



State of Illinois
Department of Public Health

Annual Report Illinois Health and Hazardous Substances Registry

July 2020 through June 2021

November 2021

Annual Report
Illinois Health and Hazardous Substances Registry
July 2020 through June 2021



A Report to Governor J.B. Pritzker
and the 102nd General Assembly
from the
Illinois Department of Public Health
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Prepared by the
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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 |
| IOSP | Illinois Occupational Surveillance Program |
| 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 |
| NAS | Neonatal Abstinence Syndrome |
| 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 35th annual report and it describes major registry activities and accomplishments from July 2020 through June 2021 (FY21).

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 2021 Highlights

- Received \$3.9 million from federal funds and nearly \$41,716 from other non-general state revenue sources, mostly through competitive processes, to support activities of the Division of Epidemiologic Studies.
- Collected detailed case reports on Illinois residents with 69,412 newly diagnosed cancer cases (2017), 11,267 children with adverse pregnancy outcomes (2018), 2,076 adult lead poisoning cases (2020), 27,272 representative non-fatal occupational disease and injury sample records (2019), and 158 fatal occupational injuries (2019).
- The Illinois State Cancer Registry (ISCR) became a registry supported by the National Cancer Institute's Surveillance, Epidemiology and End Result (SEER) program.
- Responded to 11 requests for general information about the registry, 28 requests for epidemiologic reports and registry data, and 13 special data requests or collaborations from outside researchers.
- Responded to three inquiries about perceived cancer excesses in local communities and neighborhoods.
- Prepared and submitted nine grant proposals to support the registry's operations and research.
- Released five reports in the Epidemiologic Report Series, and prepared four written reports for quality control studies of registry data.
- Authored or co-authored eight scientific papers for peer-reviewed journals.
- Data released by the registry were used in at least 12 published studies by outside researchers.
- Data collected by the IHHSR registry submitted to federal and other collaborating agencies and organizations to add to various national and international health surveillance data systems.
- Illinois Occupational Surveillance Program (IOSP) submitted 27 Council of State and Territorial Epidemiologists (CSTE) Occupational Health Indicators for Illinois to the National Institute of Occupational Safety and Health (NIOSH).
- Facilitated data sharing agreements between Illinois Department of Labor and the Mine Safety and Health Administration;
- IOSP obtained data sharing agreements with the Cook County Department of Public Health to get Essence data, hospital records and vital records of both civilians and law enforcement officers injured during police-civilian contact; with the Illinois Department of Transportation to obtain Police Crash Reports; with the Illinois Workers' Compensation Commission to obtain first reports of injuries and records of "claims;"

from the Illinois Poison Center to obtain pesticide poisoning data; with the national Burn Repository.

- IOSP obtained a contract from the Consumer Products Safety Commission to provide injury data (including poisonings) from the University of Illinois Health System.
- 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 nine employees from eight employers with elevated blood lead levels to the U.S. Occupational Safety and Health Administration (OSHA) for onsite inspection.
- Delivered presentations at 4 professional meetings.
- Provided leadership and management support to IDPH Institutional Review Board (IRB), with three Division of Epidemiologic Studies staff serving as members -- one as vice chair, one as the IRB's standing coordinator, and one as a regular member.

1.3 Illinois Health and Hazardous Substances Registry Coordinating Council

The IHHSR Act lists the composition of the Health and Hazardous Substances Coordinating Council as follows: 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), and 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 2021. Instead, the council reviewed and approved the annual report via written ballot.

1.4 Goals for Fiscal Year 2022

1. Continue to collect complete, timely, and high-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 and contracts.

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 and compare 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 up to the time of this report 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 2015 | Calendar 2016 | Calendar 2017 | Calendar 2018 | Calendar 2019 | Estimated 2020 |
|---|---------------|---------------|---------------|---------------|---------------------|--------------------|
| ISCR Invasive Neoplasms (including bladder <i>in situ</i>) | 69,679 | 70,210 | 70,440 | 69,575 | 71,070 | 72,340 |
| Breast <i>in situ</i> female only | 2,471 | 2,450 | 2,481 | 2,341 | 2,400 | 2,400 |
| Brain – benign/borderline | 2,668 | 2,668 | 2,714 | 2,587 | 2,000 | 2,400 |
| APORS Cases – All | 11,382 | 12,122 | 12,305 | 11,837 | 11,267 ² | 11,000 |
| NBDPN Children | 2,357 | 2,821 | 2,755 | 2,804 | 3,086 ² | 3,000 |
| # NBDPN Birth Defects | 5,358 | 5,594 | 5,604 | 4,964 | 4,416 ² | 4,500 |
| Occupational Disease Reports | | | | | | |
| ABLR lead poisoning | | | | | | |
| New reports | 1,704 | 852 | 770 | 908 | 1,087 | 637 ³ |
| Total reports | 3,056 | 2,918 | 2,463 | 2,580 | 2,970 | 2,076 ³ |
| Occupational Fatality Cases | 172 | 171 | 163 | 166 | 184 | 154 |
| Injuries | 172 | 171 | 163 | 166 | 184 | 154 |
| Occupational Safety and Health Survey⁴ | | | | | | |
| Estimated Cases based on Sampling | 39,700 | 33,170 | 37,400 | 37,812 | 27,272 | 35,071 |
| Sprains, strains | 15,309 | 11,940 | 12,850 | 13,768 | 13,637 | 13,500 |
| Bruises, contusions | 3,255 | 2,580 | 2,790 | 2,994 | 2,900 | 2,900 |
| Cuts, lacerations | 3,613 | 2,810 | 4,590 | 3,382 | 3,300 | 3,500 |
| Fractures | 4,405 | 3,070 | 4,690 | 3,764 | 3,988 | 3,980 |
| Multiple injuries | 715 | 420 | 300 | 751 | 727 | 730 |
| Carpal tunnel syndrome | 238 | 290 | 240 | 335 | 275 | 275 |
| Heat burns | 596 | 530 | 560 | 494 | 498 | 535 |
| Tendonitis | 38 | 70 | 130 | 98 | 81 | 85 |
| Amputations | 199 | 300 | 190 | 217 | 213 | 220 |
| Chemical burns | 238 | 60 | 140 | 133 | 126 | 140 |
| Hazardous Substances (GIS) | | | | | | |
| Geocoding registry cases | All | 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 To date 8/11/19 – data are not complete

³ Actual counts for 2020

⁴ 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

| | FY17 | FY18 | FY19 | FY20 | FY21 | Estimated FY22 |
|--|--------------------|--------|--------|--------|-------|-------------------|
| Data Requests | | | | | | |
| General information | 39 | 15 | 20 | 18 | 11 | 12 |
| Data and reports | 32 | 33 | 30 | 36 | 28 | 30 |
| Cluster inquiries | 6 | 9 | 8 | 1 | 3 | 5 |
| Confidential data released and research collaborations | 22 | 19 | 18 | 15 | 13 | 10 |
| Confidential data applications | 0 | 0 | 1 | 5 | 2 | 5 |
| Quality Assurance Studies | | | | | | |
| <i>Casefinding visits¹</i> | | | | | | |
| ISCR | 51 | 69 | 42 | 0 | 0 | 25 |
| <i>Cases added from active casefinding</i> | | | | | | |
| APORS ² | 9,729 ³ | 13,573 | 11,080 | 11,637 | 8,924 | 9,000 |
| ISCR ⁴ | 1,142 | 1,182 | 917 | 0 | 0 | 300 |
| <i>External audits of facility data</i> | | | | | | |
| ISCR | 244 | 0 | 1 | 2 | 2 | 2 |
| <i>Internal quality control reports issued</i> | | | | | | |
| APORS | 2 | 4 | 4 | 4 | 2 | |
| ISCR | 3 | 2 | 2 | 2 | 2 | 2 |
| ABLR | 0 | 0 | 0 | 0 | 0 | 0 |
| Public Use Microdata Files | 5 | 5 | 5 | 5 | 5 | 5 |
| Publications | | | | | | |
| Epidemiologic report series | 8 | 8 | 1 | 7 | 3 | 5 |
| IMMB and other publications | 2 | 1 | 1 | 1 | 1 | 0 |
| Peer-reviewed publications | 2 | 4 | 5 | 6 | 8 | 10 |
| Publications by outside researchers | 18 | 19 | 23 | 26 | 12 | 10 |
| Oral/poster presentations | 7 | 10 | 4 | 0 | 2 | 4 |
| Grant Proposals Funded | 7 | 5 | 5 | 5 | 7 | 6 |

¹ APORS staff are not undertaking hospital casefinding visits since APORS staff can either access all necessary medical records remotely, or have them sent to the program in electronic or paper format.

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 The APORS program carried out additional chart review in FY17-FY19 on infants born in 2015, 2016, and 2017 with Zika-associated birth defects in collaboration with the U.S. Zika Birth Defects registry.

⁴ Represents cases missed by hospital reporting, but identified by ISCR during casefinding visits. COVID-19 required suspension of all in-person casefinding activities.

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 incidence information 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 2018 diagnosis year, ISCR received reports from three Veteran's Administration (VA) facilities in Illinois.

ISCR continues to require reporting facilities to submit data in an electronic format. There are currently 177 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.

The COVID-19 pandemic made it necessary for all registry staff to move to a remote work setting on March 18, 2020. ISCR staff were well situated to this type of work environment as all data are received, processed, and produced electronically and have been for well over a decade. This is true of much of the cancer surveillance's work environment in the United States. Hospital cancer registrars often worked remotely prior to the pandemic and were easily adapted to continue cancer case capture and submission to ISCR. However, COVID-19 did require all in-person training workshops and casefinding audits of reporting facilities to be cancelled. ISCR was able to highlight available on-demand webinar coding training already present on the ISCR website and provide additional phone support to meet the training needs of cancer reporters. ISCR staff continue to complete all registry tasks and are on track for submission of 2018 diagnosis year data to NPCR and NAACCR in November of 2021.

ISCR responded to a Request for Proposal (RFP) from the National Cancer Institute's Surveillance Epidemiology and End Results (SEER) Program in February of 2020. In March of 2021, NCI announced Illinois had been chosen for the SEER program and awarded the state a contract totaling \$22,752,223, including state matching funds, over seven years. Becoming a SEER registry has been an objective of the Illinois State Cancer Registry for many years although funding opportunities for new states to become SEER registries occur infrequently. This achievement is significant and places Illinois in the top echelon of population-based cancer registries. Illinois' participation in the SEER program will significantly expand cancer surveillance activities in Illinois to include patient follow-up, enhanced data collection, additional rigorous quality control of cancer data and increased opportunities to participate in research projects and collaborations.

3.1 Review and Evaluation of Fiscal Year 2021 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 23rd consecutive year

- In-person casefinding visits for the 2019 diagnosis year were suspended due to the COVID-19 pandemic. However, case reporting was maintained as reporting facilities continued to submit cases for processing by ISCR staff.
- Completed interstate data exchange by transmitting 3,485 de-duplicated, edited state-specific cases to 11 states and received and processed 10,585 cases from 11 states.
- Completed death clearance for the 2018 death year and maintained a death certificate only rate of 1.4%. In total, 2,934 cancer diagnoses were followed with 376 letters or lists mailed to hospitals, physicians, nursing homes, and hospice centers.
- Added 35% of cases for the 2019 diagnosis year to the ISCR database by December 2020.
- Added 100% of cases for the 2018 diagnosis year to the ISCR database by December 2020.

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 5% through focused targeting and training.

3.1.3 [Provide Training for Reporting Facilities and for Central Registry Staff](#)

- All in-person training was cancelled due to the COVID-19 pandemic.
- Provided on demand access to 30 training webinars on a variety of topics through the ISCR training website, including access to cancer site-specific coding training from NAACCR.
- 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 on demand access to a melanoma coding webinar designed specifically for dermatology clinics.
- Provided individual phone or email support for 1,520 requests related to technical support and reporting issues.

- Attended the national educational conferences of the National Cancer Registrar's Association and the NAACCR, along with the SEER Advanced Workshops, which were all held virtually due to the COVID-19 pandemic.
- The annual educational conference sponsored by the Cancer Registrars of Illinois was cancelled due to the COVID-19 pandemic so staff were unable to attend.
- Provided access to 30 advanced training workshops for reporters via WebEx® utilizing nationally developed advanced training materials.
- Provided limited individual training conducted by the quality control field staff via phone, as necessary.
- Provided ongoing educational opportunities for central registry staff through participation in 12 nationally broadcast education webinars.

3.1.4 Ensure Data Quality

- Maintained a duplicate rate of fewer than 1 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 21,766 cases with an unknown or missing race, 459 (2.1%) cases were matched and updated with a valid race; Maiden name: 19,705 cases (4.1%) were matched and updated with valid maiden names; Hispanic origin: 338 cases, or 3.1%, were matched and updated with valid data element codes for Hispanic origin; Birthplace: of 591,533 cases with unknown or missing birthplace, 24,047 cases (4.1%) were matched and updated with a valid birthplace; and updated Death variable information.
- Added census tract information to the cancer database; all records were geocoded using MapMarker® Version 31; 93.1% 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 public use data files, annual state cancer incidence and mortality reports, annual county cancer incidence report, and updated the cancer query system.

- Provided general cancer information for cancer inquiries and conducted cancer assessments when there was evidence of long environmental contaminations by carcinogens.
- 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 IDPH that impact cancer prevention and control.
- Produced two quality control reports.
- Updated incidence projections.
- Submitted 1,550,891 cases to NPCR and NAACCR for the 1995-2018 call for data.
- Submitted 22,620 cases to NPCR for the 2019 diagnosis year call for data.
- Provided IDPH with geocoding assistance for the COVID-19 data set.

3.1.6 Provide Adequate Program Management

- Kept registry staff informed of grant progress, standards change, 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 2021 Major Accomplishments

3.2.1 North American Association of Central Cancer Registries Gold Certification

For the 23rd 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% or better completeness of case ascertainment; 98% validity of information recorded for selected data variables (age, sex, race, and state/county); death-certificate only cases less than 3%; duplicate primary cases fewer than 1 per 1,000; 100% 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

The Registry of Excellence recognition was again suspended by NPCR for the 2020 NPCR data submission due to delayed national implementation of data

collection requirements associated with cases diagnosed in 2018. The delayed implementation was considered beyond registry control by NPCR. Nevertheless, ISCR met all standards associated with the Registry of Distinction quality standard indicating complete, timely, and high-quality data available for cancer control activities.

3.2.3 COVID-19 Response

Beginning in May 2020 and ending in April 2021, the cancer epidemiologist was mobilized and tasked with activities directly supporting IDPH's response to the COVID-19 pandemic. Activities include data analysis and interpretation of testing data, review and documentation of statistical methods provided publicly by IDPH, and daily data intelligence workgroup meetings.

3.2.4 Collaboration with State and National Organizations

3.2.4.1 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.

3.2.4.2 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.

3.2.4.3 North American Association of Central Cancer Registries (NAACCR)

ISCR provided comprehensive data from 1995-2018 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.

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

ISCR submitted comprehensive data from 1995-2018 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.

3.2.4.5 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.

3.2.4.6 U.S. Centers for Disease Control and Prevention (CDC) Agency for Toxic Substances and Disease Registry (ATSDR)

ISCR is participating in the pilot of a multi-site investigation into cancer incidence in people living near ethylene oxide emitters. This is in conjunction with CDC and ATSDR.

3.2.5 Quality Control Reports

3.2.5.1 Redeford B. *Assessment of Duplicate Records for 1995-2018 Diagnosis Years*. Quality Control Report Series 20:03. Springfield, Ill.: Illinois Department of Public Health, November 2020.

3.2.5.2 Hebert L. *Linking Illinois State Cancer Registry Records with Vital Records Death Master File to Enhance Data Completeness*. Quality Control Report Series 20:04. Springfield, Ill.: Illinois Department of Public Health, October 2020.

3.3 Goals for Fiscal Year 2022

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

- Perform limited facility casefinding for the 2020 diagnosis year at selected reporting facilities in Illinois and track identified missed cases to ensure reporting when circumstances permit (COVID-19).
- Maintain interstate data exchange and complete exchanges by October 2021.
- Continue death certificate clearance and maintain death certificate only rate of less than 1.5%.
- Achieve 98% case reporting for the 2020 diagnosis year by February 2022.
- Achieve 100% case reporting for the 2019 diagnosis year by October 2021.

3.3.2 Maintain and Enhance Activities Related to Physician and Pathology Reporting

- Maintain contact with existing physician offices for reporting and training (n=149).
- Maintain contact with existing pathology labs for reporting and training (n=15).
- Participate in the NPCR Data Modernization Initiative for national pathology laboratory reporting.
- 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 when circumstances permit (COVID-19).

3.3.3 Provide Training for Reporting Facilities and for Central Registry Staff

- 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% using MatchPro to review submissions for duplicate tumor reports and apply NAACCR duplicate protocol.
- Meet SEER/NPCR/NAACCR standards for data quality and override flags.
- Perform gender verification using established ISCR procedure.

- Apply SEER, 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 files, annual state and county incidence reports, annual state mortality report, and update cancer query system.
- 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.
- Provide data to the National Childhood Cancer Registry and participate in associated linkage and research activities.
- Submit the 1995-2019 SEER/NPCR/NAACCR file for the annual call for data. Submit the 2020 data file for NPCR call for data and the 2021 data file for SEER call for data.
- Provide assistance to IDPH with the COVID-19 data set as required.

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 to 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 2 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.

The ongoing COVID-19 pandemic has kept registry staff working remotely, with occasional short trips to the central office for scanning incoming paper reports and faxing chart requests to hospitals. Data collection has continued as normal. COVID-19 still prevents in-person training workshops.

The APORS manager is still contributing to the IDPH COVID-19 response by participating on the IDPH modeling and Data Teams and providing assistance with analyses. She is also overseeing three temporary staff who are abstracting maternal and infant records where the mother contracted COVID-19 during her pregnancy. Data are being entered using REDCap and will be provided to the CDC's COVID-19 mother and infant registry.

4.1 Review and Evaluation of Fiscal Year 2021 Goals

Improve Casefinding

- Ninety-one (84.3%) of the 108 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 90% 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.

- While webinars have been suspended because of the COVID-19 pandemic, training in APORS reporting continued through formal on-line trainings, use of the SharePoint® site for hospital staff, computer-based trainings, conversations with hospital staffs, and responses to questions.
- Provided 17 trainings by phone, or WebEx call, and held 910 consultations via telephone or email with Illinois hospitals to improve APORS reporting.
- Updated the SharePoint® site with revised manuals and appendices, and the most recent of the quality control reports; reminders were posted when patterns of problems are identified.
- Received one hospital discharge data file covering three quarters for all hospitals containing data for children as old as 2 years of age — these data have been imported into the IDPH chart review database. An additional 12 children born in 2018, 108 born in 2019, and 690 born in 2020 were identified as possible APORS birth defect cases.
- Reviewed the medical records of 995 infants identified from hospital discharge data; 66.3% of the cases were found to have conditions that meet the APORS review criteria.
- Reviewed charts of 66 mothers who experienced a fetal death associated with a congenital anomaly noted on the fetal death certificate, to verify the information on the certificate. Of the reviewed charts, 86.4% were confirmed to be cases meeting the APORS case criteria.
- In FY21, four genetic clinics have reported 125 mothers carrying babies with prenatally suspected significant birth defects. Of these reports,
 - 9 were ruled out as cases by subsequent testing;
 - 75 were subsequently matched to live births or fetal deaths reported to APORS:
 - 4 were live-born cases that had not been identified from another source;
 - 12 are likely miscarriages or terminations;
 - 9 were not reported to APORS, and no follow-up is being done because their prenatal screening tests indicated that the condition was possible, but not likely;
 - 16 are not yet due to be born.

Improve Quality of APORS Data

- Evaluated the timeliness of hospital reporting for cases reported in January through December 2020; provided hospital-specific feedback and used results to identify

hospital training needs. In 2020, 73.3% of hospitals met the APORS timeliness standard of reporting cases within seven days of infants' hospital discharge. This is lower than in 2019, and may be due, at least in part, to the COVID-19 pandemic, and the demands on hospital staffs. 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 2019. The case reporting rates ranged from 0.0% to 18.9% with the average being 6.7%. This degree of variation is not unexpected, since hospitals providing the highest level of care have the most cases to report.
- APORS aims to complete active case verification for a birth cohort during the following year. Case verification for the 2018 birth cohort was completed on time, in December 2020.
- Abstractors reviewed 225 charts of infants suspected to have NAS, following the Council of State and Territorial Epidemiologists' recommendations. Of these, 88.0% were confirmed to have NAS.
- 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

- The administrative rules drafted last year have been approved by the State Board of Health, and submitted to JCAR. The proposed rules would add prenatal marijuana, hepatitis C, and HIV exposure to the APORS case definition.
- The SharePoint® site has been updated with revised manuals, appendices, and quality control reports. Hospitals and local health departments can also access the forms to request additional materials.
- 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.
- Two surveillance reports examining trends in birth defects in Illinois from 2002-2018, and prevalence of birth defects and other adverse pregnancy outcomes were published to the Division of Epidemiologic Studies website.

4.2 Fiscal Year 2021 Major Accomplishments

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

APORS submitted an application to CDC but was not funded for the 2021-2026 cooperative agreement cycle.

4.2.2 Enhancement of the APORS Database

All local health departments are using the APORS database introduced in FY14; and 91 hospitals are registered. These hospitals report more than 90% of the cases received by APORS.

Modifications to the database have been developed and tested. This will allow more efficient data management and collection by the APORS abstracting staff. It also includes a role that will allow Department of Human Services' High-risk Infant Follow-up maternal and child health nurses to access the database and print reports for the service providers they audit. The program is waiting for Division of Information Technology (DoIT) staff to move the modified database to the formal test environment, having populated all the necessary new fields. DoIT's COVID-19 responsibilities have delayed this step.

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 abstractor staff members, who then reviewed the infants' medical charts, verified the presence of birth defects, eliminated false positives, and collected additional diagnoses. In FY21, the abstractors reviewed reports of 5,532 birth defects submitted by hospitals. The table shows the disposition of the conditions reviewed by the APORS staff.

| Source | Reported | Confirmed | Deleted |
|----------------------------|----------|-----------|---------|
| Hospital Nursery Reporting | 4,459 | 3,216 | 1,239 |
| Hospital Discharge Data | 9,54 | 679 | 275 |
| Chart Review | 0 | 9,158 | 0 |
| Other ¹ | 119 | 115 | 2 |
| Any Source | 5,532 | 13,168 | 1,516 |

¹Vital record certificates, genetic clinics

Abstractors deleted 199 reported birth defects that could not be found in the charts, or that had been ruled out by the facility. Another 1,187 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 considered normal in a premature infant). Some conditions were deleted because they were included as parts of confirmed complex conditions (114). The remaining 16 conditions were deleted for other reasons.

Case abstraction for 2018 birth cohort was completed in December 2020. The goal is to be complete within two years of the birth year.

4.2.4 Evaluation of Case Management Services Provided to APORS Cases

Home nursing visits have been suspended during the COVID-19 pandemic. Services have been offered by telephone where community health agencies had the resources to do so. A survey was not undertaken this year.

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. Most (7,648) infants were referred for contacts by local health department nurses. Counseling for parents are provided through the nurse visits, and referrals to necessary services were offered where possible. Included are 35 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 (81 newborns) and perinatal hepatitis B programs (188 newborns), which ensure infants with congenital syphilis and infants prenatally exposed to or diagnosed with a hepatitis B infection are offered services.
- 4.2.5.1.3 IDPH Craniofacial Anomaly Program.** Data on infants born with cleft lip and/or palate (142 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 FY21, APORS referred 3,792 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 FY21, APORS referred 1,503 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. A number of children with hypothyroidism previously unknown to the NMS program have been identified. In FY21, APORS referred 101 cases.

4.2.5.1.7 Illinois Department of Children and Family Services (DCFS). Data are 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 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 staff contributed data to and participated in a number of analyses. The APORS manager, Jane Fornoff, and data manager, Theresa Sandidge, served on the NBDPN Data Committee. The abstractor liaison, Jodi Snow, served on the NBDPN Surveillance Guidelines and Standards and the Surveillance Guidelines committees.

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, added, or dropped from the PRAMS questionnaire.

4.2.6 Quality Control Reports

4.2.6.1 Sandidge T, Lingleo L, Fornoff J. *Timeliness Study – Hospital Reports of Adverse Pregnancy Outcomes Received in 2020*. Quality Control Report Series 21:01. Springfield, Ill.: Illinois Department of Public Health, January 2021.

4.2.6.2 Sandidge T. *Rates of Hospital Reporting of Adverse Pregnancy Outcomes in 2019*. Quality Control Report Series 21:02. Springfield, Ill.: Illinois Department of Public Health, February 2021.

4.3 Goals for Fiscal Year 2022

Improve Casefinding

- Train and support hospitals in the use of the APORS database to ensure 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.
- 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 bi-annual hospital discharge information reports to the APORS newborn cases and identify potential birth defect cases and NAS cases.
- Review medical reports of infants identified in hospital discharge matching to ascertain and collect new birth defect cases.
- Explore the use of hospital discharge data to ascertain infants with prenatal birth defect diagnoses, and women with early induction of labor or excessive vaginal bleeding to ascertain new birth defect cases.
- Review maternal medical records where the pregnancy ended with a fetal death to ascertain and collect new birth defect and NAS cases.
- Recruit additional genetic clinics to increase prenatal case findings.

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.
- Obtain hospital discharge data for infants with NAS to identify additional cases for chart review for infants suspected of having NAS to improve surveillance.
- Develop an annual training plan for APORS abstractors.

Improve Program Effectiveness

- Assure rule modifications adding prenatal marijuana exposure, hepatitis C, and HIV exposures to the APORS case definition by responding to questions promptly.
- 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, and the National Birth Defects Prevention Network.
- Collaborate with IDPH, state, and local health department programs to assure the provision of perinatal services for high-risk infants.
- Continue the collaboration with CDC to provide data to the U.S. COVID-19 mother and infant registry.
- Produce statewide and county surveillance reports.

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).

The COVID-19 pandemic required all registry staff to move to a remote work setting on March 18, 2020. Because of the pandemic, many businesses were closed (temporarily or permanently) or their staff were also working remotely and did not have access to the information required to

complete the survey. Although the U.S. Bureau of Labor Statistics provided a remotely accessible portal for the survey, staff were unable to make and to receive phone calls and faxes remotely. To compensate for this, ODR staff returned to the central office on a rotation that ensured recommendations for social distancing were maintained.

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 site 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 mandated to report levels ≥ 10 $\mu\text{g}/\text{dL}$. 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 federal Budget Control Act of 2011. Starting in 2014, due to lack of funding, ABLR staff only recorded cases of ≥ 40 $\mu\text{g}/\text{dL}$ to refer employers who have employees with elevated blood lead levels ≥ 40 $\mu\text{g}/\text{dL}$ to OSHA per the memorandum of understanding. Reports for cases less than 40 $\mu\text{g}/\text{dL}$ were archived. In 2015, Division of Epidemiologic Studies 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 2020, 2,076 new lab reports were added to the ABLR database.

5.1.1 Fiscal Year 2021 Accomplishments

- Notified OSHA quarterly of any company that had employees with elevated blood lead levels ≥ 40 $\mu\text{g}/\text{dL}$ of blood.
- Notified OSHA within 24 hours of any case with an elevated blood lead level ≥ 60 $\mu\text{g}/\text{dL}$.

5.1.2 Interventions Resulting from ABLR Notifications of Elevated Lead Results

In calendar year 2020, ABLR made nine referrals (employees) to OSHA for companies with employees who had blood lead levels greater than or equal to 40 $\mu\text{g}/\text{dL}$ of blood. These quarterly ABLR reports to OSHA led to no safety inspections in Illinois.

5.1.3 Goals for Fiscal Year 2022

- Notify OSHA quarterly of any company that has employees with elevated blood lead levels equal to or greater than 40 $\mu\text{g}/\text{dL}$.
- Notify OSHA within 24 hours of any case with an elevated blood lead level equal to or greater than 60 $\mu\text{g}/\text{dL}$.

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 2019, Illinois CFOI recorded 158 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 IDPH Division of VR and the manual review was no longer possible. This operational change affected the number of fatal occupational illnesses collected. 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 2021 Goals**

- Completed the summary report of the 2019 fatal occupational injury data. The report is currently under departmental review and has not been published.
- 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 2022**

- Publish a summary report of the 2020 fatal occupational injury data by January 2022.
- 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 2021 Goals**

- Submitted data files on all reported occupational injuries and illnesses of the surveyed companies to the BLS.

- Collected, coded, and entered all 2020 data prior to BLS deadlines.

5.3.2 Survey Process and Achievements for Fiscal Year 2022

In January 2021, BLS and ODR sent survey forms to 5,666 private employers and 369 public employers for 2020 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 and email to solicit data. The final, overall survey response rate was 84%, which did not meet the cooperative agreement minimum requirement for data publication at the time of this report. BLS is allowing collection to continue until August 17, 2021 to meet our cooperative agreement minimum requirements due to the COVID-19 pandemic. Due to the amount of data coming in, it is predicted that the minimum requirement of 85% will be met by the August 17th deadline.

Similar to the end of 2020, staff were working from home and many of the companies contacted were also working remotely. This made data collection difficult as many of the contacts did not have the required information at home. As the survey proceeded, many returned to the workplace and data collection improved. The pandemic also closed many establishments permanently or temporarily, which impacted data collection in terms of ability to collect the data and data received versus what was expected. During this data collection cycle, improvements were made to the process including utilizing RightFax to send and receive faxes to remote survey staff via e-mail, and a cell phone for the program manager's use when making and receiving phone calls to employers.

5.3.3 Goals for Fiscal Year 2022

- Continue all data collection activities in FY22 and maintain the high standards achieved by the program.
- Complete the descriptive report of 2020 Survey of Occupational Injuries and Illnesses (SOII).
- Meet the deadlines assigned by BLS.

5.4 Illinois Occupational Surveillance Program (IOSP)

The Illinois Occupational Surveillance Program (IOSP; illinoisinjuryprevention.org) is a NIOSH funded worker surveillance program housed at UIC School of Public Health that operates in collaboration with IDPH and other state agencies. IOSP serves as the bona fide agent of IDPH in this grant program. IOSP has received funding for 5 more years and will continue to collaborate with the Occupational Surveillance Program, as well as the Illinois Partnership for Safety, managed by IDPH under the CDC's Injury and Violence Prevention program.

Table 5.4.1 Occupational Health Indicators

| | 2015 | 2016 | 2017 | 2018 |
|---|-----------|-----------|-----------|-----------|
| Number of employed persons, >16 yrs | 6,119,000 | 6,163,000 | 6,156,000 | 6,196,000 |
| Percentage of civilians employed by industry | | | | |
| Mining and Logging | 0.1 | 0.1 | 0.2 | 0.3 |
| Construction | 5.2 | 5.6 | 5.1 | 5.8 |
| Manufacturing: Durable Goods | 7.0 | 7 | 7.6 | 7.2 |
| Manufacturing: Nondurable Goods | 4.5 | 5 | 5.3 | 4.3 |
| Wholesale and retail trade | 13.4 | 13.9 | 13.4 | 13.2 |
| Transportation and utilities | 5.7 | 6 | 6.4 | 6.7 |
| Information | 2.3 | 1.9 | 1.7 | 1.7 |
| Financial activities | 8.2 | 8.1 | 7.1 | 7.4 |
| Professional and business services | 11.9 | 13.1 | 12.6 | 12.7 |
| Education and health services | 22.7 | 22.2 | 22.1 | 23.0 |
| Leisure and hospitality | 9.1 | 8.3 | 9.2 | 8.3 |
| Other services | 5.1 | 4.2 | 4.9 | 4.7 |
| Public administration | 3.9 | 3.5 | 3.4 | 3.9 |
| Agriculture and related industries | 0.9 | 1.1 | 1.1 | 0.8 |
| Work-related amputations requiring days away from work | 210 | 300 | 190 | 260 |
| No. musculoskeletal disorders with days away from work | 13,410 | 11,750 | 12,630 | 12,650 |
| Hospitalizations for all pneumoconiosis | - | - | - | 401 |
| Hospitalizations for coal workers pneumoconiosis | 135 | 99 | 103 | 120 |
| Hospitalizations for silicosis | 25 | 23 | 28 | 35 |
| No. pneumoconiosis deaths | 28 | 31 | 26 | 14 |
| No. reported pesticide poisoning cases called to Illinois Poison Center | 80 | 90 | 106 | 2,608 |
| No. of mesothelioma cases | 133 | 120 | 123 | 108 |
| No. workers in high morbidity risk industries | 669,773 | 688,644 | 695,792 | 712,367 |
| No. workers in high mortality risk occupations | 544,598 | 523,923 | 546,742 | 533,382 |
| No. workers reporting asthma caused or exacerbated by work | | 398,504 | 368,244 | 367,302 |
| No. workers visiting ED for heat related illness | 94 | 119 | 95 | 138 |
| No. occupational eye injuries | | 37 | 41 | 50 |

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 other 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.31®.

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; and 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 2020

| Range of Percentage Complete by Diagnosis Year | | | |
|---|--------------------------|---------------|----------------|
| | Average all years | Lowest | Highest |
| Cancer Reports (n=2,022,519 cases for diagnosis years 1986-2018) | | | |
| ZIP code | 100.0 | 100.0 | 100.0 |
| ZIP +4 code | 96.4 | 92.0 | 99.4 |
| Lat/Lon code ¹ | 100.0 | 100.0 | 100.0 |
| address specific | 93.1 | 87.1 | 97.3 |
| centroid ZIP +4 | 0.5 | 0.2 | 1.7 |
| centroid ZIP +2 | 0.6 | 0.4 | 1.2 |
| centroid ZIP | 5.8 | 0.7 | 11.7 |
| APORS Reports (n= 450,907) cases for birth years 1989-2020) | | | |
| ZIP code | 98.8 | 97.5 | 99.2 |
| ZIP +4 code | 95.1 | 92.4 | 99.2 |
| Lat/Lon code ¹ | 98.9 | 97.5 | 100.0 |
| address specific | 93.9 | 91.6 | 98.9 |
| centroid ZIP +4 | 1.1 | 0.3 | 1.8 |
| centroid ZIP +2 | 1.6 | 0.1 | 3.7 |
| centroid ZIP | 2.2 | 0.1 | 5.3 |
| ¹ Latitude and longitude | | | |

6.2 Goals for Fiscal Year 2022

- Continue to geocode new records submitted to ISCR and APORS.

7. Cluster Inquiries and Assessments

7.1 Review and Evaluation of Fiscal Year 2021 Goals

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

7.2 Fiscal Year 2021 Accomplishments

In FY21, IDPH received three requests for assistance 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 caller concerns.

7.3 Fiscal Year 2022 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.

One registry staff member leads the IDPH Modeling and Data Intelligence Team contributing to the IDPH COVID-19 response. Another is part of the modeling team, and other staff members have assisted with analyses. Registry staff have examined patterns and trends in cases, testing, positivity, hospital resource use, and deaths trends. They also have forecast future trends and resource needs.

8.1 Fiscal Year 2021 Major Accomplishments

8.1.1 Provision of Epidemiologic Support to IDPH Committees and Workgroups

Division of Epidemiologic Studies staff continued to co-chair and participate in IDPH's IRB, Opioids projects/databases, IDPH Academic Partnership, IVRS Steering Committee, and Internal Data Sharing Workgroup. Six staff serve on different committees in various capacities. Division staff also supported data activities related to the response to the COVID-19 pandemic.

8.1.2 Provision of Peer-Review Service to Scientific Publication

Division of Epidemiologic Studies staff continued to provide professional reviews to the Journal of Health Security.

8.1.3 Provision of Epidemiologic Supervision and Tutoring

Division of Epidemiologic Studies staff provided supervisor roles and other assistance to various interns, CDC assignees, and CSTE fellows during FY21.

8.1.4 Publication of the IDPH Illinois Morbidity and Mortality Bulletin (IMMB)

Publication of the IMMB has been postponed indefinitely while research staff assist with the COVID-19 pandemic.

8.1.5 Technical Assistance

Technical assistance has been provided by staff to various IDPH offices and divisions 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. 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, the renewal of the Public Health Department Accreditation, 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.

IOSP provided consultation to IDPH related to COVID-19 in workplaces by participating on calls with employers that experienced COVID outbreaks and producing the following documents:

- Migrant farmworker housing – wrote guidance documents in English, Spanish, and posted at <http://www.dph.illinois.gov/sites/default/files/COVID-19%20Migrant%20Farmworkers.pdf>
<https://www.dph.illinois.gov/sites/default/files/COVID19/COVID-19%20Migrant%20Labor%20Camp%20Guidance%20Checklist.pdf>
- COVID-19. Guide for Workers in Illinois. Forst, Co-author. https://healthywork.uic.edu/wp-content/uploads/sites/452/2020/08/covid_guide_for_workers_508_2020_08_06.pdf

8.1.6 IDPH Institutional Review Board

The Division of Epidemiologic Studies continued to staff the IDPH IRB, with one staff serving as the IRB manager, one as vice-chair, and one serving on the board. 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 IDPH Responsible Individuals (RIs) in various programs.

8.2 Scientific Publications in Fiscal Year 2021

The following articles have been submitted, accepted or published.

- 8.2.1** Prevalence of Birth Defects among Infants with Neonatal Abstinence Syndrome (NAS) in Illinois, 2015-2016 Fornoff, J, Sandidge T. *Birth Defects Res.* 2021 Jan 15;113(2):134-143. doi: 10.1002/bdr2.1792. Epub 2020 Sep 8. PMID: 32896979.
- 8.2.2** Cabbage and Sauerkraut Consumption in Adolescence and Adulthood and Breast Cancer Risk among US-Resident Polish Migrant Women. *International Journal of Environmental Research and Public Health.* Dorothy Rybaczyk Pathak,, Aryeh D. Stein, Jian-Ping He, Mary M. Noel, Larry Hembroff, Dorothy A. Nelson, Fawn Vigneau, Tiefu Shen, Laura J. Scott, Jadwiga Charzewska, Bożena Wajszczyk, Karen Clark, Leszek A. Rybaczyk, Bogdan A. Pathak, Dorota Błaszczczyk, Ann Bankowski and Walter C. Willett. Paper submitted and accepted for publication

- 8.2.3** Occupational injury surveillance pyramid description and association of medical care utilization with low income among work-related injuries. Huang Z, Friedman LS. *Am J Ind Med*;2020;63(3):249-257. doi: 10.1002/ajim.23075.
- 8.2.4** Public Health Surveillance for the Prevention of Pesticide-Related Illness in Illinois. Kyeremateng-Amoah E, Friedman L, Wahl M, and Forst L. *J Occ Environ Med* 2020;62(5):359-369.
- 8.2.5** Progression of coal workers' pneumoconiosis absent further exposure. Alberg KS, Friedman LS, Rose CS, Go LHT, Cohen RA. *Occup Environ Med* 2020;77(11):748-751. doi: 10.1136/oemed-2020-106466.
- 8.2.6** Injuries during the first hour at work in the U.S. mining industry. Mining Industry. De S, Alberg KS, Cohen RA and Friedman LS. *Am J Ind Med.* 2020 Dec; 63(12): 1124-1133.
- 8.2.7** Media Reports as a Tool for Timely Monitoring of COVID-19-Related Deaths Among First Responders-United States, April 2020. Kelly-Reif K, Rinsky JL, Chiu SK, Burrer S, de Perio MA, Trotter AG, Miura SS, Seo JY, Hong R, Friedman L, Hand J, Richardson G, Sokol T, Sparer-Fine EH, Laing J, Oliveri A, McGreevy K, Borjan M, Harduar-Morano L, Luckhaupt SE. *Public Health Rep.* 2021 Feb 22:33354921999171. doi: 10.1177/0033354921999171.
- 8.2.8** Association Between Financial Conflicts of Interest and ILO Classifications for Black Lung Disease. Friedman LS, De S, Alberg K and Cohen RA. *Ann Am Thorac Soc.* 2021 Mar 29. doi: 10.1513/AnnalsATS.202010-1350OC. Epub ahead of print. PMID: 33780328.

8.3 Other Recent Reports or Publications That Used Registry Data

- 8.3.1** Prevalence of structural birth defects among infants with Down syndrome, 2013-2017: A US population-based study. Heinke D *et al* *Birth Defects Res.* 2021 Jan 15;113(2):1989-202. Doi:10.1022/bdr2.1854. Epub 2020 Dec 21.
- 8.3.2** Ostrom QT, Patil N, Cioffi G, Waite K, Kruchko C, Barnholtz-Sloan JS. CBTRUS Statistical Report: Primary Brain and Other Central Nervous System Tumors Diagnosed in the United States in 2013-2017. *Neuro Oncol.* 2020 Oct 30;22(12 Suppl 2):iv1-iv96. doi: 10.1093/neuonc/noaa200. PMID: 33123732; PMCID: PMC7596247.
- 8.3.3** 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.
- 8.3.4** U.S. Cancer Statistics Working Group. U.S. Cancer Statistics Data Visualizations Tool, based on 2020 submission data (1999–2018): U.S. Department of Health

and Human Services, Centers for Disease Control and Prevention and National Cancer Institute; <https://gis.cdc.gov/Cancer/USCS/#/AtAGlance> June 2021.

- 8.3.5** National Program of Cancer Registries and Surveillance, Epidemiology, and End Results SEER*Stat Database: NPCR and SEER Incidence – U.S. Cancer Statistics 2001–2018 Public Use Research Database, 2020 submission (2001–2018), United States Department of Health and Human Services, Centers for Disease Control and Prevention and National Cancer Institute. Released June 2021. Available at www.cdc.gov/cancer/uscs/public-use.
- 8.3.6** Sherman R, Firth R, Charlton M, De P, Green D, Hofer B, Liu L, Hsieh M, Johnson C, Kohler B, Morawski B, Nash S, Qiao B, Wier H (eds). *Cancer in North America: 2014-2018. Volume One: Combined Cancer Incidence for the United States, Canada and North America*. Springfield, IL: North American Association of Central Cancer Registries, Inc. June 2021.
- 8.3.7** Sherman R, Firth R, Charlton M, De P, Green D, Hofer B, Liu L, Hsieh M, Johnson C, Kohler B, Morawski B, Nash S, Qiao B, Weir H (eds). *Cancer in North America: 2014-2018. Volume Two: Registry-specific Cancer Incidence in the United States and Canada*. Springfield, Ill.: North American Association of Central Cancer Registries, Inc. June 2021.
- 8.3.8** Sherman R, Firth R, Charlton M, De P, Green D, Hofer B, Liu L, Hsieh M, Johnson C, Kohler B, Morawski B, Nash S, Qiao B, Wier H (eds). *Cancer in North America: 2014-2018. Volume Three: Registry-specific Cancer Mortality in the United States and Canada*. Springfield, IL: North American Association of Central Cancer Registries, Inc. June 2021.
- 8.3.9** Farhad Islami, MD PhD, Elizabeth M Ward, PhD, Hyuna Sung, PhD, Kathleen A Cronin, PhD, Florence K L Tangka, PhD, Recinda L Sherman, PhD, Jingxuan Zhao, MPH, Robert N Anderson, PhD, S Jane Henley, MSPH, K Robin Yabroff, PhD, Ahmedin Jemal, DVM, PhD, Vicki B Benard, PhD, Annual Report to the Nation on the Status of Cancer, Part 1: National Cancer Statistics, *JNCI: Journal of the National Cancer Institute*, 2021;, djab131, <https://doi.org/10.1093/jnci/djab131>
- 8.3.10** American Cancer Society. *Cancer Facts & Figures 2021*. Atlanta, GA.: American Cancer Society; 2021.
- 8.3.11** Johnson C, Wilson R, Mariotto A, Morawski B, Wier H, Firth R, Sherman R, Charlton M, De P, Hofer B, Hsieh M, Liu L, Nash S, Qiao B (eds). *Cancer in North America, 2014-2018. Volume Four: Cancer Survival in the United States and Canada 2011-2017*. Springfield, Ill.: North American Association of Central Cancer Registries, Inc. June 2021.
- 8.3.12** Johnson CJ, Wilson R, Mariotto A, Morawski B, Weir H, Firth R, Sherman R, Charlton M, De P, Hofer B, Hsieh M, Liu L, Nash S, Qiao B (eds). *Cancer in North America: 2014-2018 Volume Five: Cancer Prevalence in the United States and*

Canada 2008-2017. Springfield, IL: North American Association of Central Cancer Registries, Inc. June 2021.

8.4 Epidemiologic Report Series

The following reports were released in IDPH's Epidemiologic Report Series; all reports are available to the public on the Division of Epidemiologic Studies' website:

Sandidge T, Fornoff JE, Shen T. *Birth Defects and Other Adverse Pregnancy Outcomes in Illinois 2013-2017*. Epidemiologic Report Series 20:09, Springfield, Ill.: Illinois Department of Public Health, June 2020. (Published in FY21)

Sandidge T, Fornoff JE, Shen T. *Trends in the Prevalence of Birth Defects in Illinois 2002-2018*. Epidemiologic Report Series 21:02, Springfield, Ill.: Illinois Department of Public Health, April 2021.

Garner K, Shen T. *Illinois County Cancer Statistics Review Incidence, 2014-2018*. Epidemiologic Report Series 21:03. Springfield, Ill.: Illinois Department of Public Health, May 2021.

Garner K, Shen T. *Illinois State Cancer Incidence Review and Update, 1986-2018*. Epidemiologic Report Series 21:04. Springfield, Ill.: Illinois Department of Public Health, May 2021.

Garner K, Shen T. *Illinois Cancer Mortality Review and Update, 1986-2018*. Epidemiologic Report Series 21:05. Springfield, Ill.: Illinois Department of Public Health, May 2021.

8.5 Fiscal Year 2021 Presentations by IDPH Division of Epidemiologic Studies Staff

| Title | Event | Date |
|--|---|--------------|
| APORS database | Mt. Sinai Hospital, Chicago by WebEx | August 2020 |
| APORS database | East Side Health District, East St. Louis by phone | October 2020 |
| ISCR lecture on cancer surveillance to graduate students | UIC School of Public Health in Chicago | October 2020 |
| APORS database | Valley West Hospital, Sandwich, by phone | January 2021 |
| APORS-Introduction to APORS | Mt. Sinai Hospital, Chicago, by WebEx | January 2021 |
| APORS database | Fulton County Local Health Department, Canton, by phone | January 2021 |

| Title | Event | Date |
|---|---|---------------|
| APORS-Introduction to APORS, IVRS database | Sarah Bush Lincoln, Mattoon, by WebEx | January 2021 |
| ISCR lecture on cancer surveillance to undergraduate students | Illinois Wesleyan University in Bloomington | February 2021 |
| APORS-Introduction to APORS, IRVS database | AMITA hospitals, by WebEx | February 2021 |
| APORS database | Mt. Sinai, Chicago, by WebEx | March 2021 |
| APORS-Introduction to APORS, IVRS database | West Suburban Hospital, Oak Park, by WebEx | March 2021 |
| APORS-Introduction to APORS, IVRS database | Swedish American Hospital, Rockford, by WebEx | March 2021 |
| APORS Logic Model | IDPH Office of Health Promotion, Bi-Weekly Performance Management Meeting | March 2021 |
| APORS database | St. Louis Children's Hospital, St. Louis MO, by WebEx | April 2021 |
| APORS database | Henderson County Health Department, Gladstone , by WebEx | April 2021 |
| APORS-About APORS, Case identification | Rush Perinatal Network Group, 11 network hospitals, by Gotomeeting | April 2021 |
| APORS database | St. James Hospital & Health Centers, Olympia Fields, by WebEx | June 2021 |
| APORS database | Crawford County Local Health Department, Robinson, by WebEx | June 2021 |
| APORS database | AMITA Glen Oaks Hospital, Glendale Heights, by WebEx | June 2021 |
| APORS-Introduction to APORS, IVRS database | Human Resources Development Institute, Chicago, by WebEx | June 2021 |

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* | |
| 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 |
| Alpa V. Patel, 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 |
| Mardge Cohen, M.D. Women's Interagency HIV Study (WIHS) | Women's Interagency HIV Study (WIHS) | 2000, ongoing | 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 |
| 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 |
| Alpa V. Patel, Ph.D. | Cancer Prevention Study III | September 2015, ongoing | ACS |
| Dr. Frank Bove, Sc.D. | Cancer Incidence Study of Marines/Navy Personnel and Civilian Employees Exposed to Contaminated Drinking Water at USMC Base Camp Lejeune | June 2020, ongoing | Agency for Toxic Substances and Disease Registry |

| Principal Investigator (Affiliation) | Title | Date | Funding Source |
|---|--|--------------------|---|
| Dr. Mayris Webber, DrPH | Maintenance and Extension of a Cohort of Career Firefighters as a Non-WTC Exposed Comparison for the FDNY Firefighter Cohort | June 2020, ongoing | National Institute for Occupational Safety and Health |
| 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 FY21.

| Grant | Agency | Status | Amount | Grant Period |
|---|--------|-----------------------|--------------------------|--------------------------------------|
| Occupational and Health Survey in Illinois (continuation) | BLS | Funded September 2020 | \$122,900 | 10/1/20 – 9/30/21 |
| Census of Fatal Occupational Injuries in Illinois (continuation) | BLS | Funded September 2020 | \$103,800 | 10/1/20 – 9/30/21 |
| Improvement of Birth Defects Surveillance Program (continuation) | CDC | January 2020 | \$210,000 | 2/1/20 – 1/31/21 |
| National Cancer Prevention and Control Program-National Program of Cancer Care (continuation) | CDC | Funded June 2020 | \$1,100,000 | 7/1/20 – 6/29/21 |
| Surveillance, Epidemiology, and End Results | NCI | Funded March 2021 | \$254,128 \$1,946,567 | 3/3/21 – 4/30/21 5/1/21 – 4/30/22 |
| Perinatal Hepatitis B Program (submitted by IDPH Division of Infectious Disease) (continuation) | CDC | Funded 2018 | \$50,000 | 7/1/20 – 6/30/21 |
| Electronic Lab Capacity (ELC) COVID (submitted by IDPH Office of Women's Health) | CDC | Funded 2020 | \$150,000 | 8/1/20 – 7/31/21 |
| Illinois Occupational Surveillance Program (IOSP) | NIOSH | Funded July 2020 | \$160,000 | 7/1/20 – 6/30/20 |

NOTE: Full titles of acronyms used in the above table are U.S. Centers for Disease Control and Prevention (CDC), U.S. Bureau of Labor Statistics (BLS), National Institute of Occupational Safety and Health (NIOSH), and Illinois Department of Public Health (IDPH).

9.1 Funded Grants

The IDPH Division of Epidemiologic Studies and IOSP received \$3.9 million in grant awards in fiscal year 2021.

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

IDPH received \$122,900 in September 2020 from BLS to support the 23rd 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 \$103,800 in September 2020 from BLS to support the 29th 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 2020, IDPH received \$210,000 for year five 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 2020, CDC awarded IDPH \$8.6 million in funding for the fourth 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 Division of Epidemiologic Studies received \$1.1 million for the NPCR component, which is in its 26th year. The progress for this project is described in Section 3.

9.1.5 Perinatal Hepatitis B Program

The Division of Epidemiologic Studies received \$50,000 in January 2020 to continue expansion of APORS surveillance and data collection (21st year) to include perinatal hepatitis B and to enhance a tracking system that identifies newborn infants requiring follow-up immunization services. The progress for this project is described in Section 4.

9.1.6 Surveillance, Epidemiology, and End Results

In February 2020, the Division of Epidemiologic Studies applied for funding from the National Cancer Institute (NCI) for the Surveillance, Epidemiology and End Results (SEER) program. The proposal was submitted for the eight-year project period and \$19 million in federal funding was requested. In March of 2021, NCI announced Illinois had been chosen for the SEER program and awarded the state a contract totaling \$22,752,223 including state matching funds, over seven years. Becoming a SEER registry has been an objective of the Illinois State Cancer Registry for many years although funding opportunities for new states to become SEER registries occur infrequently. This achievement is significant and places Illinois in the top echelon of population-based cancer registries. Illinois' participation in the SEER program will significantly expand ISCR's cancer surveillance activities in Illinois to include patient follow-up, enhanced data collection, rigorous quality control of cancer data and increased opportunities to participate in research projects and collaborations.

9.1.7 COVID in Pregnancy

The Division of Epidemiologic Studies received \$150,000 in January 2020 through the CDC's Epidemiology and Laboratory Capacity for Prevention and Control of Emerging Infectious Diseases Cooperative Agreement (ELC). These funds are for APORS to carry out chart review of women who contracted COVID-

19 during their pregnancy, and their infants. The program has contracted with a temporary employment agency to provide temporary abstractors so that this work can be accomplished. The funds have also supported two APORS abstractors for one month, and the APORS manager and abstractor liaison to oversee the work and manage the necessary chart requests.

9.1.8 Illinois Occupational Surveillance Program

IOSP received \$160,000 from NIOSH to submit the 29 Occupational Health Indicators for 2019 calendar year and to aid with the Adult Blood Lead Registry.

9.2 Grant Applications Not Funded

9.2.1 Improvement of Birth Defects Surveillance Program

In December 2020, the Division of Epidemiologic Studies applied for \$661,692 in funding from CDC under a five year RFA “Advancing Population-Based Surveillance of Birth Defects.” The application was approved, but unfunded.

9.2.2 NAS Standardized Surveillance Case Definition Implementation Project

In April 2021, the Division of Epidemiologic Studies applied for funding from the Council of State and Territorial Epidemiologists for a one-year grant “NAS Standardized Surveillance Case Definition Implementation Project.” The application was not funded.

