State of Illinois
Department of Public Health

Annual Report Illinois Health and Hazardous Substances Registry

July 2017 through June 2018

November 2018

IDPH
ILLINOIS DEPARTMENT OF PUBLIC HEALTH

Annual Report
Illinois Health and Hazardous Substances Registry
July 2017 through June 2018

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
November 2018

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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 32nd annual report and it describes major registry activities and accomplishments from July 2017 through June 2018 (FY18).

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 and health assessments at the state and local levels;
- 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 2018 Highlights

- Received $1.53 million from federal funds and nearly $33,000 from other non-general revenue sources, mostly through competitive processes, to support activities of the IDPH Division of Epidemiologic Studies

- Collected detailed case reports on Illinois residents with 68,549 newly diagnosed cancer cases (2015), 11,417 children with adverse pregnancy outcomes (2015), 2,461 adult lead poisoning cases (2017), 33,170 representative non-fatal occupational disease and injury sample records (2016), and 171 fatal occupational injuries (2016)

- Responded to 15 requests for general information about the registry, 33 requests for epidemiologic reports and registry data, and 19 special data requests or collaborations from outside researchers

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

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

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

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

- Data released by the registry were used in 19 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 seven 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 ten 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 2018. Instead, the Council reviewed and approved the annual report via written ballot.

1.4 Goals for Fiscal Year 2019

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 2012	Calendar 2013	Calendar 2014	Calendar 2015	Calendar 2016	Estimated 2017
ISCR Invasive Neoplasms						
(including bladder *in situ*)	65,763	66,228	67,635	68,549	59,544[1]	79,980
Breast *in situ* female only	2,547	2,580	2,477	2,456	2,317[1]	2,400
Brain – benign/borderline	2,294	2,320	2,456	2,321	1,861[1]	2,000
APORS Cases – All	12,101	9,741[2]	10,411	11,417	12,429	12,400
NBDPN Children	2,519	2,332	2,629	3,276	2,397[3]	3,200
# NBDPN Birth Defects	3,327	3,424	3,754	4,427	2,746[3]	4,400
Occupational Disease Reports						
ABLR lead poisoning						
New reports	484	623[4]	1,060	1,704	852	770[5]
Total reports	726	2,161[4]	2,347	3,056	2,918	2,461[5]
Occupational Fatality Cases	146	176	164	172	171	173
Injuries	146	176	164	172	171	173
Occupational Safety and Health Survey[6]						
Estimated Cases based on	39,630	38,690	38,280	39,700	33,170	36,400
Sampling	14,610	13,580	14,320	15,309	11,940	13,600
Sprains, strains	3,350	3,110	2,880	3,255	2,580	2,920
Bruises, contusions	3,510	3,170	2,600	3,613	2,810	3,210
Cuts, lacerations	3,070	3,340	4,010	4,405	3,070	3,740
Fractures	830	790	1,450	715	420	925
Multiple injuries	590	380	270	238	290	265
Carpal tunnel syndrome	590	380	310	596	530	560
Heat burns	80	200	70	38	70	70
Tendonitis	190	260	160	199	300	250
Amputations	120	180	60	238	60	150
Chemical burns						
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] To date 8/16/18 – data are not complete

[4] 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.

[5]Actual counts for 2017

[6]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

	FY14	FY15	FY16	FY17	FY18	Estimated FY19
Data Requests						
General information	31	27	23	39	15	20
Data and reports	71	77	59	32	33	30
Cluster inquiries	21	22	8	6	9	8
Confidential data released and research collaborations	25	23	17	22	19	15
Confidential data applications	4	4	1	0	0	5
Quality Assurance Studies						
Casefinding visits						
APORS	70[1]	22	4	4	4	1
ISCR	120	74	31	51	69	75
Cases added from casefinding visits						
APORS[2]	4,493	8,350[3]	7,158	9,729[4]	13,703	
ISCR[5]	1,089	856	683	1,142	1,182	1,200
External audits of facility data						
ISCR	179	204	229	244	0	0
Internal quality control reports issued						
APORS	3	6	3	2	4	4
ISCR	4	3	3	3	2	3
ABLR	0	0	1	0	0	0
Public Use Microdata Files	3	5	5	5	5	5
Publications						
Epidemiologic report series	4	7	6	8	8	6
IMMB and other publications	0	0	3	2	1	1
Peer-reviewed publications	1	2	5	2	4	3
Publications by outside researchers	22	16	21	18	19	18
Oral/poster presentations	10	8	5	7	10	
Grant Proposals Funded	5	5	5	7	5	5

[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 2015 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 2018 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 20th consecutive year
- Maintained case reporting at all non-federal facilities by conducting 69 facility case finding visits for the 2016 diagnosis year; 1,182 missed cases were identified
- Completed interstate data exchange by transmitting 3,582 de-duplicated, edited state-specific cases to 11 states and received and processed 10,253 cases from ten states
- Completed death clearance for the 2015 death year and maintained a death certificate only rate of 2.2 percent. In total, 2,939 cancer diagnoses were followed with 326 letters or lists mailed to hospitals, physicians, nursing homes, and hospice centers
- Added 90 percent of cases for the 2016 diagnosis year to the ISCR database by December 2017
- Added 100 percent of cases for the 2015 diagnosis year to the ISCR database by December 2017

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 28.7 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 four basic training sessions, four advanced training sessions, four staging training sessions, and five workshops designed solely for dermatologists reporting melanoma; these onsite training sessions were presented in the spring of 2018 in central, southern, 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 2,485 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 2017

- Provided access to 97 advanced training workshops for 235 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 22,105 cases with an unknown or missing race, 562 (2.5 percent) cases were matched and updated with a valid race; Maiden name: 21,982 cases (4.7 percent) were matched and updated with valid maiden names; Hispanic origin: 392 cases, or 4.0 percent, were matched and updated with valid data element codes for Hispanic origin; Birthplace: of 559,364 cases with unknown or missing birthplace, 43,287 cases (7.7 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 30; 92.5 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)

- Formed the Illinois Cancer Coalition in conjunction with the ICCCP and IBCCP to foster collaboration, cooperation, and data-driven practices among programs within the Illinois Department of Public Health that impact cancer prevention and control

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

- Produced one publication for the layperson on cancer in Illinois

- Produced one epidemiologic report

- Produced two quality control reports

- Updated incidence projections

- Submitted 1,424,834 cases to NPCR and NAACCR for the 1995-2015 call for data
- Submitted 65,525 cases to NPCR for the 2016 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, and streamlined registry operations through more efficient use of staff and resources

3.2 Fiscal Year 2018 Major Accomplishments

3.2.1 North American Association of Central Cancer Registries Gold Certification

For the 20th 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 three 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 5th 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 16 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 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.

3.2.3.3 North American Association of Central Cancer Registries (NAACCR)

ISCR provided comprehensive data from 1995-2015 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.

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

ISCR submitted comprehensive data from 1995-2015 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.

3.2.3.5 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.

3.2.3.6 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.

3.2.4 Quality Control Reports

3.2.4.1 Parrish P. *Assessment of Duplicate Records for 1995-2015 Diagnosis Years.* Quality Control Report Series 17:06. Springfield, Ill.: Illinois Department of Public Health, November 2017.

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 17:07. Springfield, Ill.: Illinois Department of Public Health, October 2017.

3.3 Goals for Fiscal Year 2019

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

- Perform facility casefinding for the 2017 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 2018
- Continue death certificate clearance and maintain death certificate only rate of less than three percent
- Achieve 90 percent case reporting for the 2017 diagnosis year by December 2018
- Achieve 95 percent case reporting for the 2016 diagnosis year by December 2018

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

3.3.3 Provide Training for Reporting Facilities and for Central Registry Staff

- Contract with NAACCR education staff to provide five basic training workshops, three advanced training workshops, and three staging training workshops
- Develop, update, and maintain new cancer reporting training website for all Illinois Cancer reporters
- 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
- Update case vital status via linkage with the National Death Index

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. Provide data visualization tools on ISCR website to facilitate understanding and access to state and local cancer data.

- 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 1995-2016 NPCR/NAACCR file for combined call for data and submit the 2017 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 31 completed weeks of gestation; or
- a neonatal or fetal death has occurred.

4.1 Review and Evaluation of Fiscal Year 2018 Goals

Improve Casefinding

- Ninety-four (77.0 percent) of the 122 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 is ongoing.

- Made 13 trainings in person, by phone, or webinar and held 1,567 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 two hospital discharge data files 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 67 children born in 2015, 367 born in 2016, and 993 born in 2017 were identified as possible APORS birth defect cases

- Reviewed the medical records of 2,132 infants identified from hospital discharge data; on average, 65.3 percent of the cases were found to have conditions that meet the APORS review criteria

- Reviewed charts of 142 mothers who experienced a fetal death associated with a congenital anomaly on the fetal death certificate, to verify the information on the certificate. Of the reviewed charts, 83.8 percent were confirmed to be cases meeting the APORS case criteria.

- Began case finding at genetic clinics.

Improve Quality of APORS Data

- Evaluated the timeliness of hospital reporting for cases reported in January through December 2017; provided hospital-specific feedback and used results to identify hospital training needs. In 2017, 75.5 percent of hospitals met the APORS timeliness standard of reporting cases within seven days of infants' hospital discharge. This is a big improvement over the previous year (63.4 percent). Hospitals are notified twice yearly of their timeliness status and provide more intensive education to facilities that are non-compliant.

- Evaluated the rates of hospital reporting in 2015 and 2016. In 2015, the case reporting rates ranged from 0.0 to 18.4 percent with the average being 5.7 percent, while in 2016, the case reporting rates ranged from 0.3 to 21.3 percent with the average being 6.3 percent. This degree of variation is not unexpected, since hospitals providing the highest level of care have the most cases to report.

- 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 maintained on the IDPH website.

- Avoided the need to travel to 121 of the 122 birth facilities, either by accessing electronic medical records remotely, or having the facilities send charts (in electronic or paper format). APORS staff have finished reviewing older cases at the last hospital needing travel, and it will not need to visit the facilities again, unless a few older cases are identified late.

- 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

- A surveillance report examining the trends of birth defects in Illinois was published

- Was awarded a renewed CDC cooperative agreement to do birth defect surveillance; closed out a CDC cooperative agreement to perform rapid case ascertainment of birth defects associated with the Zika virus since funding was no longer available; and has almost completed the data collection for the one-year award through March of Dimes to undertake improved surveillance of neonatal abstinence syndrome (NAS) in collaboration with Dr. Amanda Bennett from the Office of Women's Health and Ashley Horne, CSTE Fellow.

- Continued to provide Zika-associated birth-defect data to CDC. APORS will continue collecting this information until the 2016 and 2017 birth cohorts are completed.

4.2 Fiscal Year 2018 Major Accomplishments

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

APORS was approved for the third year of a four-year cooperative agreement with the CDC to enhance Illinois birth defects surveillance, prevention and service referral. Funding for 2017 and 2018 is $210,000 each year.

APORS closed out the CDC cooperative agreement to do rapid birth defect surveillance of defects potentially associated with the Zika virus (primarily brain and nervous system anomalies) since CDC did not have funds to support the planned five-year project.

4.2.2 Cooperative Agreement with the March of Dimes (MOD)

APORS collected information about drug-exposed infants and their mothers under a one-year agreement with the MoD to enhance Illinois Neonatal Abstinence Syndrome (NAS) surveillance. Funding for FY18 was $71,966. The analysis will be taking place over the next year.

4.2.3 Enhancement of the APORS Database

APORS staff completed 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 94 hospitals are registered. These hospitals report more than 87 percent of the cases received by APORS.

4.2.4 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 FY18, the abstractors reviewed 9,980 birth defects reported by hospitals. The table shows the disposition of the conditions reviewed by the APORS staff.

Source	Reported	Confirmed	Deleted
Hospital Nursery Reporting	6,729	4,270	2,459
Hospital Discharge Data	3,251	1,933	1,318
Chart Review	0	13,702	0
Other[1]	71	69	2
Any Source	9,605	19,974	3,777

Abstractors deleted 746 reported birth defects that could not be found in the charts, or that had been ruled out by the facility. Another 2,557 were not collected because the infant did not have a collected birth defect or because the birth defect did not meet specific criteria (often conditions that are considered normal in a premature infant). Some conditions were deleted because they were included as parts of confirmed complex conditions (410).The remaining 64 conditions were deleted for other reasons.

Case abstraction for 2015 birth cohort was completed in April 2017. The goal is to be complete within two years of the birth year. This year was slower as a new staff member was trained and the Zika surveillance continued.

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.

4.2.5 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. CHA's have documented outcomes in 75.7 percent of the cases referred in FY19. Some families (16.2 percent) could not be contacted or live in an area where services are not available. Among the families with surviving newborns and documented outcomes who were offered services, 49.0 percent accepted.

4.2.6 Linkages with Other Programs and Activities

4.2.6.1 Perinatal Programs

4.2.6.1.1 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. More than 10,000 (10,088) 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 46 children with neural tube defects, whose families were referred for prevention counseling.

4.2.6.1.2 IDPH Division of Infectious Diseases. APORS identified infants for the IDPH Division of Infectious Diseases' sexually transmitted disease (133 newborns) and perinatal hepatitis B programs (255 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 collaborates with local departments to report de-identified information on neonates and infants at two, six, 12, and 24 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

4.2.6.1.3 IDPH Craniofacial Anomaly Program. Data on all infants born with cleft lip and/or palate (197 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.

4.2.6.1.4 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 FY18, APORS referred 4,070 cases.

4.2.6.1.5 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 FY18, APORS referred 1,861 cases.

4.2.6.1.6 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.

4.2.6.1.7 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.

4.2.6.1.8 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.

4.2.6.2 National Birth Defects Prevention Network (NBDPN)

APORS submitted data for the NBDPN's annual report. The APORS manager, Jane Fornoff, served on the NBCPN data committee. She also presented three times at two NBCPN annual meetings. The APORS data manager, Theresa Sandidge, presented a poster at the annual meeting. The abstractor liaison, Jodi Snow, served on the NBDPN data standards committee and in two working groups.

4.2.6.3 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.

4.2.6.4 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.

4.2.6.5 IPHA Epidemiology and Health Statistics Section

The APORS manager serviced on the IPHA Epidemiology and Health Statistics Section. She contributed to the development of a proposed policy resolution on Neonatal Abstinence Syndrome.

4.2.7 Quality Control Reports

4.2.7.1 Sandidge T. *Rates of Hospital Reporting of Adverse Pregnancy Outcomes in 2015.* Quality Control Report Series 17:03. Springfield, Ill: Illinois Department of Public Health, September 2017.

4.2.7.2 Sandidge T. *Family Survey of Services Provided Through the High Risk Infant Follow-up (HRIF) Program.* Quality Control Report Series 17:04. Springfield, Ill.: Illinois Department of Public Health, September 2017.

4.2.7.3 Sandidge T, Fornoff J. *Timeliness Study – Hospital Reports of Adverse Pregnancy Outcomes Received in 2017.* Quality Control Report Series 18:01. Springfield, Ill.: Illinois Department of Public Health, January 2018.

4.2.7.4 Sandidge T. *Rates of Hospital Reporting of Adverse Pregnancy Outcomes in 2016.* Quality Control Report Series 18:02. Springfield, Ill.: Illinois Department of Public Health, June 2018.

4.3 Goals for Fiscal Year 2019

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
- Continue 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
- Evaluate the collection of data associated with prenatal drug exposure and withdrawal symptoms

Improve Program Effectiveness

- Enhance SharePoint® sites for hospitals and community health agencies that contain relevant reference and training materials for the different groups
- 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). In 2013, however, 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 2017, 2,461 new lab reports were added to the ABLR database.

5.1.1 Fiscal Year 2018 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 2017, ABLR made seven 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 one safety inspection in Illinois because of the ABLR referrals. During this inspection, 31 citations of OSHA rules were found and fines in the amount of $220,497 were proposed.

5.1.3 Goals for Fiscal Year 2019

- 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 2016, Illinois CFOI recorded 171 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, BLS 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 2018 Goals

- Completed the summary report of the 2016 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 2019

- Publish a summary report of the 2017 fatal occupational injury data by January 2019
- 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 2018 Goals

- Submitted data files on all reported occupational injuries and illnesses of the surveyed companies to the BLS
- Collected, coded, and entered all 2017 data prior to BLS deadlines

5.3.2 Survey Process and Achievements for Fiscal Year 2018

In January 2018, BLS and ODR sent survey forms to 5,313 private employers and 364 public employers for 2017 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 86 percent, which exceeded the cooperative agreement minimum requirement for data publication.

5.3.3 Goals for Fiscal Year 2019

- Continue all data collection activities in FY19 and maintain the high standards achieved by the program
- Complete the descriptive report of 2017 Survey of Occupational Injuries and Illnesses (SOII)
- Meet the deadlines assigned by BLS

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.30®.

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 2017

Range of Percentage Complete by Diagnosis Year			
	Average all years	**Lowest**	**Highest**
Cancer Reports (n=1,801,606 cases for diagnosis years 1986-2015)			
ZIP code	**100.0**	**100.0**	**100.0**
ZIP +4 code	96.1	92.0	98.9
Lat/Lon code [1]	100.0	100.0	100.0
address specific	92.5	87.1	96.6
centroid ZIP +4	0.5	0.2	0.8
centroid ZIP +2	0.6	0.4	1.2
centroid ZIP	6.4	2.3	11.7
APORS Reports (n= 423,109) cases for birth years 1989-2017)			
ZIP code	98.0	91.3	100.0
ZIP +4 code	94.1	90.5	99.0
Lat/Lon code [1]	98.0	91.1	100.0
address specific	93.0	90.0	98.3
centroid ZIP +4	1.1	0.5	1.8
centroid ZIP +2	1.6	0.2	3.7
centroid ZIP	2.3	0.3	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 2018 Goals

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

7.2 Fiscal Year 2018 Accomplishments

In FY18, IDPH received nine 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 FY17and completed in FY18 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. The investigation revealed higher than expected cancer cases in adult men largely driven by lung and prostate cancers in the study area. Females had higher than expected numbers of cases of lung, uterine, and breast cancer cases. Women less than fifty were observed to have higher than expected numbers of breast cancer cases. Pediatric cancers were also examined; however, no significant increases in pediatric cancers were observed in the study area. While increases in cancer cases were observed in specific areas of the study no clear explanation exists as to why. These results were presented and discussed directly with requestors that included community members, medical professionals, and state legislators. This particular investigation was published in 2018 in Epidemiologic Report Series 17:09 and is publicly available.

7.3 Fiscal Year 2019 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 2018 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, 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 six issues have been published as of the end of FY18.

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 (Division) 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. The Division researchers also continued to provide guidance and technical assistance to

IDHFS in its effort to establish new policy and practices for public data release. Division staff also provided interviews and responses to medical requests on various disease issues.

8.1.6 IDPH Institutional Review Board

The Division continued to staff the IDPH IRB, with one staff serving as the IRB manager and one as acting chair. A number of data requests from outside researchers and organizations were processed and fulfilled. The IRB also serves as a link between outside researchers and Department Responsible Individuals (RIs) in various programs.

8.2 Scientific Publications in Fiscal Year 2018

The following articles have been submitted, accepted or published:

8.2.1 Delaney A, Mai C, Smoots A, Cragan J, Ellington S, Langlois P, Breidenbach R, Fornoff J et al. Population-Based Surveillance of Birth Defects Potentially Related to Zika Virus Infection – 15 States and U.S. Territories, 2016. *Morbidity and Mortality Weekly Report.* January 26, 2018, 67(3);91-96.

8.2.2 St. Louis AM, Kim K, Browne KL, Liu G, Liberman RF, Nembhard WN, Canfield MA, Copeland G, Fornoff J, Kirby RS for the National Birth Defects Prevention Network. Prevalence trends of selected major birth defects: A multi-state population-based retrospective study, United States, 1999-2007. *Birth Defects Research, Part A: Clinical and Molecular Teratology.* E-print 11/20/2017.

8.2.3 Sandidge T, Fornoff J. High Level of Satisfaction among Families Receiving High Risk Infant Follow-up (HRIF) Services. *Illinois Morbidity and Mortality Bulletin*, December 2017.

8.2.4 Yanik EL, Shiels MS, Smith JM, Clarke CA, Lynch CF, Kahn AR, Koch LA, Pawlish KS, Engels EA. Contribution of Solid Organ Transplant Recipients to the Pediatric Non-Hodgkin Lymphoma Burden in the United States. Cancer 2017 Dec. 1; 123(23):4663-4671. Doi: 10.1002/cncr:30923

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 109, Issue 18, November 2017, Pages: S29-S31.

8.3.4 Quinn T Ostrom, Haley Gittleman, Peter Liao, Toni Vecchione-Koval, Yingli Wolinsky, Carol Kruchko, Jill S Barnholtz-Sloan; CBTRUS Statistical Report: Primary brain and other central nervous system tumors diagnosed in the United States in 2010–2014, Neuro-Oncology, Volume 19, Issue suppl_5, 6 November 2017, Pages v1–v88, doi: 10.1093/neuonc/nox158.

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. U.S. Cancer Statistics Data Visualizations Tool, based on November 2017 submission data: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention and National Cancer Institute; www.cdc.gov/cancer/dataviz,(https://www.cdc.gov/cancer/dataviz) June 2018.

8.3.7 2001–2015 Database: National Program of Cancer Registries and Surveillance, Epidemiology, and End Results SEER*Stat Database: NPCR and SEER Incidence – USCS 2001–2015 Public Use Research Database, United States Department of Health and Human Services, Centers for Disease Control and Prevention and National Cancer Institute. Released June 2018, based on the November 2017 submission. Available at www.cdc.gov/cancer/npcr/public-use.(https://www.cdc.gov/cancer/npcr/public-use)

8.3.8 2005–2015 Database: National Program of Cancer Registries and Surveillance, Epidemiology, and End Results SEER*Stat Database: NPCR and SEER Incidence – USCS 2005–2015 Public Use Research Database, United States Department of Health and Human Services, Centers for Disease Control and Prevention and National Cancer Institute. Released June 2018, based on the November 2017 submission. Available at www.cdc.gov/cancer/npcr/public-use.(https://www.cdc.gov/cancer/npcr/public-use)

8.3.9 Copeland G, Green D, Firth R, Wohler B, Wu XC, Schymura M, De P, Hofferkamp J, Sherman R, Kohler B (eds). *Cancer in North America: 2011-2015. Volume One: Combined Cancer Incidence for the United States, Canada and North America.* Springfield, Ill.: North American Association of Central Cancer Registries, Inc. June 2018.

8.3.10 Rauscher GH, Silva A, Pauls H, Fraso J, Bonini MG, Hoskins K. Racial disparity in survival from estrogen and progesterone receptor positive breast cancer: implications for reducing breast cancer mortality implications. *Breast Cancer Res Treat.* 2017 June: 163(2): 321-330. Doi: 10.1007/s10546-017-4166

8.3.11 Copeland G, Green D, Firth R, Wohler B, Wu XC, Schymura M, De P, Hofferkamp J, Sherman R, Kohler B (eds). *Cancer in North America: 2011-2015. Volume Two: Registry-specific Cancer Incidence in the United States and Canada.*

Springfield, Ill.: North American Association of Central Cancer Registries, Inc. June 2018.

8.3.12 Copeland G, Green D, Firth R, Wohler B, Wu XC, Schymura M, De P, Hofferkamp J, Sherman R, Kohler B (eds). *Cancer in North America, 2011-2015. Volume Three: Registry-specific Cancer Mortality in the United States and Canada.* Springfield, Ill.: North American Association of Central Cancer Registries, Inc. June 2018.

8.3.13 Cronin KA, Lake AJ, Scott S, et al. Annual Report to the Nation on the Status of Cancer, Part I: National Cancer Statistics. Cancer. Online May 22, 2018. DOI: 10.1002/cncr.31551.

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

8.3.15 Negoita S, Feuer EJ, Mariotto A, et al. Annual Report to the Nation on the Status of Cancer, Part II: Recent Changes in Prostate Cancer Trends and Disease Characteristics. Cancer. Online May 22, 2018. DOI: 10.1002/cncr.31549

8.3.16 Tota JE, Engels EA, Madeleine MM, Clarke CA, Lynch CF, Ortiz AP, Hernandez BY, Chaturvedi AK. Risk of oral tongue cancer among immunocompromised transplant recipients and human immunodeficiency virus-infected individuals in the United States. *Cancer* 2018 Jun 15; 124(12):2515-2522. doi: 10.1002/cncer.31359.

8.3.17 Gilsenan A, Harding A, Kellier-Steele N, Harris D, Midkiff K, Andrews E. The Forteo Patient Registry linkage to multiple state cancer registries: study design and results from the first 8 years. *Osteoporosis International*. 2018 Jul 5. doi: 10.1007/s00198-018-4604-8.

8.3.18 Johnson C, Wilson R, Nishri, D, Copeland G, Green D, Firth R, Wohler B, Wu XC, Schymura M, De P, Hofferkamp J, Sherman R, Kohler B (eds). *Cancer in North America, 2011-2015. Volume Four: Cancer Survival in the United States and Canada 2008-2014.* Springfield, Ill.: North American Association of Central Cancer Registries, Inc. June 2018.

8.3.19 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 Garner K, Shen T. **Incidence of Cancer in ZIP Codes 60655, 60645, 60805 and 60453 (Cook County), Illinois, 2005-2014.** Epidemiologic Report Series 17:09. Springfield, Ill.: Illinois Department of Public Health, September 2017.

8.4.2 Sandidge T, Fornoff JE, Shen T. **Trends in the Prevalence of Birth Defects in Illinois 2002-2014.** Epidemiologic Report Series 18:01. Springfield, Ill.: Illinois Department of Public Health, March 2018.

8.4.3 Sweeny M, Wamack J. **Survey of Occupational Injuries and Illnesses in Illinois, 2016.** Epidemiologic Report Series 18:01. Springfield, Ill.: Illinois Department of Public Health, April 2018.

8.4.4 Swenny M, Wamack J. **Census of Fatal Occupational Injuries, Illinois, 2016.** Epidemiologic Report Series 18:02. Springfield, Ill.: Illinois Department of Public Health, April 2018.

8.4.5 Garner K, Shen T. **Illinois State Cancer Incidence Review and Update 1986-2015.** Epidemiologic Report Series 18:03. Springfield, Ill.: Illinois Department of Public Health, May 2018.

8.4.6 Garner K, Shen T. **Illinois County Cancer Statistics Review Incidence, 2011-2015.** Epidemiologic Report Series 18:04. Springfield, Ill.: Illinois Department of Public Health, May 2018.

8.4.7 Garner K, Shen T**. Illinois State Cancer Mortality Review and Update 1986-2015.** Epidemiologic Report Series 18:05. Springfield, Ill.: Illinois Department of Public Health, April 2018.

8.4.8 Smith G, Hebert L, Koch L, Shen T. **Validation of Areal Interpolation Methodology for Estimating Cancer Incidence in Chicago Wards, 2005-2014**. Epidemiologic Report Series 18:06. Springfield, Ill.: Illinois Department of Public Health, June 2018.

8.5 Fiscal Year 2018 Presentations by IDPH Division of Epidemiologic Studies Staff

Title	Event	Date
APORS-Case Identification and Completion of Form (in-service training)	Vista Medical Center East (Waukegan) by phone	August 2017
APORS-Overview, Database, Case Identification and Completion of Form	Elmhurst Memorial Hospital (Elmhurst) by phone	August 2017
APORS-Data System Training	St. Mary's Hospital (Decatur) by phone	August 2017
APORS-Data System Training	Gateway Regional Medical Center	September 2017
APORS-Case Identification and Reporting Webinar	Presence Resurrection Medical Center (Chicago)	September 2017
APORS-Moving (Rapidly) to Active Case Finding	National Birth Defect Prevention Network Virtual Annual Meeting	September 2017
APORS-Perinatal Hepatitis B	Various hospitals and local health departments via webinar	September 2017
ISCR-Cancer Case Reporting to the Illinois State Cancer Registry	Illinois Medical Oncology Society Annual Meeting (Chicago)	September 2017
APORS-Data System Training webinar	Advocate Condell Medical Center (Libertyville)	October 2017
Student Lecture on Cancer Surveillance to Graduate Students	UIC School of Public Health (Chicago)	September 2017
APORS-The High Risk Infant Follow-up Program	Various hospitals and local health departments via webinar	November 2017
APORS-Reporting Database Training (in-service training)	Swedish American Hospital (Rockford) by phone	December 2017
APORS-NAS Surveillance Webinar	Council of State and Territorial Epidemiologists NAS Workgroup	December 2017
APORS-What do I do all day (and why)?	Illinois Mathematics and Science Academy Students	January 2018
APORS-What is an APORS birth defect?	Various hospitals and local health departments and DHS via webinar	January 2018
ISCR-Basic Training Workshop	Michael Bilandic Building	January 2018
ISCR-Basic Training Workshop	Decatur Memorial Hospital	January 2018

Title	Event	Date
ISCR-Basic Training Workshop	SSM Health Illinois, Good Samaritan Hospital	February 2018
APORS-Service Referrals	NBDPN National Conference	March 2018
APORS-NAS Surveillance	NBDPN National Conference	March 2018
ISCR-Solid Tumor Workshop	Elmhurst Memorial Hospital	March 2018
ISCR-TNM Staging Workshop	Advocate Good Samaritan Hospital	March 2018
Student lecture on cancer cluster investigations to graduate students	UIC School of Public Health (Chicago)	April 2018
APORS-Using the IVRS database for local health departments	Various local health departments via webinar	April 2018
Epi Studies	IDPH Bring Your Child to Work Day	April 2018
ISCR-Solid Tumor Workshop	St. Joseph Medical Center	April 2018
ISCR-Solid Tumor Workshop	Illinois Dept. of Natural Resources (Springfield)	April 2018
ISCR-Solid Tumor Workshop	SIH Cancer Institute	April 2018
ISCR-TNM Staging Workshop	Illinois Dept. of Natural Resources (Springfield)	April 2018
ISCR-TNM Staging Workshop	SSM Health Illinois, Good Samaritan Hospital	April 2018
APORS-Case Identification and Completion of Form (In-service training)	Vista Medical Center East (Waukegan) by phone	May 2018
ISCR-Solid Tumor Workshop	Northwest Community Hospital	May 2018
ISCR-TNM Staging Workshop	Methodist North at Allen Road	May 2018
ISCR-TNM Staging Workshop	Swedish American Health System	May 2018
ISCR-The Illinois State Cancer Registry	IDPH Cancer Coalition	May 2018

Title	Event	Date
APORS-Data System Training (in-service training)	Clark County Health Department by phone	June 2018
ISCR-Cancer Burden in Illinois	Illinois Cancer Partnership (Springfield)	June 2018
ISCR-The Illinois State Cancer Registry	Illinois Women's and Families Health Conference (Bloomington)	June 2018
ISCR-The Illinois State Cancer Registry	IDPH Career Day	June 2018

8.6 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 (Closed 12/2017)	
U.S. Centers for Disease Control and Prevention	Prevalence Data by Race for Selected Birth Defects for Publication in *Birth Defects Research*	May 2018	CDC
Lynn Rosenberg, Sc.D., M.S. Sloan Epidemiology Center Boston University	Black Women's Health Study	February 2007, ongoing	NIH/NCI
Rosalind Ramsey-Goldman, M.D., Dr.PH. Northwestern University	Exposure to Immunosuppressive Drugs and Cancer Risk in Systemic Lupus Erythematosus	August 2004, ongoing	NIH/NCI
Meir Stampfer, M.D. Channing Laboratory Brigham and Women's Hospital	Health Professionals Follow-up Study/Nurses' Health Study I and II	January 2004, ongoing	NIH
Eugenia Calle, Ph.D. American Cancer Society	Cancer Prevention Study II	1995, ongoing	ACS
Brinton, Trabert, Ph.D. National Cancer Institute	Infertility Follow-up Study	2012, ongoing	NCI
Alicia Gilsenan, Ph.D. RTI International	Forteo Patient Registry	February 2010, ongoing	Eli Lilly and Company
Mardge Cohen, M.D. Women's Interagency HIV Study (WIHS)	Women's Interagency HIV Study (WIHS)	2000, ongoing	NIH

Principal Investigator (Affiliation)	Title	Date	Funding Source
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
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 Cancer Institute (NCI), National Institutes of Health (NIH), 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 FY2018.

Grant	Agency	Status	Amount	Grant Period
Occupational and Health Survey in Illinois (continuation)	BLS	Funded September 2017	$119,838	10/1/17 – 9/30/18
Census of Fatal Occupational Injuries in Illinois (continuation)	BLS	Funded September 2017	$101,209	10/1/17 – 9/30/18
Improvement of Birth Defects Surveillance Program (continuation)	CDC	January 2018	$210,000	2/1/18 – 1/31/19
National Cancer Prevention and Control Program-National Program of Cancer Care (continuation)	CDC	Funded June 2017	$1,100,000	7/1/17 – 6/30/18
Surveillance of Illinois Neonatal Abstinence Syndrome (new)	March of Dimes	Funded December 2017	$5,600	6/1/17 – 6/30/18
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 $1.53 million in grant awards in fiscal year 2018.

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

IDPH received $119,838 in September 2017 from BLS to support the 20th 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 $101,209 in September 2017 from BLS to support the 26th 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 2018, IDPH received $210,000 for year three of the fourth round of surveillance grants. The progress for this project is described in Section 4.

9.1.4 National Cancer Prevention and Control Program

In June 2017, CDC awarded IDPH $8.4 million in funding for the first year of a fourth 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 $1.1 million for the NPCR component, which is in its 23rd year. The progress for this project is described in Section 3.

9.1.5 Neonatal Abstinence Syndrome Surveillance

In May 2017, the March of Dimes awarded IDPH $66,166 for a one-year period from June 1, 2017 through June 30, 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)." In December 2017, an additional $5,600 was awarded.

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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