications in Fiscal Year 2017

The following articles have been submitted, accepted or published:

8.2.1 Mueller-Luckey G, Zahnd W, Garner K, Heitkamp R, Jenkins W, Boehler M, Steward D. The Mini Report: A Practical Tool to Address Lung Cancer Disparities in Rural Communities. *J Canc Educ* 2015 October 6. DOI: 10.1007/s13187-015-0921-1.

8.2.2 Cragan JD, Isenburg JL, Parker SE, Alverson CJ, Meyer RE, Stallings EB, Kirby RS, Lupo PJ, LLiu JS, Seagroves A, Ethen MK, Cho SJ, Evans M, Liberman RF, Fornoff J, Browne ML, Rutkowski RE, Nance AE, Anderka M, Fox DJ, Steele A, Copeland G, Romitti PA, Mai CT. Population-Based Microcephaly Surveillance in the United States, 2009 to 2013: An Analysis of Potential Source of Variation. National Birth Defects Prevention Network, *Teratology* 2016 November 28.

8.3 Other Recent Reports or Publications That Used Registry Data

8.3.1 March of Dimes. *Peristats*. Available at http://www.marchofdimes.org/Peristats/whatsnew.aspx?id=77

8.3.2 Grosse S, Berry R, Tilford J, Kucik J, Waitzman N. Retrospective Assessment of Cost Savings from Prevention. *American Journal of Preventive Medicine* 2016 May volume 50, issue 5, Supplement 1, Pages S74-S80.

8.3.3 Birth Defects Research Part A: Clinical and Molecular Teratology Volume 106, Issue 11, November 2016, Pages: S1-S177.

8.3.4 Ostrom QT, Gittleman H, Xu J, Kromer C, Wolinsky Y, Kruchko C, Barnholtz-Sloan J. CBTRUS Statistical Report: Primary Brain and Central Nervous System Tumors Diagnosed in the United States 2009-2013. *Neuro-Oncol* 2016 18 (suppl 5):V1-V75. doi:10.1093/neuronc/nov2017.

8.3.5 U.S. Centers for Disease Control and Prevention. *State Cancer Profiles*. Interactive query available at http://statecancerprofiles.cancer.gov/; U.S. Department of Health and Human Services, U.S. Centers for Disease Control and Prevention.

8.3.6 U.S. Cancer Statistics Working Group. *United States Cancer Statistics: 1999-2014 Incidence and Mortality Web-based Report*. Atlanta, GA.: U.S. Department of Health and Human Services, U.S. Centers for Disease Control and Prevention and National Cancer Institute; 2017. Available at www.cdc.gov/uscs.

8.3.7 Mai C, Kirby RS, Correa A, Rosenberg D, Petros M, Fagen MC. Public Health Practice of Population-Based Birth Defects Surveillance Programs in the United States. *J Public Health Manag Pract* 2016 May-Jun;22(3):E1-8.

8.3.8 Copeland G, Lake A, Firth R, Wohler B, Wu XC, Schymura M, De P, Hofferkamp J, Sherman R, Kohler B (eds). *Cancer in North America: 2010-2014. Volume One: Combined Cancer Incidence for the United States, Canada and North America.* Springfield, Ill.: North American Association of Central Cancer Registries, Inc. June 2017.

8.3.9 Lee JM, Ichikawa L, Valencia E, Miglioretti DL, Wernli K, Buist DSM, Kerikowske K, Henderson LM, Sprague BL, Onega T, Rauscher GH, Lehman CD. Performance Benchmarks for Screening Breast MR Imaging in Community Practice. *Radiology.* 2017 June 5: 162033. Doi: 10.1148/radiol.2017162033 Epub ahead of print.

8.3.10 Copeland G, Lake A, Firth R, Wohler B, Wu XC, Schymura M, De P, Hofferkamp J, Sherman R, Kohler B (eds). *Cancer in North America: 2010-2014. Volume Two: Registry-specific Cancer Incidence in the United States and Canada.* Springfield, Ill.: North American Association of Central Cancer Registries, Inc. June 2017.

8.3.11 Copeland G, Lake A, Firth R, Wohler B, Wu XC, Schymura M, De P, Hofferkamp J, Sherman R, Kohler B (eds). *Cancer in North America, 2010-2014. Volume Three: Registry-specific Cancer Mortality in the United States and Canada.* Springfield, Ill.: North American Association of Central Cancer Registries, Inc. June 2017.

8.3.12 Ahmedin J, Ward EM, Johnson CJ, Cronin KA, Ma J, Ryerson AB, Mariotto A, Lake AJ, Wilson R, Sherman Rl, Anderson RN, Henley SJ, Kohler BA, Penberthy L, Feuer EJ, Weir HK. Annual Report to the Nation on the Status of Cancer, 1975-2014, Featuring Survival. *J Natl Cancer Inst* March 31, 2017 109(2). Doi:10.1093/inci/djx030.

8.3.13 American Cancer Society. *Cancer Facts & Figures 2016*. Atlanta, GA.: American Cancer Society; 2017.

8.3.14 Sprague BL, Arao RF, Miglioretti DL, Henderson LM, Buist DS, Onega T, Rauscher GH, Lee JM, Tosteson AN, Kerlikowske K, Lehman CD. National Performance Benchmarks for Modern Diagnostic Digital Mammography: Update from the Breast Cancer Surveillance Consortium. *Radiology*. 2017 Apr; 283(1): 59-69.

8.3.15 Dabbous FM, Dolecek TA, Berbaum ML, Friedewald SM, Summerfelt WT, Hoskins K, Rauscher GH. Impact of a False-Positive Screening Mammogram on Subsequent Screening Behavior and Stage at Breast Cancer Diagnosis. *Cancer Epidemiol Biomarkers Prev*. 2017 Mar; 26(3): 397-403.

8.3.16 Midkiff K, Andrews E, Gilsenan A, Deapen D, Harris D, Schymura M, Hornicek F. The Experience of Accommodating Privacy Restrictions during Implementation

of a Large-Scale Surveillance Study of an Osteoporosis Medication. *Pharmacoepidemiol Drug Saf*. 2016 Aug;25(8) 960-8.

8.3.17 Johnson C, Mariotto A, Nishri, D, Weir H, Wilson R, Copeland G, Lake A, Firth R, Wohler B, Wu XC, Schymura M, De P, Hofferkamp J, Sherman R, Kohler B (eds). *Cancer in North America, 2007-2013. Volume Four: Cancer Survival in the United States and Canada.* Springfield, Ill.: North American Association of Central Cancer Registries, Inc. June 2017.

8.3.18 Weiss D, Tomasallo CD, Meiman JG, Alarcon W, Graber NM, Bisgard KM, Anderson HA. *Elevated Blood Lead Levels Associated with Retained Bullets – United States, 2003-2012.* MMWR Morb Mortal Wkly Rep 2017;66:130–133. DOI: http://dx.doi.org/10.15585/mmwr.mm6605a2.

8.4 Epidemiologic Report Series

The following reports were released in IDPH's Epidemiologic Report Series; all reports are available to the public upon request.

8.4.1 Schraeder-Urbanowicz E, Wamack J, Bostwick J, Shen T. **Census of Fatal Occupational Injuries, Illinois, 2014.** Epidemiologic Report Series 17:01. Springfield, Ill.: Illinois Department of Public Health, March 2017.

8.4.2 Wamack J, Shen T. **Survey of Occupational Injuries and Illnesses in Illinois, 2014.** Epidemiologic Report Series 17:02. Springfield, Ill.: Illinois Department of Public Health, March 2017.

8.4.3 Swenny M, Wamack J, Bostwick J, Shen T. **Census of Fatal Occupational Injuries, Illinois, 2015.** Epidemiologic Report Series 17:03. Springfield, Ill.: Illinois Department of Public Health, March 2017.

8.4.4 Swenny M, Wamack J, Shen T. **Survey of Occupational Injuries and Illnesses in Illinois, 2015.** Epidemiologic Report Series 17:04. Springfield, Ill.: Illinois Department of Public Health, April 2017.

8.4.5 Garner K, Shen T. **Illinois State Cancer Incidence Review and Update 1986-2014.** Epidemiologic Report Series 17:05. Springfield, Ill.: Illinois Department of Public Health, May 2017.

8.4.6 Garner K, Shen T. **Illinois County Cancer Statistics Review Incidence, 2010-2014.** Epidemiologic Report Series 17:06. Springfield, Ill.: Illinois Department of Public Health, May 2017.

8.4.7 Garner K, Shen T**. Illinois Cancer Mortality Review and Update 1986-2013.** Epidemiologic Report Series 17:07. Springfield, Ill.: Illinois Department of Public Health, May 2017.

8.4.8 Garner K, Shen T. **Prostate Cancer Trends and the USPSTF Recommended PSA Screening Changes.** Epidemiologic Report Series 17:08. Springfield, Ill.: Illinois Department of Public Health, May 2017.

8.5 Other Division Publications

8.5.1 Fornoff J, Sandidge T, Jovanov D, Mullin G. **Health Outcomes Associated with Zika Virus Infections: An Illinois Perspective.** Illinois Morbidity and Mortality Bulletin (IMMB). Springfield, Ill.: Illinois Department of Public Health, IMMB 2.2 December 2016.

8.5.2 Garner K, Shen T. **Temporal Trends in Prostate Cancer Incidence and Mortality in Illinois during Years of Recommended Screening Changes.** Illinois Morbidity and Mortality Bulletin (IMMB). Springfield, Ill.: Illinois Department of Public Health, IMMB 2.2, December 2016.

8.6 Fiscal Year 2017 Presentations by IDPH Division of Epidemiologic Studies Staff

Title	Event	Date
APORS-Case Identification and Completion of Form (in-service training)	Trinity Hospital (Chicago)	August 2016
APORS-Overview, Database, Case Identification and Completion of Form	St. Bernard Hospital (Chicago) (5 hospitals)	August 2016
APORS-Data System Training	Advocate Sherman (Elgin)	August 2016
APORS-Data System Training	Grundy County Health Department (webinar)	September 2016
Presentation-SAS Algorithm to assess individual identifiability in data files	IDPH Open Data Forum (Springfield)	September 2016
ISCR-Illinois Facility Edits	Cancer Registrars of Illinois Annual Educational Meeting (Springfield)	September 2016
APORS-Illinois data on Drug Exposure	Neonatal Abstinence Syndrome Committee Meeting	September 2016
APORS-Data System Training	Franciscan St. James Hospital (Chicago)	November 2016
Student Lecture on Cancer Surveillance to Graduate Students	UIC School of Public Health (Chicago)	November 2016
APORS-Case Identification and Completion of Form (in-service training)	Advocate South Suburban (Hazel Crest) by phone	November 2016
APORS-Data System Training	Carroll County Health Department	November 2016
APORS-Reporting Database Training (in-service training)	St. Elizabeth Hospital (Belleville)	December 2016
APORS-Data System Training	Evanston Hospital (Chicago) by phone	December 2016
APORS-Timeliness of reporting and the annual timeliness reports	Various hospitals via webinar	January 2017
APORS-Reporting and Data System Training	St. Louis Children's Hospital (St. Louis, MO)	January 2017
APORS-shared Illinois' experience in the use of abstractors and of quality assessments activities regarding Zika virus	CDC Site Visit at Chicago Department of Public Health and Kane County Department of Health (Aurora)	February 2017

Title	Event	Date
ODR-Presentation on CFOI to newly elected coroners	Coroner's Conference (Springfield)	February 2017
Student Lecture on cancer cluster investigations to graduate students	UIC School of Public Health (Chicago)	February 2017
APORS-Data System Training	Winnebago County Health Department	February 2017
APORS-Data System Training	Bond County Health Department	March 2017
APORS-Data System and Overview	University of Chicago Hospital (webinar)	April 2017
APORS-Data System Training	Jefferson County Health Department (webinar)	April 2017
APORS-Service Referrals	CDC Zika Conference (Atlanta, GA)	April 2017
ISCR-TNM Staging Training Workshop	Illinois Department of Natural Resources (Springfield)	April 2017
ISCR-Basic Training Workshop	Decatur Memorial Hospital (Decatur)	April 2017
APORS-Newborn Metabolic Screening	Various hospitals and Local Health Departments (webinar)	May 2017
SIU Cancer Institute's Journal Club-Presentation on "Stem cell divisions, somatic mutations, cancer etiology, and cancer prevention"	Southern Illinois University Simmons Cancer Institute (Springfield	May 2017
ISCR-TNM Staging Training Workshop	Good Samaritan Regional Health Center (Mt. Vernon)	May 2017
ISCR-TNM Staging Training Workshop	Swedish American Regional Cancer Center (Rockford)	May 2017
ISCR-Basic Training Workshop	Advocate Good Samaritan Hospital (Downers Grove)	May 2017
ISCR-TNM Staging Training Workshop	Michael Bilandic Bulding (Chicago)	May 2017
APORS-Data System Training (in-service training)	Winnebago Health Department by phone	June 2017
APORS-Data System Training (in-service training)	Marion County Health Department by phone	June 2017
APORS-Data System Training (in-service training)	Cook County Health Department by phone	June 2017

Title	Event	Date
ISCR-Advanced Training Workshop	University of Chicago (Chicago)	June 2017
ISCR-Advanced Training Workshop	Illinois Emergency Management Agency (Springfield)	June 2017
ISCR-TNM Staging Training Workshop	Presence St. Joseph Medical Center (Joliet)	June 2017

8.7 Research Data Release and Collaborations

Principal Investigator (Affiliation)	Title	Date	Funding Source
Mark Canfield Texas Department of State Health Services	Study of Selected Birth Defects Among Minorities 1999-2007	July 2012 ongoing*	
Ying Wang New York State Department of Health	Survival of Infants and Children With Selected Major Birth Defects	January 2012 ongoing*	
Marilyn Browne New York State Department of Health	Prevalence Trends Of Selected Major Birth Defects: A Multi-State Population-based Retrospective Study, United States, 1999-2007	February 2012 ongoing*	
U.S. Centers for Disease Control and Prevention	Prevalence Data by Race for Selected Birth Defects for Publication in *Birth Defects Research*	May 2017	CDC
Sam Gillespie DCFS, Clinical Division	Drug-exposed DCFS infants (de-identified)	May 2017	
Rachelle Paul-Brutus Mount Sinai Hospital	Coarctation before and after pulse oximetry testing (de-identified)	November 2016	
Lynn Rosenberg, Sc.D., M.S. Sloan Epidemiology Center Boston University	Black Women's Health Study	Ongoing February 2007	NIH/NCI
Rosalind Ramsey-Goldman, M.D., Dr.PH. Northwestern University	Exposure to Immunosuppressive Drugs and Cancer Risk in Systemic Lupus Erythematosus	Ongoing August 2004	NIH/NCI
Meir Stampfer, M.D. Channing Laboratory Brigham and Women's Hospital	Health Professionals Follow-up Study/Nurses' Health Study I and II	Ongoing January 2004	NIH
Eugenia Calle, Ph.D. American Cancer Society	Cancer Prevention Study II	Ongoing 1995	ACS
Louise A. Brinton, Ph.D., M.P.H. National Cancer Institute	Infertility Follow-up Study	Ongoing 2012	NCI
Alicia Gilsenan, Ph.D. RTI International	Forteo Patient Registry	Ongoing February 2010	Eli Lilly and Company

Principal Investigator (Affiliation)	Title	Date	Funding Source
Mardge Cohen, M.D. Women's Interagency HIV Study (WIHS)	Women's Interagency HIV Study (WIHS)	Ongoing 2000	NIH
Garth Rauscher, Ph.D. University of Illinois at Chicago	Comparative Effectiveness of Breast Imaging Modalities: A Natural Experiment	April 2013 Ongoing	Agency for Health Research and Quality
Leslie Stayner, Ph.D. University of Illinois at Chicago	A Linkage Study of Health Outcome Data in Children and Agrichemical Water Contamination Data in the Midwest	May 2013*	CDC
Barbara Luke, Ph.D. Michigan State University Logan Spector, Ph.D. University of Minnesota	Assisted Reproductive Technology and Risk of Cancer in Women	January 2014*	NCI
Barbara Luke, Ph.D. Michigan State University Logan Spector, Ph.D. University of Minnesota	Assisted Reproductive Technology and Risk of Childhood Cancer	July 2016	NCI
Diana Miglioretti, Ph.D.	Risk-Based Cancer Screening in Community Settings	July 2014*	NCI
Gary Fraser, M.D., Ph.D.	Adventist Health Study II	March 2015 Ongoing	NCI
Herbert Chen, M.D.	Medullary Thyroid Carcinoma Surveillance Study – A Case-Series Registry	September 2014 Ongoing	The MTC Registry Consortium
Alicia Gilsenan, Ph.D. RTI International	Osteosarcoma Surveillance Study	September 2014 Ongoing	Eli Lilly & Company
Alpa V. Patel, Ph.D.	Cancer Prevention Study III	September 2015 Ongoing	ACS

NOTE: Following are definitions of acronyms used in the above table: American Cancer Society (ACS), U.S. Centers for Disease Control and Prevention (CDC), Cancer in North America (CINA), Illinois Department of Children and Family Services (DCFS), Illinois Department of Human Services (DHS), Geographic Information System (GIS), International Agency for Research on Cancer (IARC), National Institute of Allergy and Infectious Diseases (NIAID), National Cancer Institute (NCI), National Institutes of Health (NIH), Surveillance of Epidemiology and End Results (SEER), Women's Interagency HIV Study (WIHS)

*Data set released; study remains open

9. Grants

The table below summarizes the IDPH Division of Epidemiologic Studies grant awards for FY2017.

Grant	Agency	Status	Amount	Grant Period
Occupational and Health Survey in Illinois (continuation)	BLS	Funded September 2016	$109,900	10/1/16 – 9/30/17
Census of Fatal Occupational Injuries in Illinois (continuation)	BLS	Funded September 2016	$96,700	10/1/16 – 9/30/17
Improvement of Birth Defects Surveillance Program (continuation)	CDC	Funded January 2017	$210,000	1/1/17 – 1/31/18
Perinatal Hepatitis B Program (submitted by IDPH, Division of Infectious Disease) (continuation)	CDC	Funded January 2017	$50,000	1/1/17 – 3/31/17
National Cancer Prevention and Control Program-National Program of Cancer Care (continuation)	CDC	Funded June 2016	$1,179,999	7/1/16 – 6/30/18
Surveillance, intervention, and referral to services activities for infants with microcephaly or other adverse outcomes linked with the Zika virus (new)	CDC	Funded August 2016	$540,000	8/1/16 – 7/31/17
Surveillance of Illinois Neonatal Abstinence Syndrome (new)	March of Dimes	Funded June 2017	$66,366	6/1/17 – 5/31/18
NOTE: Full titles of acronyms used in the above table are U.S. Centers for Disease Control and Prevention (CDC), Bureau of Labor Statistics (BLS), and Illinois Department of Public Health (IDPH).				

9.1 Funded Grants

The Division of Epidemiologic Studies received $2.2 million in grant awards in fiscal year 2017.

9.1.1 Survey of Occupational Injuries and Illnesses in Illinois (formerly Occupational Safety and Health Survey)

IDPH received $109,900 in September 2016 from the U.S. Bureau of Labor Statistics to support the 19th year of the Survey of Occupational Injuries and Illnesses (SOII) in Illinois. This project is described in Section 5.

9.1.2 Census of Fatal Occupational Injuries in Illinois

IDPH received $96,700 in September 2016 from the U.S. Bureau of Labor Statistics to support the 25th year of the Census of Fatal Occupational Injuries (CFOI) in Illinois. This project is described in Section 5.

9.1.3 Improvement of Birth Defects Surveillance Program

In January 2017, IDPH received $210,000 for year two of the fourth round of surveillance grants. The progress for this project is described in Section 4.

9.1.4 Perinatal Hepatitis B Program

The IDPH Division of Epidemiologic Studies received $50,000 in January 2017 to continue expansion of APORS surveillance and data collection (18th year) to include perinatal hepatitis B and to enhance a tracking system that identifies newborn infants requiring follow-up immunization services. This funding ended in March 2017. The progress for this project is described in Section 4.

9.1.5 National Cancer Prevention and Control Program

In June 2016, CDC awarded IDPH $9.4 million in funding for the fifth year of a third five-year project period year of the National Cancer Prevention and Control Program. This grant combines two previous separate grants: the National Comprehensive Cancer Control Program and the National Program of Cancer Registries (NPCR). The IDPH Division of Epidemiologic Studies received nearly $1.2 million for the NPCR component, which is in its 22nd year. The progress for this project is described in Section 3.

9.1.6 Zika Microcephaly Surveillance

In August 2016, CDC awarded IDPH $360,000 to carry out surveillance, intervention and referral to services activities for infants with microcephaly or other adverse pregnancy outcomes linked with the Zika virus. In December 2016, CDC awarded IDPH another $160,000 in Zika funding for a total of $540,000.

9.1.7 Neonatal Abstinence Syndrome Surveillance

In May 2017, the March of Dimes awarded IDPH $66,366 for a one-year period from June 1, 2017 through May 31, 2018 to carry out surveillance of Illinois neonatal abstinence syndrome under the March of Dimes funding opportunity "Building On Existing Infrastructure of Population-Based Birth Defects Surveillance System to Estimate the Incidence of Neonatal Abstinence Syndrome (NAS)."

10. Cancer Reporting Facilities That Have Not Completed Reporting for the 2016 Diagnosis Year by July 1, 2017

Name	City
900 North Michigan Surgical Center	Chicago
Advanced Dermatology - Moline	Moline
Advanced Dermatology and Mohs Surgery	Batavia
Advanced Radiation Oncology Center	Gurnee
Advocate BroMenn Medical Center	Normal
Aiden Center For Day Surgery	Addison
Alpha Med Physician Group, LLC	Tinley Park
Alton Memorial Hospital	Alton
American Cancer Center	Elgin
Anderson Hospital - Cancer Center	Maryville
Arlington Dermatology	Arlington Heights
Ashton Center for Day Surgery	Hoffman Estates
Babich Skin Care	Decatur
Belleville Oncology Institute	Belleville
Breese Oncology	Breese
Cancer Treatment Center	Swansea
Carle Foundation Hospital	Urbana
Central Illinois Dermatology	Peoria
Chicago Prostate Cancer Center	Westmont
Community First Medical Center	Chicago
Crossroads Cancer Center	Effingham
Crossroads Community Hospital	Mt. Vernon
Crystal Lake Dermatology	Crystal Lake
Danville Polyclinic, LTD	Danville
Deerfield Dermatology Assoc. Ltd.	Deerfield
Dermatology and Skin Surgery Associates	Mokena
Dermatology and Mohs Surgery Institute	Bloomington
Dermatology Associates Of LaGrange	LaGrange
Dermuss Dermatology Ltd.	Barrington
Dr. John Warner Hospital	Clinton
Dundee Dermatology	West Dundee
Edgebrook Dermatology	Rockford
Edward Hospital	Naperville
Elmhurst Outpatient Surgery Center	Elmhurst
Fayette County Hospital	Vandalia

Name	City
Forefront Dermatology - Bolingbrook	Bolingbrook
Franciscan St. James Health	Olympia Fields
Franklin Hospital	Benton
Fullerton Surgery Center	Chicago
Gateway Regional Medical Center	Granite City
Golf Surgical Center	Des Plaines
Graham Hospital	Canton
Hammond-Henry Hospital	Geneseo
Harrisburg Medical Center	Harrisburg
Hartsough Dermatology	Loves Park
Illini Community Hospital	Quincy
Illinois Cancer Specialists - Radiation	Niles
Illinois Dermatology Institute - Hinsdale	Hinsdale
Illinois Dermatology Institute - Oakbrook	Westchester
Illinois Dermatology Institute - Park Ridge	Park Ridge
Illinois Dermatology Institute - Skokie	Skokie
Illinois Regional Cancer Center LLP	DeKalb
Iroquois Memorial Hospital	Watseka
John H. Stroger, Jr., Hospital of Cook County	Chicago
Karen Lynn Maloney, MD, LTD.	St. Charles
Kendall Pointe Surgery Center	Oswego
Kishwaukee Hospital	DeKalb
Lakeshore Cancer Care	Chicago
Lakeshore Surgery Center	Chicago
Johnson Dermatology	St. Charles
Little Company of Mary Hospital	Evergreen Park
MacNeal Hospital	Berwyn
Marshall Browning Hospital	DuQuoin
Maryville Oncology	Maryville
Medical Arts Associates, Ltd	Moline
Mercy Hospital and Medical Center	Chicago
MetroSouth Medical Center	Blue Island
Midwest Medical Center	Galena
Midwest Urological Group/Central Illinois Radiation Oncology	Peoria
Midwestern Regional Medical Center	Zion
Mt. Vernon Radiation Therapy Center	Mt. Vernon
Musick Dermatology	Swansea
North Branch Dermatology, LLC	Chicago

Name	City
North Shore Endoscopy Center	Lake Bluff
North Shore Surgical Center	Lincolnwood
NorthPointe Health and Wellness Center	Beloit
Northwestern Lake Forest Hospital	Lake Forest
Northwestern Medical Group Dermatopathology Lab	Chicago
Northwestern Medical Group - Grayslake	Grayslake
Northwestern Medicine Proton Center	Warrenville
OSF Saint Anthony's Health Center	Alton
OSF Saint Paul Medical Center	Mendota
OSF St. Luke Medical Center	Kewanee
OSF St. Mary Medical Center	Galesburg
Palos SurgiCenter	Palos Heights
Paris Community Hospital	Paris
Pekin Memorial Hospital	Pekin
Peoria Day Surgery Center	Peoria
Pinckneyville Community Hospital	Pinckneyville
Pinski Dermatology and Cosmetic Surgery	Bourbonnais
Plainfield Surgery Center, LLC	Plainfield
Premier Dermatology/Forefront Dermatology - Crest Hill	Crest Hill
Premier Dermatology/Forefront Dermatology - Morris	Morris
Premier Dermatology/Forefront Dermatology - Naperville	Naperville
Presence Saint Joseph Hospital - Elgin	Elgin
Presence St. Mary Hospital - Cancer Registry	Bourbonnais
Presence Holy Family Medical Center	Des Plaines
Presence Mercy Medical Center	Aurora
Presence Saint Elizabeth Hospital	Chicago
Presence Saint Francis Hospital of Evanston	Evanston
Presence St. Mary of Nazareth Hospital Center	Chicago
Presence United Samaritans Medical Center	Danville
Quad City Endoscopy, LLC	Moline
Red Bud Regional Hospital	Red Bud
Regional Surgical Center	Moline
Richland Memorial Hospital	Olney
Rochelle Community Hospital	Rochelle
Rogers Park One Day Surgery Center	Chicago
Roseland Community Hospital	Chicago
Rush Copley Medical Center	Aurora
Rush Oak Park Hospital	Oak Park

Name	City
Sarah Bush Lincoln Regional Cancer Center	Mattoon
Sarah Culbertson Memorial Hospital	Rushville
Schaumburg Dermatology	Schaumburg
Simmons Cancer Institute, SIU School of Med	Springfield
SIU School of Med Dermatology	Springfield
Skin Care Center of Southern Illinois	Mt. Vernon
South Shore Hospital	Chicago
Southern Cook Radiation Treatment Center	Blue Island
Southwest Gastroenterology - Oak Lawn Endoscopy Center	Oak Lawn
Springfield Clinic Ambulatory Surgical Treatment Center	Springfield
SSM Health Good Samaritan	Mt Vernon
SSM Health St. Mary's	Centralia
St. Anthony's Memorial Hospital	Effingham
St. Elizabeth's Hospital	Belleville
St. Johns Hospital	Springfield
Surgical Center of the DuPage Medical Group	Lombard
Swaminathan Dermatology	Peoria
Swedish Covenant Hospital	Chicago
The Center For Outpatient Medicine	Bloomington
Thorek Memorial Hospital	Chicago
Touchette Regional Hospital	Centreville
UnityPoint Health - Methodist	Peoria
UnityPoint Health - Trinity	Moline
University Dermatology and Vein Clinic	Skokie
Valley Ambulatory Surgery Center	St. Charles
Valley West Hospital	Sandwich
Vista Health Medical Center - EAST	Waukegan
Weiss Memorial Hospital	Chicago
West Suburban Medical Center	Oak Park

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