



**Department
of Health**



Health Research Science Board

Biennial Report

January 1, 2015 to December 31, 2016

Introduction

Each year in New York, nearly 15,000 women are diagnosed with breast cancer and over 2,600 women die from the disease. It is estimated that one in eight women will develop breast cancer sometime during her life. While men are also diagnosed with breast cancer, the incidence is very rare. About 150 men are diagnosed with breast cancer each year in New York.

The Health Research Science Board (HRSB) of the New York State Department of Health (DOH) was established pursuant to Chapter 279 of the Laws of 1996 (amended by Chapter 219 of the Laws of 1997, Chapter 32 of the Laws of 2008 and Chapter 60 of 2014). The legislation is codified in Title 1-B of Article 24 (§ 2410-2413) of the New York State Public Health Law (PHL).

The HRSB's mission, is to support innovative breast cancer scientific research and education projects within New York State. The HRSB solicits, receives and reviews grant applications from New York State organizations for research and education programs focusing on the causes, prevention, screening, treatment and cure of breast cancer and may include, but are not limited to mapping of breast cancer, and basic, behavioral, clinical, demographic, environmental, epidemiologic and psychosocial research.

The HRSB also considers requests for the release of confidential pesticide information for specific health-related research projects from the Pesticide Sales and Use Database, maintained by New York State Department of Environmental Conservation (DEC) in conjunction with Cornell University.

Meetings of the HRSB are announced at least two weeks in advance whenever possible and are open to the public. Meeting agendas are posted on the Wadsworth Center's website at: <http://www.wadsworth.org/extramural/breastcancer/meetings>. A recording of each meeting is available via the DOH's public website <http://www.health.ny.gov/events/webcasts/archive> for 30 days after a meeting, opening the proceedings to a wide audience.

Activities of the HRSB and Program

Innovative Breast Cancer Research and Education Projects

In 2015, two Requests for Applications (RFAs) were released:

1. Peter T. Rowley Breast Cancer Scientific Research Projects Round 3 (Rowley) and
2. Patricia S. Brown Breast Cancer Risk Reduction Education Research Projects Round 4 (Brown).

The Rowley mechanism provides researchers the opportunity to try new methods and approaches in breast cancer research. The Brown mechanism encourages development and implementation of innovative pilot projects in breast cancer risk reduction education with rigorous evaluation and revision.

The DOH uses a contractor to manage the scientific and technical merit of the peer-review process for evaluating applications for funding. During the reporting period, the peer review contractor, American Institute of Biological Sciences provided peer review services for the above mentioned funding opportunities. The independent peer-review process is intended to obtain the highest quality review of applications by expert scientists, clinicians, educators and survivors/advocates.

At its June 22, 2016 meeting, the HRSB made recommendations for awards to the Commissioner of Health. The HRSB recommended to fund 10 Rowley awards and designated five (5) Rowley awards as “approved, not funded”, to be considered for funding should additional funds become available. One principal investigator (PI), declined funding due to receiving funding elsewhere. Consequently, the first approved, not funded application was recommended for funding. In summary, these two-year contracts total \$3.56 million to be used through December 31, 2018. Details of the Rowley awards are provided in Appendix I.

At its June 22, 2016 meeting, the HRSB also recommended to fund one (1) Brown award for a total of \$262,731. The applicant declined the award because they previously accepted funding for this project from the National Institutes of Health. Therefore, no awards were made from this RFA.

Future Breast Cancer Research and Education Project Opportunities

At its June 22, 2016 meeting, the HRSB authorized the release of the Healthcare Practitioner Breast Cancer Education Research Projects (Healthcare Practitioner) RFA in 2016. Approximately \$810,000 is available to support approximately three (3) awards. The contract term will be up to three years.

The Healthcare Practitioner mechanism stimulates projects that will develop communication skills and education programs targeted to healthcare practitioners, with the goal of facilitating partnerships with and fostering breast health literacy among their patients. The HRSB will meet in 2017 to make recommendations for funding these projects.

At its November 2, 2016 meeting, the HRSB made recommendations to release all three (Rowley, Brown and Healthcare Practitioner) RFAs in 2017 to ensure breast cancer research and education projects are continuously supported in New York.

Progress of Breast Cancer Research Projects

In 2015, eight (8) Peter T. Rowley Breast Cancer Research and Postdoctoral Fellowship (Round 2) projects completed their research. The final report of the publications from these awards can be found in Appendix II.

Program Funds

The Breast Cancer Research and Education Fund (Fund), is financed primarily through voluntary contributions from a check-off mechanism on the New York State Income Tax form authorized in § 97-yy of the State Finance Law. During this reporting period, more than \$750,000 was contributed and matched by State funds (pursuant to Chapter 550 of the Laws of 2000). The Fund is also financed by one-half of the proceeds from sales of Drive for the Cure specialty license plates (Tax Law § 209-D and 627 and Vehicle and Traffic Law § 404-q) which are also matched by State funds. In addition, there is nothing to prevent the receipt of grants, gifts or bequests made to the Fund.

To date, approximately \$17 million in breast cancer research and education funding has been programmed to support 115 research and education projects.

Public Hearing

The HRSB held a public hearing on June 22, 2016. The details are listed in Appendix III.

Comments and Recommendations Presented by the Public at Annual Public Hearings

PHL § 2413 requires the reporting of a summary of the comments and recommendations presented by the public at the Board's public hearings.

No comments were presented by the public at the Board's public hearing on June 22, 2016.

Requests for Access to Confidential Pesticide-related Data

Chapter 279 established a Pesticide Sales and Use Database, maintained by the New York State Department of Environmental Conservation (DEC) in conjunction with Cornell University, pursuant to the New York State Environmental Conservation Law (ECL) § 33-1201 through § 33-1207. The database contains mandated reports of pesticide applications by all commercial applicators. In addition, entities that offer restricted-use pesticides for sale to private applicators for use in agricultural crop production must report any such sales.

The data include: 1) reports of pesticide applications submitted to DEC by commercial applicators and technicians; 2) reports of sales of restricted pesticides to private applicators; and 3) reports of general-use pesticide sales for use in agricultural crop production. While a large portion of the database is public, some of it is confidential and may only be released to those engaging in human health-related research, pursuant to the Board's approval and contingent on compliance with established criteria.

Researchers seeking confidential pesticide registry information or pesticide application information can access pertinent documents at <http://www.health.state.ny.us/environmental/pesticide/reporting/> or by contacting the DOH toll-free at 1-800-458-1158. The following researcher access documents will be provided: Request for Pesticide Registry or Pesticide Application Information; Guidelines to Restrict the Dissemination by Researchers of Confidential Pesticide Registry and Pesticide Application Information; Agreement to Maintain Confidentiality; and an information sheet that summarizes these documents in lay language.

During this reporting period, no applications were received from researchers for use of the confidential pesticide sales and use data in human health-related studies.

Board Recommendations

PHL § 2413 requires reporting of the recommendations from the Health Research Science Board including, but not limited to, the types of data that would be useful for breast cancer researchers and whether private citizen use of residential pesticides should be added to the reporting requirements.

The HRSB continues to support the recommended changes to the Pesticide Reporting Law (ECL, Article 33, Title 12) that were proposed in the SFY 2014-2015 Executive Budget. No changes were made to the law. The Status of Agency Actions on HRSB Recommendations on Pesticide Reporting 2000-2016 can be found in Appendix III.

Board Membership and Staff Support

The HRSB is comprised of 17 voting members, three non-voting regional members and three non-voting ex-officio members appointed by the Governor and legislative leaders. Members serve three-year terms. The composition of the HRSB and staff support to the HRSB can be found in Appendix IV and V, respectively.

Appendix I

Peter T. Rowley Breast Cancer Scientific Research Projects (Round 3) Awards.
The anticipated contract dates are January 1, 2017 through December 31, 2018.

| Organization | Project Title | Principal Investigator | Recommended Award |
|---|--|----------------------------|-------------------|
| Cold Spring Harbor Laboratory Sub-Applicant, New York University School of Medicine | Modulating Innate-adaptive Immune Cell Interactions for the Immunotherapy of Breast Cancer | Mikala Egeblad, Ph.D. | \$345,800 |
| Health Research Incorporated, Roswell Park Cancer Institute | Novel Mechanism of Immune Subversion by Myeloid-Derived Suppressor Cells in Aggressive Breast Cancer | Sharon S. Evans, Ph.D. | \$360,000 |
| New York University School of Medicine | Reversing Tamoxifen Resistance in Estrogen Receptor Positive Breast Cancer | Robert J. Schneider, Ph.D. | \$360,000 |
| State University of New York Upstate Medical University | Structure-based Nanocarrier Design for Targeted Cabazitaxel Delivery to the Advanced Breast Cancer Brain Metastases | Juntao Luo, Ph.D. | \$360,000 |
| The Research Foundation of CUNY City College of New York | Laying the Foundation for Combination Therapy Against Breast Cancer: Analysis of Human Shelterin-DNA Complex | David Jeruzalmi, Ph.D. | \$347,200 |

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| Organization | Project Title | Principal Investigator | Award |
|---|--|--------------------------|-----------|
| The Research Foundation for SUNY Stony Brook | A New Strategy and Tool to Tackle Cancer Stem Cells and Metastasis in Triple-negative Breast Cancer | Chia-Hsin Chan, Ph.D. | \$359,999 |
| The Research Foundation for SUNY Stony Brook | Single-cell Barcoding to Study Breast Cancer Evolution and Drug Resistance | Scott Powers, Ph.D. | \$350,302 |
| The Research Foundation for SUNY Upstate Medical University | Myosin 1e as a Potential Therapeutic Target in Breast Cancer | Mira Krendel, Ph.D. | \$360,000 |
| University of Rochester | Amplifying Immune Responses to Breast Cancer Using a Novel IL.2 Therapy to Limit Side Effects and Enhance Efficacy | John G. Frelinger, Ph.D. | \$357,747 |
| University of Rochester | Safer and More Effective Treatment of Luminal Breast Cancer and Overcoming Tamoxifen Resistance | Mark Noble, Ph.D. | \$359,907 |

Appendix II

Final report of the related publications from the
Peter T. Rowley Breast Cancer Research Project and Postdoctoral Fellowship (Round 2) projects.

| Institution | Project Title | Publication/Meeting Abstract (Funded Investigator in Bold) |
|---|--|---|
| Albert Einstein College of Medicine of Yeshiva University | Stromal Contribution of the S100A4 Metastasis Factor to Tumor Invasion | <ul style="list-style-type: none"> • Bresnick AR, Weber DJ, Zimmer DB. "S100 proteins in cancer." Nat Rev Cancer, 2015; 15(2):96-109. • Dulyaninova NG, Chang A, Backer JM, Bresnick AR. "Regulation of Macrophage Motility & Invasion by S100A4." Meeting abstract, CaBP19 Symposium, Nashville, TN, May 30 – June 3 2015. • Dulyaninova NG, Chang A, Backer JM, Bresnick AR. "Regulation of Macrophage Motility & Invasion by S100A4." Meeting abstract, American Society for Cell Biology, San Diego, CA, December 12 – 16 2015. |
| Albert Einstein College of Medicine of Yeshiva University | Macrophages and Immunosuppression in Breast Cancer | <ul style="list-style-type: none"> • Noy, R. and Pollard, J.W., (2014) Tumor Associated Macrophages – From Mechanism to Therapy. Immunity 41: 49 -61 |
| Columbia University | Developing a new paradigm to discover novel breast cancer drug targets | <ul style="list-style-type: none"> • Reid, R.J.D., Xing, D, Rayannavar, V, Dittmar, J, Sunjevaric, I, Maurer M, Rothstein, R. "A yeast synthetic lethal screen identifies a conserved interaction between PLK1 and CKS1b affecting cancer cell viability." American Association of Cancer Research Annual Meeting, Philadelphia, PA, April 18-22 2015. |
| Memorial Sloan-Kettering Cancer Center | Investigating and Targeting Interactions Between Cancer and the Microenviron | <ul style="list-style-type: none"> • Joyce JA and Fearon DF (2015). T cell exclusion, immune privilege and tumor microenvironment. <i>Science</i> 348: 74-80. [PMID: 25838376] |

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| Institution | Project Title | Publication/Meeting Abstract (Funded Investigator in Bold) |
|--|---|--|
| New York University School of Medicine | The Role of Gpr125 in Breast Development and Cancer | <ul style="list-style-type: none"> • Simundza, J “Novel markers of epidermal appendages” Presentation, New York University School of Medicine, Dept of Dermatology Research Day, New York, NY Feb 10, 2014 • Cowin, P “Novel Markers of the Mammary Lineage: Link i Y Development to Breast Cancer Risk” Seminar Speaker, Developmental Biology Program, Institute of Biotechnology, Helsinki, Finland Feb 12, 2015 • Cowin, P “Novel Markers of the Mammary Lineage: Developmental links to Breast Cancer Risk” Speaker, New York University School of Medicine Stem Cell Retreat, New York, NY April 1, 2015 • Simundza, J “The Role of Gpr-Expressing Cells in Mammary Development and Breast Cancer” Poster Presentation, New York University School of Medicine Cell and Molecular Biology Training Program Retreat New York, NY Feb 25, 2015 • Crismale-Gann, C “Gpr the Universal Stem Cell Marker” Poster Presentation, New York University School of Medicine Stem Cell Bology Retreat, New York, NY April 1, 2015 • Simundza, J “The Role of Gpr-Expressing Cells in Mammary Development and Breast Cancer” Speaker, New York University School of Medicine, Molecular Pharmacology Training Program Retreat, New York, NY April 14, 2015 • Cowin, P “Gpr the Universal Stem Cell Marker” Poster Presentation, Gordon research Conference on Cell Con and Adhesion Proctor Academy, NH June 2015 • Cowin, P “The Role of Gpr-Expressing Cells in Mammary Development and Breast Cancer” Speaker, Skirball Institute Retreat October 2015 |
| Roswell Park Cancer Institute | Is the immune response against breast cancer inhibited by lack of available metabolic energy? | <ul style="list-style-type: none"> • Bucsek M, Kokolus KM, Eng JW, Hylander BL, Repasky EA, “Destressing laboratory mice reveals new relationships between heat production, anti-tumor immunity and β-adrenergic receptor signaling” Buffalo Immunology Conference, Chautauqua, NY April 23-24, 2015 • Bucsek M, Qiao G, Liu H, Evans L, MacDonald C, Hylander BL, Repasky EA “Adrenergic signaling mediates immune suppression induced by cool housing temperatures for laboratory mice” , The 19th Annual Translational Research Cancer Center Consortium, Seven Springs, PA Feb. 17-19, 2016 • Bucsek M, “Destressing laboratory mice reveals new relationships between heat production, anti-tumor immunity and β-adrenergic receptor signaling” Society for Thermal Medicine 32nd Annual Meeting, Orlando, FL., April 14-17, 2015 • Bucsek M, “The impact of β-adrenergic signaling on radioresistance and anti-tumor immunity in murine tumor models” International Congress of Hyperthermic Oncology, New Orleans, LA, April 12-15, 2016 |

Appendix III

Annual DEC update to the Health Research Science Board (June 2016)

Provided By Richard Dickinson, Chief of the Pesticide Reporting & Certification Section, NYSDEC

2015 Annual Report

DEC staff are currently processing the 2015 annual reports. Staff are working with submitters to help them correct their reports as needed, following up with applicators and technicians who are delinquent in submitting their reports, and imposing violations on those applicators and technicians who have failed to report. It is too early in the process to make any accurate assessments of the quality of data that has been submitted.

2014 Annual Report Data

Letters were mailed January 2, 2015 to the regulated community reminding them to file an annual report of pesticide applications and/or sales made in 2014. A total of 16,925 applicators, technicians, aquatic antifouling paint applicators, and 306 commercial permittees were required to submit an annual report. The reports were due February 1, 2015.

Overdue notices were mailed in March 2015 to 1,916 applicators and technicians and 32 commercial permittees notifying them we had not received their 2014 report. Many of the individuals receiving this notice responded. Notices of Violation and Consent Orders were mailed later that month to 855 applicators, technicians and aquatic antifouling paint applicators and 12 commercial permittees that still had not submitted a report as required.

Fifty technicians and aquatic antifouling paint applicators, and two commercial permittees paid the fine to resolve their violation. Violations were resolved or removed for 98 applicators, technicians and aquatic antifouling paint applicators and four commercial permittees for various reasons (lost mail, typographical errors, extenuating circumstances). In addition, close to 80 applicators, technicians and aquatic antifouling paint applicators surrendered their certification. A total of 7,499,145 records (which includes sales and applications) were reported for 2014. Of those, 6,454,981 (86%) were submitted electronically and 1,044,164 (14%) were submitted on paper reports.

Available Annual Reports

We identified gross errors that affected the data statewide for **2006, 2007, 2008, 2009 and 2010**. DEC and Cornell staff worked together to correct that data. The 2006, 2007, 2008, 2009 and 2010 data, aggregated and summarized by zip code and County, has been made available to the public on DEC's website. Staff continue to work on the 2011 and 2012 data and it is anticipated that this data will become available in the near future.

Uses of the Data

DEC and Cornell receive, review and aggregate pesticide data by zip code and County for public use. Only health researchers who have been approved by the Health Research Science Board (HRSB) can access and use the site-specific application and sales data. Data about pesticide applications, or data that can approximate it, is necessary for investigating potential environmental impacts from such use. This is important in terms of fulfilling the mandate under Title 7 of Article 33 of the Environmental Conservation Law (ECL) to utilize water quality information in making pesticide product registration decisions as well as implementing other DEC initiatives. Municipalities, public interest groups and others also can and do use the annual aggregated data for education, outreach and other purposes.

Only two entities have ever requested the confidential, site specific-data, and none have requested it since 2006. The New York City Department of Health and Mental Hygiene (NYC DOHMH) requested the confidential data in 2006 for a health study on birth outcomes in New York City; and Cornell University's Water Resources Institute (one of DEC's contractors for groundwater monitoring) requested the confidential data in 2006 to inform their decisions about where to monitor groundwater outside of Long Island and New York City.

Efforts to Improve Data Quality

The large volume of data submitted in the annual reports has proven cumbersome to manage. Also, a large number of errors in many individual reports has caused the quality of the data to be suspect. Based on the suspect quality of the data and other factors, the HRSB determined in 2013 that the pesticide database did not meet its primary purpose, that is, to provide scientifically useful information regarding a relationship between pesticide use and human health. Upon reaching this determination the HRSB recommended the pesticide reporting database be eliminated. Following the Board's recommendation, but in light of the need for aggregated data for education, outreach, monitoring and investigation purposes mentioned above, changes to the PRL in the SFY 2014/15 Executive Budget which were intended to improve data quality, utility and timeliness. Those changes were not enacted.

Since then DEC has attempted to improve data quality in several ways. DEC met with representatives of several associations representing commercial and private applicators in 2014 and 2015 to discuss their concerns and questions about recordkeeping and reporting. Staff from DEC, Cornell and DEC's database contractor met with staff from NYC DOHMH for a demonstration of their on-line pesticide reporting program. The 2014 and 2015 annual report reminder letters sent to applicators in January included more detailed instructions than in the past, along with examples of common reporting errors to avoid. DEC also drafted guidance on recordkeeping and reporting, shared it with several applicator associations for review and comment, and posted it on DEC's website. Finally, although not a new procedure, Cornell developed a program a number of years ago that reviews the annual report data and identifies errors. Cornell then provides a report of those errors to DEC.

For the 2014 and 2015 Annual Reports DEC has continued the process of reviewing paper reports as they are received. This requires a significant amount of staff time and diverts staff from other duties. When errors are identified, the report is set aside, and the submitter is contacted to correct the report. Similarly, staff at Cornell also reviewed the electronic reports for errors as they were received. When an error was identified, the report was rejected and the submitter was contacted to make any necessary corrections. Staff sent out over 400 of these rejection letters for 2014 reports. It is hoped that this will serve two purposes. First, it will improve the data before it is entered into the database and therefore less data correction will be required after it is in the database. Second, it is hoped that once the submitter is aware of their error and how to correct it, they will submit better quality reports in subsequent years.

DEC is also in Phase 2 of a project to develop a comprehensive, in-house pesticide program database, which will replace multiple, separate databases maintained by Cornell. A planned future phase will move the pesticide reporting database to DEC. It is anticipated this will include the development of a web-based portal for submission of pesticide annual reports. This portal will have built-in verification requirements and other features to make reporting easier and improve data quality by preventing some, but not all, common data

input errors. Other methods that might streamline and simplify electronic reporting for applicators will be evaluated and pursued at that time.

As noted above, concerns about the efficiency and utility of the data for health research purposes led the Board to recognize in 2013 “that the pesticide database no longer meets its primary purpose, to provide scientifically useful information regarding a relationship between pesticide use and human health, and recommends that the database should be abolished.” The Board therefore recommended that §§33-1205 and 33-1207 of the ECL be modified so that reporting of pesticide use and sales would no longer be required and related provisions of the Public Health Law be modified as appropriate.

Despite DEC and Cornell's efforts to improve the submitted data, significant and serious concerns remain about its quality and the tremendous resources expended to collect and manage this voluminous data, which is not being utilized as originally envisioned in the PRL. While the current site-specific PRL data may not be used or useful for health research purposes, it is important and necessary to collect some form of pesticide use and sales data for monitoring, investigation, trend analysis, outreach and education, and other evaluations. DEC continues to recommend that the PRL be modified to accomplish these purposes.

Reports on Pesticide-Related Topics

The following reports on pesticide-related topics have been issued since the Board's inception. The Legislative mandates for the reports are noted in parentheses:

- Data Sets Collected and Maintained by New York State Government that May Assist Researchers Engaged in Breast, Prostate or Testicular Cancer Research, January 1999 [Public Health Law Section 2412(a) and (b)]
- Pesticide Use and Pesticide Exposure, May 1999 [Public Health Law §2411(1)(f)]
- Reference List: Pesticide Use and Pesticide Exposure, May 1999 [Public Health Law §2411(1)(f)]
- Reference List: Pesticide Use and Pesticide Exposure, September 2002 [Public Health Law §2411(1)(f)]
- Comparison of Pesticide Reporting and Pesticide Use, February 2000 [Public Health Law §2411(1)(g)]
- Survey Results and Recommendations – Pesticide Reporting Law, February 2001 [Public Health Law §2413]
- Results of the 2002-2003 Survey on Pesticide Reporting and Board Recommendations, March 2005 [Public Health Law §2413]
- Household Pesticide Use Report to the Health Research Science Board, June 2009 [Public Health Law §2413]

Copies of these reports or information about the Board's pesticide-related activities may be obtained by calling the DOH toll-free at 1(800) 458-1158, extension 2-7950.

Status of Agency Actions on HRSB Recommendations on Pesticide Reporting 2000-2016

| SOURCE* | RECOMMENDATION | STATUS |
|-----------------------------|---|---|
| | Recommendations not requiring a change in legislation | |
| 2000(2) | 1. Continue to inform researchers of the availability of funds for research on cancer and of the availability of the pesticide data for research. | This is an ongoing effort. The availability of funds continues to be publicized. A web page describing and linking to the Pesticide Sales and Use Database has been added to NYSDOH's Environmental Public Health Tracking web site. |
| 2000(3), 2006 (2), 2010 (5) | <p>2. DEC should emphasize accurate reporting of the data by continuing to develop and implement quality assurance and quality control procedures.</p> <p>Incorporate checks on the following (2006):</p> <ul style="list-style-type: none"> a. very similar amounts reported for multiple ZIP codes b. liquids reported as pounds and solids as gallons c. quantities reported at county and ZIP code levels that differ by more than an order of magnitude d. outliers. | This is an ongoing effort. (See also #5 in this section.) DEC reinstated checking of paper reports as they are received, an activity suspended for a period due to resource constraints. Electronic reports are also reviewed as they are received. Reports with errors are rejected and the submitter contacted to correct the report. Programs continue to be used to identify and correct errors in the database. DEC is developing an in-house pesticide database that is expected to include a web-based portal for reporting that will have input requirements that will improve data quality by preventing some, but not all common errors. DEC continues to speak at outreach events in an attempt to clarify reporting requirements and also continues to meet with various associations which represent the regulated community in hopes of reducing submissions with errors. |
| 2000(4c) | 3. Explore ways to assist the pest control industry with the difficulty of reporting amount of concentrate when commercial | This is an ongoing educational effort. DEC has done extensive telephone outreach on a case-by-case basis and group meetings and presentations educating applicators how to report correctly. Programs conduct quality checks to find quantities that appear to fall outside of accepted parameters. Not all such errors are detected. However, staff review the |

| SOURCE* | RECOMMENDATION | STATUS |
|-----------------------|--|--|
| | applicators deal with diluted material. | “out of range” quantities they identify and contact the responsible applicators and businesses. With the approval of the applicator or business, staff corrects the reporting errors. The input requirements for the web-based portal for reporting being developed will also partially address this issue (see #2 in this section.) |
| 2000(4d) | 4. Explore ways to assist reporting of locations without street address (e.g., rights of way, streams, parks, and aerial applications), such as use of a Geographic Information System (GIS) approach. | This is an ongoing effort. A GIS approach cannot currently be used for reporting in all areas of the state; some options, such as reporting mile markers, stream tributary numbers, etc., have been implemented, while others are still being explored. |
| 2000(4e) | 5. Explore methods to increase or improve reporting, possibly through development of additional outreach and/or enforcement activities and electronic reporting. | DEC has continued to meet with several associations of commercial and private applicators to discuss issues that the regulated community has with reporting requirements. More detailed instructions on reporting were sent to applicators, including examples of common errors to avoid. Enforcement actions are taken each year against applicators and sellers that do not report. Over 85% of the more than 7 million records reported for 2014 (sales and applications) were reported electronically. |
| 2006 (3), 2010 (3) | 6. Explore the possibility of making available an application line-item dataset with no confidential information for counties and ZIP codes. | DEC will explore the feasibility of a line-item dataset for counties and ZIP codes. This initiative would require additional resources. |
| 2006 (4), 2010 (4) | 7. To county and ZIP code data, explore the possibility of adding number of applications, license type to distinguish structural and landscaping activities, and summary statistics (mean, median, maximum). | DEC will explore the feasibility of adding the number of applications to county and ZIP code data. In most cases, reports are not submitted by an individual applicator, but by businesses, listing all applicators in their employ. In addition, many applicators have multiple categories of certification. Therefore, license type cannot be determined for each application. This initiative would require additional resources. |

| SOURCE* | RECOMMENDATION | STATUS |
|-----------------------|--|--|
| 2006 (5), 2010 (8) | 8. Explore ways to include fields from the Pesticide Product Ingredient and Manufacturer System (PIMS) or to include the ability to link to PIMS or to the EPA Pesticide Product Information System. | There are links to PIMS available on the website, but not within the report data. This would require major programming changes to the database. This initiative would require additional resources. |
| 2006 (7) | 9. Increase DEC's budget and the funds provided by contract to Cornell. | The funds allocated under the Environmental Protection Fund (EPF) for PRL-related activities has varied yearly and has not allowed for increased contract funding for Cornell's activities. |
| 2010 (1) | 10. Release publicly available data for 2006 and subsequent years | Errors in data reported for 2006-2010 were identified and corrected. Annual reports for 2006-2009 were posted on the DEC web site in 2014, and the data were added to the searchable database on the Cornell web site. The 2010 through 2012 annual reports were recently posted on the DEC web site and the data has been added to the searchable database on the Cornell website. Staff continue to make corrections to the 2013-2014 data, which are expected to be made available to the public in 2017. |
| | Recommendations that may require a change in legislation | |
| 2006(1), 2010 (2) | Allow local health agencies access to the confidential data for surveillance purposes | Researchers including local health agencies can apply to the Health Research Science Board for access to the confidential data. One of the criteria for releasing the data is that the data have to be used for human health-related research. Some forms of surveillance may be considered research, while other forms may not meet the criterion for human health-related research. A change in law would be required to allow local health agencies access to the confidential data without requesting the data from the Health Research Science Board. |

| SOURCE* | RECOMMENDATION | STATUS |
|----------|---|---|
| | Recommendations requiring a change in legislation | |
| 2013 | The Board found that the pesticide database no longer meets its primary purpose, to provide scientifically useful information regarding the relationship between pesticide use and human health, and recommended that the database should be abolished. | Changes to the Pesticide Reporting Law intended to improve data quality, utility, and timeliness were proposed in the SFY 2014-15 Executive Budget. Those changes were not enacted. However, the deficiencies in the PRL have not been eliminated despite steps to mitigate them. |
| 2000(L1) | 1. Change the date by which DEC must issue its report to the Governor and Legislature to allow a longer period for quality control and quality assurance of the data. If partial data are released, they should be available as soon as possible; the final report should contain only high quality data; and the data and report should be readily accessible. | Change of date would require statutory change. Quality assurance of the data and education efforts directed to the regulated community are ongoing efforts. All non-confidential data are publicly available on the internet or by requesting a CD-ROM. |
| 2000(L2) | 2. DEC should identify options for including data on pesticides applied by private applicators (primarily farmers) in the database and report on these options to the Board. | Including these data in database and reports would require a statutory change. |

| SOURCE* | RECOMMENDATION | STATUS |
|---|--|---|
| 2000(L3), 2006 (L2), 2006 (L3), 2010 (7) | <p>3a. DEC should identify options for including data on target organism and crops to which pesticides are applied in the database and report on these options to the Board.</p> <p>3b. Mandate reporting of dosage rate and target organism.</p> <p>3c. Include crop/site of application (for those reporting) and include the crop/site for private applicator sales of general use pesticides intended for agricultural purposes.</p> | Including these data in database and reports would require a statutory change. |
| 2000(L4) | 4. DEC should identify options for including data on pesticides purchased and applied by private citizens in the database and report on these options to the Board, and should review the upcoming reports from Wisconsin and Oregon, which are currently conducting scoping studies of this issue. | The Board reviewed results of Oregon's pilot survey on household use reporting and voted not to pursue such a survey in New York because of questionable usefulness and the greater cost of conducting such a survey in New York. |
| 2006 (L1), 2010 (6) | 5. Mandate electronic reporting. | An electronic reporting option is in place and was emphasized at workshops held throughout the state and by direct mailing to applicators and sellers. Due to extensive outreach efforts, electronic reporting has increased, with over 85% of the more than 7 million records reported for 2014 (sales and applications) reported electronically. However, to mandate electronic reporting would require a statutory change. |

| SOURCE* | RECOMMENDATION | STATUS |
|-------------------|---|---|
| 2006 (L4) | 6. Revise the requirement for the length of time that commercial applicators, sellers of pesticides, and private applicators must maintain records, to a period of not less than 7 years. | This would require a change in statute. The law currently states that records must be maintained for a period not less than 3 years. |
| | Recommendations that have been implemented | |
| 2000(4a) | 1. Include a reference in the report to the Governor and Legislature to the Pesticide Poisoning Registry Report from NYSDOH. | Done. The annual report to the Governor and Legislature now includes a reference to the Pesticide Poisoning Registry. |
| 2000(4b) | 2. Include a reference in the report to the Governor and Legislature to documents that will provide information on the potential for specific pesticides to leach into the groundwater. | Done. The annual report to the Governor and Legislature includes a reference to documents that provide information on the potential for specific pesticides to leach into the groundwater. |
| 2002-03(3) | 3. Include in the biennial reports references to studies that have been stimulated or influenced by the database as examples of how PSUR data could stimulate higher-level research. | A list of studies published in the scientific literature that were stimulated or influenced by the PSUR data appeared in the 2003-04 biennial report. Additional publications are presented in each subsequent report. |
| 2000(1), 2006 (1) | 4. NYSDEC should express data in both pounds of product and pounds of active ingredient. | Done. This requires knowing the specific gravity of every product registered in NYS. DEC altered its internal processes to capture this information as products are registered. It has taken several years to capture most of the specific gravities for the 14,000 registered products. DEC made significant progress toward expressing data in both pounds of product and |

| SOURCE* | RECOMMENDATION | STATUS |
|------------|--|--|
| | | pounds of active ingredient. DEC and Cornell developed a website which provides active ingredient summarizations of the data, starting with year 2003 data. |
| 2002-03(2) | 5. Modify the web sites for ease of use and flexibility in creating reports. | The active ingredient website provides a more modern look and feel. It provides multi-year searching capabilities. It also incorporates a number of features that enhance the site's usability. For example, to make it easier to identify which zip codes to use in a search, the user can select all the zip codes that are contained in or partially contained in a county. Documents have been added to the site to assist in pesticide product searches, including FAQs, a data dictionary, and glossary. |
| 2002-03(4) | 6. Explore the possibility of using pesticide-poisoning data in conjunction with the PSUR data. | Using pesticide poisoning data in conjunction with the PSUR data would not be productive since about 99% of the pesticide poisoning reports involve improper use of unrestricted pesticides that can be purchased at retail outlets, such as hardware stores and home centers. These products are not included in the PSUR database. However, DOH is exploring the usefulness of the PSUR data for environmental health surveillance as part of the Environmental Public Health Tracking Program. |
| 2006 (6) | 7. Explore ways to decrease the time from a researcher's request for the confidential data to receipt of the data. | The Committee on Access to Pesticide Registry and Pesticide Application Information modified its process to improve efficiency by incorporating a pre-review process whereby 3 members of the committee review the application to determine if it has enough information for the committee to make an informed decision. Without delaying scheduling of a meeting of the Board, staff members work with the applicant to obtain any additional information needed before the meeting. |
| 2002-03(1) | 8. Explore whether the data can be aggregated by different categories such as use category, different geographical units, etc. | Done. The active ingredient website contains data aggregated by use category (fungicides, insecticides, herbicides, etc.), as well as statewide, county, zip code or DEC Region. |

APPENDIX IV

Roster of Members

January 1, 2015 - December 31, 2016

Douglas Conklin, Ph.D., Chair¹
State University of New York at Albany
Albany, NY

Beverly Canin¹
Breast Cancer Options, Inc.
Kingston, NY

Maria Torroella Carney, M.D.¹
North Shore-Long Island Jewish Health System
Great Neck, NY & New Hyde Park, NY

Victoria Derbyshire, Ph.D.³
New York State Department of Health
Commissioner's Designee
Albany, NY

Jeanette Dippo, R.N., M.S.²
State University of New York College at Cortland
Cortland, NY

Donald W. Distasio^{1,4}
Onondaga, NY

Susan K. Gibbons, M.D.^{1,4}
Albany Medical Center
Albany, NY

James B. Hicks, Ph.D.^{1,5}
Cold Spring Harbor Laboratory
Cold Spring Harbor, NY

M. Suzanne Hicks, M.S.W.¹
Rensselaer, NY

Diana E. Lake, M.D.¹
Memorial Sloan-Kettering Cancer Center
New York, NY

Annette T. Lee, Ph.D.^{1,4}
The Feinstein Institute of Medical Research
Manhasset, NY

Eugene Leff^{3,5}
NYS Department of Environmental Conservation
Commissioner's Designee
Albany, NY

Catherine Putkowski-O'Brien, L.C.S.W.²
Research Foundation of the City University of New
York; Licensed Certified Social Worker Private
Practice
Staten Island, NY

Regina Resta, M.D.^{1,4}
New York Oncology Hematology, P.C.
Troy, NY

Charles L. Shapiro, M.D.^{1,4}
Mount Sinai Hospital; Dubin Breast Center;
Tisch Cancer Institute
New York, NY

James L. Speyer, M.D.¹
New York University School of Medicine,
New York University Clinical Cancer Center
New York, NY

Wendy Watkins^{1,5}
Hormel Foods Corporation
Buffalo, NY

Marc Wilkenfeld, M.D.¹
Winthrop University Hospital
New York, NY

¹ Voting member as of December 31, 2016

² Non-voting member as of December 31, 2016

³ Ex-officio non-voting member

⁴ Appointed during 2015-2016

⁵ Service concluded during 2015-2016

APPENDIX V

STAFF SUPPORT TO THE BOARD

DEPARTMENT OF HEALTH

**Wadsworth Center
Extramural Grants Administration**

Carlene Van Patten¹
Executive Secretary to the Board

Bonnie Jo Brautigam²
Executive Secretary to the Board

Teresa K. Ascienzo

Charles J. Burns

Andrea Garavelli¹

Jeannine M. Tusch

**Center for Environmental Health
Bureau of Environmental and
Occupational Epidemiology**

Syni-An Hwang, Ph.D.

Carole Ju, M.S.

**Division of Legal Affairs
Bureau of House Counsel**

Joan K. Harris, Esq.¹

Diana Yang, J.D.²

DEPARTMENT OF ENVIRONMENTAL CONSERVATION

**Division of Materials Management
Bureau of Pest Management**

Richard Dickinson

Scott Menrath, P.E.

¹ Service commenced during 2015-2016
² Service concluded during 2015-2016