

**Joint Department Study of the Merger
of the Division of Environmental Health in the
Department of Environment and Natural Resources (DENR)
and
the Division of Public Health in the
Department of Health and Human Services (DHHS)**

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North Carolina Department of Environment and Natural Resources
Division of Environmental Health
and
North Carolina Department of Health and Human Services
Division of Public Health

TABLE OF CONTENTS

- I. Background and History
- II. Current Structure
- III. Identification of Existing Program Duplication
- IV. Costs and Benefits
- V. Models Assessed
- VI. Conclusions and Recommendations
- VII. Appendices

Part 1 – Background and History

Background

Session Law 2010-31, Section 13.2, requires the Division of Environmental Health of the Department of Environment and Natural Resources and the Division of Public Health of the Department of Health and Human Services to jointly study the desirability and feasibility of merging these two divisions. As provided Oct. 1, 2010, Section 13.2(a) required each of the divisions to identify its programs, provide descriptions of each as well as actual expenditures and receipts and number of full-time equivalent positions since the 2005-2006 fiscal year.

Section 13.2(b) states that the divisions “shall consider the information accumulated under subsection (a) as well as

1. the current structure and management of these two divisions;
2. each program within one of these two divisions that duplicates or overlaps any program within the other;
3. the gains and losses in efficiency that could result from merging these two divisions;
4. the gains and losses in operating costs, receipts, or any other expenditures or costs that could result from merging these two divisions;
5. were the two divisions merged, where the merged division should be located, the Department of Environment and Natural Resources or the Department of Health and Human Services, and the reason for this conclusion; and
6. any other issues deemed pertinent to the study.”

Following this evaluation of subsections (a) and (b), the two divisions are to provide their findings, recommendations and any legislative proposals to the House and Senate Appropriations Subcommittees on Natural and Economic Resources as well as to the Fiscal Research Division.

History of the Divisions of Public Health, Environmental Health

In 1877, the N.C. General Assembly created a State Board of Health and charged it with caring for the health of the citizenry by investigating the sanitary and environmental conditions related to the causes and prevention of disease. In 1973, the State Board of Health was renamed as the Division of Health Services within the Department of Human Resources. In 1989, there was a national movement to consolidate environmental programs. The Division of Health Services was moved in its entirety to the Department of Natural Resources and Community Development, and the department was renamed as the Department of Environment, Health, and Natural Resources.

The Division of Public Health moved from the Department Of Environment, Health and Natural Resources to the Department of Human Resources in 1997. This reorganization effort responded to President Clinton’s health reform effort and focused on the consolidation of all health programs in the state. Both departments were renamed, becoming the Department of Health and Human Services (DHHS) and the Department of Environment and Natural Resources (DENR) respectively. The environmental health programs – on-site wastewater, public water supply, environmental health sanitation services and vector control – remained in the Department of Environment and Natural Resources because a consensus could not be reached on where these programs should be organized. The General Assembly charged the Environmental Review

Commission with studying the organizational placement of the Division of Environmental Health and making a recommendation to the next session of the General Assembly. Again, however, a consensus could not be reached and the two divisions continued to be housed in separate departments.

Work between the two divisions is guided by Session Laws 1997-443. The Department of Health and Human Services and Department of Environment and Natural Resources entered into a 19-page Memorandum of Agreement and Joint Work Plan, dated Sept. 29, 1997. This agreement was developed for the coordination and provision of public health and environmental health services, especially at the local level. It remains in effect. See Appendix I for the complete 1997 Memorandum of Agreement between the Department of Health and Human Services and the Department of Environment and Natural Resources. See Appendix II for the 2005 “Public Health/Environmental Health Interagency Work Plan.”

There have been many efforts over the last decade to reunite the state’s public health agencies to better serve the people of North Carolina and better support local public health agencies and their critical responsibilities. The N.C. Association of Local Health Directors and N.C. Environmental Health Supervisors Association have continued to advocate for a united state public health agency. These organizations, along with many other public health professionals and citizens, have continued to point out that a united state public health agency will increase the likelihood of an effective, simplified and comprehensive response to human disease issues and disasters.

Stakeholder Input and Report Preparation

Representatives from the Division of Public Health (DHHS), Division of Environmental Health (DENR), and representatives from the N.C. Association of Local Health Directors and N.C. Environmental Health Supervisors Association met on October 4 and 5 2010 to discuss possible duplication and merger models. The group discussed the feasibility of merging the divisions of Public Health and Environmental Health including gains and losses in efficiency, operating costs and other expenditures for the merger of the two divisions. The stakeholders also discussed potential overlap in services and responsibilities between the Division of Public Health and the Division of Environmental Health. Input from the stakeholders group was reported back to leaders in the two departments. The final report represents the assessment and recommendation of the Secretary of Environment and Natural Resources and the Secretary of Health and Human Services.

Part 2 – Current Structure

Session Law 2010-31, Section 13.2(b)(1) states that the divisions “shall consider the information accumulated under subsection (a) as well as the current structure and management of these two divisions.” The Divisions of Public Health and Environmental Health currently reside in two departments – the Department of Health and Human Services and the Department of Environment and Natural Resources.

Division of Public Health (DHHS). The director of the Division of Public Health – the State Health Director – reports to the Deputy Secretary for Health Services in the N.C. Department of Health and Human Services. According to G.S. 130A-1.1, the mission of the Division of Public Health is to promote and contribute to the highest level of health possible for the people of North Carolina by: preventing health risks and disease; identifying and reducing health risks in the community; detecting, investigating, and preventing the spread of disease; promoting healthy lifestyles; promoting a safe and healthful environment; promoting the availability and accessibility of quality health care services through the private sector; and providing quality health care services when not otherwise available. This division is comprised of the following sections and programs:

- Women’s and Children’s Health Section
 - Child Nutrition Program
 - Child Health Services Program
 - Early Intervention Program
 - Immunization Program
 - Special Supplemental Nutrition Program (WIC)
 - Women’s Health Program
- Chronic Disease and Injury Prevention
 - Chronic Disease Program
 - Health Promotion Program
 - Healthy Carolinians/Health Education Program
 - State Center for Health Statistics
- Epidemiology Section
 - Office of the Chief Medical Examiner
 - Communicable Disease Surveillance and Control Program
 - Occupational and Environmental Epidemiology Program
 - Public Health Preparedness and Response Program
 - State Laboratory of Public Health
- Minority Health and Health Disparities Program
- Oral Health Program
- Vital Records
- Administrative, Local and Community Support
 - Local Technical Assistance and Training

Division of Environmental Health (DENR). The Director of the Division of Environmental Health (DEH) reports to the Assistant Secretary for Environment in DENR. The mission of DEH is to safeguard life, promote human health and protect the environment through the practice

of modern environmental health science, the use of technology, rules, public education and above all, dedication to the public trust. This division is comprised of the following sections and programs:

- Environmental Health Services
 - Food Protection Program
 - Grade “A” Milk Sanitation Program
 - Inspections, Statistics and Fees
 - Children’s Environmental Health
 - Childhood Lead Poisoning Prevention Program
 - Child Care Sanitation
 - School Sanitation
 - Pools, Tattoos and State Institutions
- On-Site Water Protection
 - Private Wells Program
 - Wastewater Discharge Elimination (WaDE) Program
 - Quality Assurance
 - On-site Wastewater Program
 - Non-point Source Program
 - Well Contractors Certification Commission
- Public Water Supply
 - Safe Drinking Water Act Compliance Program
 - Source Water Protection Program
 - Fee Permit Program
 - Loans and Grants Program
 - N.C. Water Treatment Facility Operator Certification Board
- Public Health Pest Management
 - Sleep Products Program
 - Tick Control Program
 - Vector Control Program
- Radiation Protection
 - Radiology Compliance
 - Radioactive Materials
 - Registration, Invoicing and Tanning Program
 - Radon Program
- Shellfish Sanitation and Recreational Water Quality
 - Shellfish Sanitation
 - Recreational Water Quality Program
 - Shellfish Inspections Program
- Office of Education and Training
- Administration

Part 3 – Identification of Duplication or Overlap in Existing Programs

Session Law 2010-31, Section 13.2(b)(2), directed the two divisions to “consider the information accumulated under subsection (a) as well as each program within one of these two divisions that duplicates or overlaps any program within the other.” Two areas of potential duplication were identified in the proposed 2010-2011 budget. Those two areas – lead exposure and vector control – were proposed to be consolidated in the 2010-11 merger of environmental health into the Division of Public Health.

Lead Programs

The Childhood Lead Poisoning Prevention Program in DENR focuses on the protection of children’s health from injury and illnesses associated with exposure to environmental hazards. This program is responsible for the surveillance of blood lead testing results for pre-school age children and the investigation of childhood lead poisoning cases. Its staff also ensures the remediation of lead hazards in residences of lead-poisoned children. Additional responsibilities include conducting “healthy home assessments” in facilities and residences where the Children’s Environmental Health Branch has a regulatory role (i.e. childcare centers, schools, and homes of lead-poisoned children); administering the N.C. Childhood Lead Exposure Control Act, a Childhood Lead Poisoning Prevention Grant and U.S. Housing and Urban Development grant to address lead housing hazards; and administering a Centers for Disease Control and Prevention grant that funds healthy homes (e.g. asthma triggers, pesticide storage, injury prevention) and childhood lead activities. Its staff works with local partners to educate the public about environmentally-mediated threats to children’s health, such as asthma, pesticides and household injuries). Its primary focus is to limit exposure to environmental hazards for children, particularly lead, in residential locations.

There are two lead programs in the Division of Public Health, DHHS: 1. the Adult Blood Lead Epidemiology and Surveillance (ABLES) program in the Occupational Surveillance Unit, Occupational and Environmental Epidemiology Branch; and 2. the Lead-Based Paint Hazard Management Programs, Health Hazards Control Unit, Occupational and Environmental Epidemiology Branch.

The focus of the Occupational Surveillance Unit is to reduce exposure to workplace hazards. The unit develops and implements systems to track work-related illnesses and injuries; collects data to determine patterns in workplace illnesses and injuries; and identifies methods for preventing workplace illness. The Adult Blood Lead Epidemiology and Surveillance (ABLES) program collects data on adults over the age of 16 who have work-related lead exposures. The program collects data based on the Occupational Safety and Health Association Lead Standard in General Industry and Construction.

The Lead-Based Paint Hazard Management Programs are designed to ensure that materials containing lead-based paint and asbestos are handled in a manner to reduce harmful exposure during construction activities. The programs are responsible for certifying and accrediting firms and individuals performing abatement (removal) of asbestos or lead-based paint as well as certifying firms and individuals who perform renovation activities that disturb lead-based paint

in homes and child occupied facilities. Its staff also inspects abatement and renovation projects to enforce work practice standards to reduce exposures to lead-based paint and asbestos; issues permits for asbestos and lead-based paint abatement projects; ensures that training courses required for certification and accreditation meet proper standards; and educates the public and regulated community on the hazards of lead-based paint and asbestos. Lead abatement activities conducted by the Children's Environmental Health Branch in DENR's Division of Environmental Health must meet standards established under the Lead-Based Paint Program.

The lead hazard programs in DEH and in the Division of Public Health clearly perform different functions. The DEH program focuses on childhood lead exposure, while the Division of Public Health programs address adult occupational exposure and enforce standards for lead abatement activities. Since the programs serve different purposes, there is no actual duplication at the program level. There are related or overlapping functions, however, that may benefit from consolidation. For example, both programs collect and report data on lead exposure -- although from different populations and under different reporting standards. . The two agencies already use the same data system for clinical and environmental data collection and analysis and each agency has real-time access to data collected by the other. Both DEH and DPH also engage in activities designed to reduce the risk of illness and injury associated with lead exposure and provide education and training on lead hazard abatement. The DEH and DPH programs currently focus on different populations and settings, but there is considerable similarity in the training received by DEH regional environmental health specialists and DPH industrial hygienists on residential lead hazard control. Both staffs maintain certified lead risk assessors and project designers because DEH inspects the homes of children with lead poisoning and DPH regulates workers who remediate residential lead hazards.

The Adult Blood Lead Surveillance Program in DHHS consists of a part of one nurse epidemiologist position. The Childhood Lead Poisoning Prevention Program in DEH has 15 state program staff including seven field staff who conduct residential investigations, local health department training and authorization. DEH also has a three-person data team to handle the nearly 200,000 blood lead records and several hundred environmental reports submitted annually. The DEH Childhood Lead program funds six positions in local health departments through a federal grant from the Center for Disease Control and seven positions in local housing agencies under a federal Housing and Urban Development grant.

As noted earlier, however, each division uses staff for multiple functions. The seven field staff in DEH who conduct residential lead investigations also have responsibilities under the Child Care and School Sanitation Program. Those duties account for approximately half of their time. The DPH Health Hazards Control Unit, which includes the industrial hygienists, also has responsibility for the Asbestos Hazard Management Program.

The two departments have not identified overlapping functions that would support reduction in staff or resources for the different lead abatement programs. Consolidation of the programs may improve the effectiveness of the state's lead hazard mitigation activities in the long term, particularly in the area of training and data analysis. Consolidation would still need to allow for use of staff in the two programs to address lead hazards and other program responsibilities.

Vector Programs

Both DEH and the Division of Public Health have programs that address vector-borne disease although the vector programs in the two departments deal with different aspects of the problem. Vector-borne diseases are those that are transmitted chiefly by mosquitoes and ticks. Examples of tick-borne diseases are ehrlichiosis, Rocky Mountain spotted fever, Lyme disease and tularemia. Examples of mosquito-borne diseases are malaria, St. Louis encephalitis, Eastern equine encephalitis, La Crosse encephalitis and West Nile infection.

The Division of Public Health's Communicable Disease Branch provides a number of functions related to the monitoring, investigation and response to outbreaks of communicable diseases:

- investigating disease outbreaks in humans and other unusual situations, and implementing control measures to minimize further transmission of disease;
- monitoring disease-reporting by physicians and laboratories in order to detect trends and to assess the public health impact of diseases;
- providing a channel of communication between public health agencies, private physicians, and hospital and occupational infection control personnel, as part of disease control efforts; and
- explaining public health interventions and messages to the community to enhance disease control efforts.

Seventy-one named diseases and conditions have been declared to be dangerous to public health and therefore reportable under state law. Vector-borne diseases account for nine of the 71 reportable communicable diseases that the CDB monitors, investigates and addresses through control measures.

The Communicable Disease Branch's Veterinary Unit provides human clinical risk assessments for rabies and other zoonotic diseases. The Communicable Disease Branch conducts surveillance for both zoonotic and vector-borne diseases in people in North Carolina. Since many of these diseases are also animal diseases, the Communicable Disease Branch staff works closely with other agencies such as the N.C. Department of Agriculture and Consumer Services and the North Carolina State University's College of Veterinary Medicine.

The Communicable Disease Branch also works to reduce death due to these conditions based on a thorough understanding of the epidemiology of each disease. This knowledge provides the foundation for advice on prevention and control measures provided to local health departments, physicians and veterinarians statewide.

The Communicable Disease Branch conducts special projects to learn more about the public health impact of vector-borne diseases in North Carolina in order to institute effective control measures. One example involves collaboration with the Centers for Disease Control and Prevention and the University of North Carolina at Chapel Hill to investigate the cause of Southern Tick Associated Rash Illness. Information from investigations like this are relayed to all key state partners through the N.C. vector-borne working group.

While the CDC primarily approaches vector-borne disease through monitoring of disease in humans and epidemiological research, the Public Health Pest Management Section in DENR's

Division of Environmental Health monitors ticks and mosquitoes for disease. The section collects and identifies disease-transmitting ticks and mosquitoes to understand the distribution, abundance and risk to the public throughout North Carolina. The section also conducts surveillance of mosquito-transmitted viruses through its sentinel chicken flock program as well as collection and analysis of mosquitoes.

The Public Health Pest Management Section also identifies the ecological conditions that may lead to increased numbers of ticks and mosquitoes. The section has expertise in identifying high-risk times and locations for the transmission of arboviral diseases, and works with local mosquito control agencies to implement community-wide control strategies. This may include advice in the selection of control methods, equipment and safe use of these control agents. The section provides technical and financial assistance to local health departments, local governmental units and the public to control insects and related pests of public health significance. These activities complement the Communicable Disease Branch's epidemiologic surveillance and medical consultation activities.

The Public Health Pest Management Section educates the public about tick-transmitted diseases and has undertaken work to learn more about the diseases carried by ticks in North Carolina. It has initiated several long-term projects to expand educational and surveillance activities regarding ticks and tick-borne illnesses in North Carolina. Working with local health departments, the section has instituted three three-year demonstration projects with the goal of designing, developing and implementing a variety of techniques and approaches to reduce the impact of tick-borne illnesses. Another new project is the tick attachment project in which local environmental health specialists across the state submit to the Public Health Pest Management Section for analysis of ticks they have collected or encountered during their daily activities. This project is designed to provide valuable information on the tick species normally encountered across the state. Staff has begun enhanced surveillance activities to gain a better understanding of the species found across the state as well as new partnerships with academic institutions to test ticks for new or emerging pathogens.

Both the Public Health Pest Management Section and the Veterinary Public Health Unit in the CDB work closely with the State Laboratory for Public Health in the Division of Public Health as it conducts laboratory-based surveillance and aids in the management of cases and outbreaks.

The duties of the Public Health Pest Management Section extend beyond those insects and pests associated with diseases monitored by the Communicable Disease Branch in the Division of Public Health. The Section also provides assistance on a variety of pests that may affect the health of North Carolina residents. Pests like bedbugs, fleas, flies, cockroaches, head lice, chiggers and rodents cause nuisance bites, food destruction, and unsanitary conditions in food preparation and serving facilities. The section provides pest identification and management information to the public, health professionals, local health department personnel and others. The section also provides recommendations on the prevention of diseases that may be transmitted by these pests. The section is the primary resource for local health departments dealing with public health pests such as cockroaches, bedbugs and flies in restaurants and hotels and its staff assists with investigations and provides technical information. The section also

houses the Sleep Products Program that regulates the sale of mattresses, pillows and other sleep products.

As described above, the Public Health Pest Management Section in DENR's Division of Environmental Health and the Communicable Disease Branch in Division of Public Health (DHHS) have complementary roles in addressing vector-borne disease. In each agency, responding to vector-borne disease represents only one of the agency's functions. It was not possible in the time available to identify a specific percentage of time and resources dedicated to vector-borne disease in each agency.

In their work on vector-borne disease, the focus of the two agencies is sufficiently different that there is little duplication. In the Division of Environmental Health, the Public Health Pest Management Section focuses on the environmental, ecological and entomological aspects of vector-borne diseases including vector surveillance, pest identification and management/control measures. In the Division of Public Health, the Communicable Disease Branch/Veterinary Public Health program provides human surveillance for vector-borne diseases. It also provides both public and clinical education about prevention of those diseases and is a resource for health care providers to obtain current information about the diagnosis and treatment of these conditions.

There may be some areas of overlapping function, such as education on prevention of vector-borne disease, that could be better coordinated if the programs were combined. The two programs currently coordinate on press releases, but otherwise target education on vector-borne disease to different audiences. The Division of Public Health focuses on education of health professional, while DENR's Division of Environmental Health works with local mosquito and vector control programs. A question for additional study would be the benefit of more closely coordinating data collection on vector-borne disease. Currently, the Communicable Disease Branch in DPH tracks vector-borne disease in humans and reports that data to the Center for Disease Control (CDC). DEH conducts surveillance for disease-carrying insects and pests and separately reports to the CDC. Consolidating surveillance functions may allow for more effective monitoring and assessment of vector-borne disease risk at the state level. Data would still need to be reported to the CDC through two different systems – the NEDDS system for reports of vector-borne disease in humans and the Arbonet system for data on the incidence of infection in the insect population.

Combination of the two programs in a single agency, may achieve more effective program delivery in areas such as education, surveillance and risk assessment. The two divisions now coordinate and share resources informally through a Vectorborne Disease Task Force that also includes other state and federal agencies. Combining the two would also provide a single point of contact for local health departments on vector-borne disease incidence and prevention. It is unlikely that consolidation of the vector-borne disease programs would result in efficiencies that would allow for reduction in staff or resources dedicated to vector-borne disease.

Other Potentially Overlapping Functions

There are additional functions within the two agencies that overlap without actual duplication. For example, the DHHS Division of Public Health provides training and financial support for

local health departments through the Administrative, Local and Community Support section. DENR's Division of Environmental Health provides training and certification for environmental health specialists in local health departments in subject areas under DEH oversight – such as private well construction, food safety, and permitting of onsite wastewater systems. Fee revenue from certain local health department inspection programs supports both those local functions and DEH oversight activities. Again, the two divisions are addressing different local needs in terms of the substance of the training and the designated uses of financial support, but there may be opportunities to integrate the administration of training and funding processes.

Part 4 – Benefits and Costs of Consolidating the Division of Public Health (DHHS) and the Division of Environmental Health (DENR)

Session Law 2010-31, Section 13.2 required this study to consider:

1. Gains and losses in efficiency that could result from merging these two divisions; and
2. Gains and losses in operating costs, receipts, or any other expenditures or costs that could result from merging these two divisions;

The primary benefit of merging the two divisions would be the consolidation in one agency of all programs that provide oversight and support for local health department functions. As noted above, there is little duplication in the substance of programs provided in the two divisions, but there is some overlap in both substance and in administrative support functions provided to local health departments. Combining the two divisions may allow more effective program delivery where somewhat artificial divisions of labor currently exist – as in the lead hazard reduction and vector programs. There may also be opportunities to more effectively deliver administrative support to local health departments – such as training – by fully integrating the training programs in the two divisions. Local health departments have consistently expressed support for consolidating state support and oversight functions in a single state government agency.

In many ways, DENR's Division of Environmental Health now answers both to DENR management and to the broader public health structure led by the Division of Public Health in DHHS. Many programs in DEH also operate under rules adopted by the Commission for Public Health in DHHS. The two departments meet regularly at the staff level and at the management level (involving the two department secretaries) to discuss issues of joint concern and to coordinate policy direction for the Division of Environmental Health. Merger would allow DEH to respond to a single management structure and eliminate the risk of conflicting direction on both policy and program implementation.

Any reorganization results in some short-term impacts on efficiency and potential one-time costs. The time available for this study did not allow for a detailed analysis of those transition costs. Any estimate of costs would also be speculative given other changes -- such as consolidation of state IT functions – that may affect some costs and eliminate the need for others. Consolidation costs can also be managed by allowing adequate time to fully integrate administrative functions. For purposes of this study, the departments have identified some of the administrative issues that would need to be resolved in a consolidation:

Cost allocation under grants. The two departments use different methods for allocating costs under program grants received by the divisions. The Department of Environment and Natural Resources operates under an indirect cost rate system whereby grants (federal or private) are charged an annually computed percentage based on general overhead and statewide cost. The same percentage, or indirect cost rate, is applied to all grants. This percentage can vary significantly from year to year due primarily to fluctuations in the statewide cost allocated to the Department of Environment and Natural Resources. The rate is a projection based on historical costs with subsequent years adjusted upward or downward based on actual indirect costs incurred. Disadvantages of this model for funding indirect costs include the fact that indirect costs charged to the grant are not based on current costs. The effect of increasing indirect cost will not be reflected in the amount charged to the grant until two years after the cost is incurred. Another disadvantage of indirect cost rate is that all grants are charged at the same average rate. A grant that incurs a larger amount of indirect cost and could otherwise afford the overhead would, in effect, be undercharged for its true indirect cost.

DHHS operates under a cost allocation plan (CAP) whereby grants (federal or private) have overhead costs allocated to their grants based on federally approved cost allocation methods. These methods use various statistics, including populations served, timesheets and reporting relationships to allocate costs. Allocation rates are developed monthly enabling the timely charge to each grant of those costs that are general overhead in nature and not otherwise directly chargeable to the grant. Charges to the grants are therefore much more directly related to the period in which the cost was incurred. Because allocation rates are developed based on an approved method for each individual grant, grants that incur higher than average overhead costs and can afford those charges will pay their fair share of overhead. Conversely, those grants that do not incur high overhead costs will not be overcharged.

The cost allocation method increases the draw of Medicaid (federal share) for services provided and allows state appropriations and grant funds to be used for direct services and staff. The indirect cost rate method, on the other hand, limits access to funds drawn from direct services in Medicaid (federal share) and requires additional state appropriations and/or grant funds to fill in the requirements of departmental operations allowing direct services and/or staff on the grant to decrease.

Either mechanism (indirect cost rates or cost allocation) is acceptable for accessing grant funds to cover administrative costs. The model used must be reviewed and approved by the federal Division of Cost Allocation and the respective federal regional offices. If the two divisions consolidate, it would be advisable to transition over time to a consistent method of cost allocation for grant funds. In a transition from an indirect cost system to a cost allocation system, the delayed response to increasing costs under the indirect cost rate approach would need to be considered. Otherwise, the Department of Environment and Natural Resources could be left short in covering indirect costs.

Information Technology. The Division of Environmental Health currently shares servers with other programs in the Department of Environment and Natural Resources. Depending on the approach to consolidation, IT costs could involve the need for new servers, relicensing of desk

tops, e-mail conversion expenditures, network separation, firewall administrative changes and miscellaneous conversions. The two divisions have estimated a cost range of \$65,000-\$100,000 depending on the need for new servers.

The two divisions also use different IT infrastructure. Several Division of Environmental Health IT programs have been developed in IBEAM, which is a technology not supported by the Department of Health and Human Services.

Additional study would be needed to develop a detailed IT transition plan and cost estimate. Given the ongoing reorganization of IT programs and services across state government and changes that may result from outsourcing of certain IT functions, any cost estimate for IT consolidation at this time may be very speculative. Actual costs would likely be short-term and depend on the transition time allowed and decisions yet to be made with respect to statewide IT administration. The departments recommend consultation with the State Office of Information Technology to better understand the minimum level of IT change that would be required for consolidation and to create a timetable for complete IT consolidation.

Physical Space and Rental Costs. The Division of Environmental Health – with the exception of the Shellfish Sanitation and Recreational Water Quality Section -- has office space with other DENR programs at 2728 Capital Boulevard.¹ All DENR programs currently in the Capital Boulevard location will move either to the Archdale Building or into the new Green Square Complex during the next 15 months. The Division of Environmental Health is scheduled to move into the Archdale Building in April 2012. This move will save an estimated \$500,000 per year in rental costs for DEH. The Division of Public Health is primarily located in offices on Six Forks Road and does not have sufficient space available to also house the Division of Environmental Health. Any transition would need to consider the feasibility of continuing with plans to relocate DEH offices to the Archdale Building. Since other DENR divisions will be leaving the 2728 Capital Boulevard location, it is not clear that DEH could remain in rental space there. Staying in rental space at 2728 Capital Boulevard or in another location would cause DEH to lose the benefit of moving into rent-free space in the Archdale Building. The Division of Public Health would not need to move from its current location under any consolidation plan.

Other One-Time Costs. New business cards and miscellaneous supplies would be required for a merged Division of Environmental Health and Division of Public Health. There would be other limited short-term costs, including staff time to make changes in statutory authorities, agreements, memoranda of understanding, contracts, grants, orders and financial assurance, policies and procedures, and similar administrative instruments.

Receipts. The departments do not anticipate any impact on receipts as a result of consolidation.

¹ The Shellfish Sanitation and Recreational Water Quality Section shares office space with other DENR divisions in Morehead City and Wilmington.

Part 5 – Models Assessed

Two models for merging the divisions have been identified and evaluated. Each model is presented below:

MODEL 1: Transfer most programs currently in DENR’s Division of Environmental Health to the Department of Health and Human Services as a section under the existing Division of Public Health. This reorganization proposal was included in Governor Perdue’s 2010-2011 budget. As proposed in the Governor’s budget, all programs within the Division of Environmental Health that relate to programs implemented through local health departments would move to DHHS. The transfer would also include programs directly related to health service providers (such as the Radiation Protection Program, which inspects radiation equipment in health settings) and programs that address potentially disease-carrying insects and pests. The programs to be transferred from DENR to DHHS would include:

- Environmental Health Services
 - Food Protection Program
 - Grade “A” Milk Sanitation Program²
 - Inspections, Statistics and Fees
 - Children’s Environmental Health
 - Childhood Lead Poisoning Prevention Program
 - Child Care Sanitation
 - School Sanitation
 - Pools, Tattoos and State Institutions
- On-Site Water Protection
 - Private Wells Program
 - Wastewater Discharge Elimination (WaDE) Program
 - Quality Assurance
 - On-site Wastewater Program
 - Non-point Source Program
 - Well Contractors Certification Commission
- Public Health Pest Management
 - Sleep Products Program
 - Tick Control Program
 - Vector Control Program
- Radiation Protection
 - Radiology Compliance
 - Radioactive Materials
 - Registration, Invoicing and Tanning Program
 - Radon Program
- Office of Education and Training

² An earlier study and report to the General Assembly has also looked at the feasibility of transferring the Grade “A” Milk Sanitation Program from DEH to the Department of Agriculture and Consumer Services to be consolidated with the other dairy inspection programs in that department.

- Administration

Two programs in DEH are fundamentally different from those listed above because the programs do not regularly interact with either local health departments or health care providers and do not address communicable disease:

The Shellfish Sanitation and Recreational Water Quality Program (Shellfish Sanitation) has two distinct functions: 1. inspection of shellfish processing plants; and 2. monitoring of waters where shellfish are harvested (to ensure that those waters meet federal standards for safe harvesting of shellfish for human consumption) and waters used for recreation (such as swimming). The inspection program for shellfish processing plants is similar to local health department food safety inspection programs, but inspections are conducted solely by state staff. Local health departments have no role in inspection of shellfish dealers and processors. The shellfish and recreational water quality monitoring program takes water quality samples from shellfish and recreational waters to test for bacteria levels. In function, it is similar to water quality monitoring programs in DENR's Division of Water Quality.

The shellfish inspection program and the shellfish/recreational water quality monitoring program both maintain close working relationships with DENR's Division of Marine Fisheries which has responsibilities related to shellfish propagation and harvest. Division of Marine Fisheries enforces shellfish area closures order by Shellfish Sanitation based on water quality sampling. Both DMF and Shellfish Sanitation regulate shellfish dealers – DMF enforces North Carolina dealer licensing requirements and Shellfish Sanitation certifies the dealers as meeting requirements of the National Shellfish Sanitation Program. DMF and DEH Shellfish Sanitation share a vote on the Interstate Shellfish Sanitation Conference where requirements for state shellfish programs are developed. Shellfish Sanitation has also worked closely with DMF and other DENR environmental protection programs on development of policy initiatives for protection of shellfish resources such as the Coastal Habitat Protection Plan.

The Public Water Supply Section of the Division of Environmental Health implements the federal Safe Drinking Water Act at the state level. The Safe Drinking Water Act, which is administered at the federal level by the U.S. Environmental Protection Agency, sets treatment standards for drinking water systems that serve the public. Since the Safe Drinking Water Act is implemented entirely through state and federal agencies, the Public Water Supply Section does not interact with local health departments on a regular basis. The Public Water Supply Section interacts with local health departments in a few situations. When contamination is discovered in a public water system, Public Water Supply notifies the local health department and coordinates with the health department in shutting down the system and getting information out to the public on safety precautions. PWS may also coordinate with the local health department on investigations related to problems in very small non-community water systems that also require permits from the health department (such as septic tank permits). Local health departments do not have a role in the primary activities of the Public Water Supply Section– permitting construction and operation of public water systems; enforcing Safe Drinking Water Act standards; and funding drinking water infrastructure projects.

On the other hand, the Public Water Supply Section has close working relationships with other DENR programs, such as the Division of Water Quality and the Division of Water Resources. The Public Water Supply Section works most closely with Division of Water Resources on water supply planning and drought response. Water supply planning positions in the Division of Water Resources already provide a significant amount of the state match for the federal Safe Drinking Water program grant administered by the Public Water Supply Section.³

Since these two DEH program areas are fundamentally different from the others, separate decisions would need to be made about the location of these two programs in a consolidation of Division of Environmental Health with the Division of Public Health.

Several options have been considered with respect to the Shellfish Sanitation and Recreational Water Quality Program in the event DEH and DPH are consolidated:

1. Leave the entire program in DENR and transfer it to the Division of Marine Fisheries or Division of Water Quality.
2. Divide the unit along functional lines, moving the shellfish inspection program to the Division of Public Health with other food inspection programs, but leaving the water quality monitoring program in DENR (either in the Division of Marine Fisheries or Division of Water Quality); or
3. Move the entire Shellfish Sanitation program to the Division of Public Health.

Although the shellfish plant inspection program has similarities to other food preparation and food service inspection programs in DEH, it has no actual relationship to those programs or to other health department functions. The shellfish/recreational water quality monitoring program also has no direct connection to local health department functions. The program carries out water quality monitoring activities similar to those in DENR's Division of Water Quality. On a day-to-day basis, however, Shellfish Sanitation's strongest working relationship has been with the shellfish propagation and harvest programs in DENR's Division of Marine Fisheries.

Dividing the unit along functional lines would be difficult because of shared resources. It would also disturb the current working relationship between the shellfish inspection and shellfish water quality programs. As a result, the two departments agree that the Shellfish Sanitation and Recreational Water Quality program should continue as a unit that includes both the shellfish inspection and water quality monitoring functions. If some or all of the Division of Environmental Health is transferred to DHHS, Shellfish Sanitation should remain in DENR as part of the Division of Marine Fisheries. Moving Shellfish Sanitation to DHHS would not benefit management or implementation of the shellfish sanitation program and it would disturb existing working relationships with DMF shellfish harvest programs and other DENR initiatives for protection of the state's shellfish resources.

³ 34 positions in the Division of Water Resources are counted toward state match for federal Safe Drinking Water grant funds.

In the event DEH transfers to DHHS, the Public Water Supply Section should remain in DENR as a new section within the Division of Water Resources. This recommendation was reflected in the Governor's 2010-2011 proposed budget. Although EPA sets drinking water standards based in part on human health impacts, the Public Water Supply Section does not have the kind of link to local health departments that would benefit from reorganization into the Division of Public Health. On the other hand, the Public Water Supply Section's close working relationship with DENR's Division of Water Resources on water supply planning and drought response would potentially be harmed by a move to DHHS. Transferring Public Water Supply to DHHS could also jeopardize state match for the federal Safe Drinking Water program grant since 34 water supply planning positions in DENR's Division of Water Resources are used to meet the match requirement. A smaller number of DEH administrative positions also provide part of the state match for the Safe Drinking Water grant. If some or all of those positions moved to DHHS in a reorganization, DENR would need to identify additional positions in DENR to replace the match amounts provided by those positions.⁴

MODEL 2: Transfer the Division of Public Health (DHHS) to the Department of Environment and Natural Resources, recreating the Department of Environment, Health and Natural Resources as it existed in the 1990s. The State Health Director would become an Assistant Secretary of Health in the new department. Sections in the existing Division of Public Health – Women's and Children's Health, Epidemiology (including the State Medical Examiner and the State Laboratory for Public Health), Chronic Disease and Injury Prevention, would become divisions under the Assistant Secretary for Health. The Division of Environmental Health, which now reports to the Assistant Secretary for Environment in DENR, would also be organized under the Assistant Secretary for Health. The Administration, Local and Community Support Section of the Division of Public Health, would become an office that reports directly to the State Health Director. This model returns to the department model that existed between 1989 and 1996. Programs transferred from DHHS to DENR would include:

- Women's and Children's Health Section
 - Child Nutrition Program
 - Child Health Services Program
 - Early Intervention Program
 - Immunization Program
 - Special Supplemental Nutrition Program (WIC)
 - Women's Health Program
- Chronic Disease and Injury Prevention
 - Chronic Disease Program
 - Health Promotion Program
 - Healthy Carolinians/Health Education Program
 - State Center for Health Statistics
- Epidemiology Section
 - Office of the Chief Medical Examiner
 - Communicable Disease Surveillance and Control Program

⁴ Nine positions in DEH administration count as \$246, 504 in state match for the Safe Drinking Water program grant. The amount of match that DENR would need to replace would depend on the number of those positions actually transferred out of DENR in a reorganization.

- Occupational and Environmental Epidemiology Program
- Public Health Preparedness and Response Program
- State Laboratory of Public Health
- Minority Health and Health Disparities Program
- Oral Health Program
- Vital Records
- Administrative, Local and Community Support

Local Technical Assistance and Training

ANALYSIS: Both models offer one advantage over the existing organization structure – all state agencies dealing with programs delivered through local health departments would be in a single department. Model 1 achieves that goal by moving the smallest number of staff. As a result, it would be expected to have the lowest cost. As presented in the Governor’s 2010-2011 budget, Model 1 may also realize some cost savings in terms of administrative positions. The Governor’s budget proposed to eliminate two management positions in the Division of Environmental Health as part of a proposed consolidation with the Division of Public Health in DHHS.⁵ One perceived drawback of Model 1 is that it would further increase the size of DHHS. Some interested parties have expressed concern about the ability of public health initiatives to get adequate resources and attention when DHHS faces significant budgetary and administrative challenges related to other large programs.

Model 2 represents a model that actually existed in the 1990s when all of the state’s public health programs were combined with environmental protection and conservation programs in the Department of Environment, Health and Natural Resources. A reorganization based on Model 2 would affect a much larger number of employees than Model 1 and likely result in larger transition costs. It would increase the size of the Department of Environment and Natural Resources by 50% (in terms of staff positions). Transferring the Division of Public Health to DENR would also combine an unusually wide range of programs in a single department. The Division of Public Health programs and DENR environmental protection programs only intersect in three areas organized under the Epidemiology Section in DPH: Communicable Disease Surveillance and Control Program; Occupational and Environmental Epidemiology Program; and the State Public Health Laboratory. The remainder of the programs in Division of Public Health have no relationship to environmental protection or natural resource management. Although environmental protection programs often consider human health in setting environmental standards, public health programs and environmental protection programs differ in both structure and delivery.

The natural resource management programs in DENR (such as forestry, soil and water conservation, and marine fisheries) have still another type of organization structure and culture. Unlike the public health and environmental protection programs, the natural resource programs have a smaller regulatory component and focus more on resource management and technical assistance. It is unclear how the natural resource agencies would fare in competition with both public health and environmental protection programs for resources and management attention. Managing a department that includes programs ranging from childhood vaccination and maternal

⁵ The plan as set out in the Governor’s proposed 2010-2011 budget would have eliminated a deputy director and a public information officer in the Division of Environmental Health for a savings of approximately \$200,000.

health to fisheries management presents significant challenges. Although some states have combined public health and environment programs in a single department, there is apparently no state that has successfully combined environmental protection, public health and natural resource management functions in a single state department.

The state's earlier experiment in combining the three types of programs in one department ended in 1997. At the time, there was a desire to consolidate all health-related programs in a single department and to align North Carolina's structure with that of the federal agencies. North Carolina's current DHHS structure essentially parallels the federal approach of linking health and human service programs.

Each model would involve its own set of transition management challenges. These challenges would be greater if the Division of Public Health moved back to the Department of Environment and Natural Resources because of the larger number of people affected by the organizational change. Because of different administrative practices and systems, there would be a need to make purchasing and contracts, human resources, public information and general budget planning consistent.

Model 1 – which would involve moving most of the programs in DENR's Division of Environmental Health to DHHS – recommends that the Public Water Supply Section stay in DENR to become a section within DENR's Division of Water Resources. That could require additional administrative support for the Division of Water Resources because a large part of the Public Water Supply Section's administrative support is currently provided by positions in the Division of Environmental Health that would likely transfer to DHHS. Moving the Division of Environmental Health to the Division of Public Health without the Public Water Supply Section would require budget adjustments to account for the fact that the division currently relies on the Public Water Supply Section to cost share general maintenance and equipment needs for the division. In turn, the Public Water Supply Section relies on some DEH administrative staff positions to meet part of the state match for federal grant funds. Depending on the final form of any reorganization, these impacts could be addressed by shifting those budget relationships to new partners. Impacts on state match would be significantly greater if the Public Water Supply Section transferred to DHHS with the other Division of Environmental Health programs because that would sever the link between Public Water Supply and the 34 positions in Division of Water Resources that are now used as part of the state match.

Part 6 – Conclusion and Recommendations

The past century of success in public health led to the end of infectious diseases as the major killer in the United States. This was accomplished by institutionalization of sanitation and communicable disease control into the societal norm and infrastructure. Oversight for these two fundamental preventive functions is now housed in two separate departments in the executive branch of North Carolina government: the Department of Environment and Natural Resources and the Department of Health and Human Services.

The successes resulted in the core functions of the contemporary public health system that ensure safe food, clean air and water, and other control measures for communicable disease (including immunizations, isolation, quarantine and treatment); as well as maintaining health statistics and the vital records. In the mid-20th century, new chemical and radiation hazards emerged which added lead, asbestos and ionizing radiation to the environmental control measures that protect public health. These core functions also formulate the foundation of public health preparedness and response to disasters, man-made or natural.

This report evaluates the feasibility of merging the Division of Environmental Health (DENR) and Division of Public Health (DHHS) as directed in Session Law 2010-31, Section 13.2. Two models were evaluated –

Model 1: Transferring most DEH programs to the Division of Public Health in the Department of Health and Human Services (two programs currently in DEH, the Public Water Supply Section and the Shellfish Sanitation and Recreational Water Quality Program, would remain in DENR and be consolidated with other DENR divisions); or

Model 2: Transferring the Division of Public Health to the Department of Environment and Natural Resources.

Part 3 of this report analyzed potential duplication and overlap in programs that could be eliminated in a merger and produce cost savings. No cost savings from duplication were identified, but the report identified some overlapping or related program functions. In areas where the two divisions provide similar services to local health departments (such as training) or address different aspects of the same public health threat (as in the lead and vector programs), there may be benefits in the form of increased program effectiveness by consolidating the two divisions.

Each of the merger models would provide some programmatic and organizational efficiencies and synergies. The most significant benefit of merger would be to the local level public health and environmental health staffs. Elimination of dual reporting to separate state departments by local health departments was a significant benefit identified in the evaluation of merger. Another potential benefit would be consolidation of training and educational outreach activities related to public health.

As in any reorganization, there will be one-time costs and a temporary loss in efficiency and productivity as staff adjusts to new business processes, forms and operational requirements. The most significant costs associated with merger may be associated with information technology. The divisions estimated between \$65,000 and \$100,000 in IT transition costs. (The higher figure assumes the need to replace servers.) There may also be IT transition issues due to use of different programs and platforms in the two departments. It should be noted, however, that actual IT transition costs associated with merger are difficult to assess. Changes required to merge the two divisions could be subsumed by the broader transition underway statewide in IT services.

Despite being in two different departments, the divisions of Public Health and Environmental Health have created a strong working relationship. There is coordination between both division staff and senior management in their respective departments. The Memorandum of Agreement, developed in 1997 between the Department of Health and Human Services and the Department of Environment and Natural Resources, is used to address issues of communication, coordination, planning and resource management relating to issues like waste, water supply and sanitation to minimize health risks from environmental factors. In 2005, the divisions created a “Public Health/Environmental Health Interagency Work Plan,” to identify future actions and detail measures to improve collaboration and coordination between the two departments. Division directors and their staff meet each month to discuss common issues. Department level administrators – including the two secretaries -- meet quarterly with division management to assess agency coordination. If merger does not occur, these efforts need to continue.

Recommendation: In the long term it would be beneficial to have all state programs related to delivery of public health and environmental health services through local health departments consolidated into a single agency. The most practical and least costly approach to consolidation would involve transferring programs in DENR’s Division of Environmental Health -- with the exception of the Public Water Supply and Shellfish Sanitation programs -- to the Division of Public Health in DHHS. The transfer should include all programs that provide support and oversight to local health department programs, allowing health departments to have a single point of contact in state government for oversight and training. The transfer should also include programs that regulate health care providers. If consolidation occurs within DHHS, the Public Water Supply Section of DEH should remain in DENR and be merged into the Division of Water Resources. The Shellfish Sanitation and Recreational Water Quality program in DEH should also remain in DENR and be transferred to the Division of Marine Fisheries.

Any significant reorganization impacts program efficiency and involves short-term transition costs. Given the state budget situation, it may be difficult to absorb those transition costs now. If there is support for consolidation of the health agencies, the departments would recommend allowing for a planning and transition period to allow for better management of transition costs.

Part 7 – Appendices

- I. Memorandum of Agreement Between the Department of Environment and Natural Resources and the Department of Health and Human Services
- II. Division of Environmental Health and Division of Public Health Work Plan

Copies of the Memorandum of Agreement between the Department of Environment and Natural Resources and the Department of Health and Human Services (Appendix I) and the Public Health/Environmental Health Interagency Work Plan (Appendix II) have been attached as a separate file.

