Delaware Journal of
Public Health

Volume 4 | Issue 2
March 2018

A publication of the Delaware Academy of Medicine / Delaware Public Health Association

Creating Healthy Communities –
The Intersection of Planning and Public Health

A recent air photo of showing the construction of the Route 9 Library outside of Wilmington

Photo credit: Google Earth

Concept development around the Route 9 Library featuring a mix of housing types for different ages and incomes, offices and shops, comfortable walkways, and lots of greenery as envisioned in the Route 9 Master Plan.

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COVER

Across the U.S., local governments are beginning to include goals and objectives that promote public health into their comprehensive plans. These long-term plans impact how people make choices of where to live and how to get around, their ability to access healthy foods and opportunities for physical activity, and affect broader issues of social equity, clean air and water, and more.

The Delaware Journal of Public Health (DJPH), first published in 2015, is the official journal of the Delaware Academy of Medicine / Delaware Public Health Association (Academy/DPHA).
Submissions: Contributions of original unpublished research, social science analysis, scholarly essays, critical commentaries, departments, and letters to the editor are welcome. Questions? Write ehealy@delamed.org or call Liz Healy at **302-733-3989**.
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American Planning Association
Delaware Chapter
Making Great Communities Happen

DELAWARE ACADEMY of MEDICINE

DPHA
DELAWARE PUBLIC HEALTH ASSOCIATION

2018 Delaware APA Regional Conference

in partnership with the DE Academy of Medicine / DE Public Health Association

Atlantic Sands Hotel, Rehoboth Beach, Delaware | October 23-24, 2018

Overview

This two-day conference will feature exemplary planning efforts in Delaware, the surrounding region, and beyond. The theme for 2018's conference is:

Planning 360: Economy, Environment and Public Health.

Sponsored by the Delaware Chapter of the American Planning Association, in partnership with the Delaware Academy of Medicine / Delaware Public Health Association, this conference is one of the best learning experiences for APA/AICP members and public health practitioners in the region. New for this year, its focus will expand to embrace public health and healthcare practitioners. The conference features two days of high quality, hands-on and interactive sessions, mobile workshops, planning law and planning ethics presentations, member networking, vendor contacts, plus a few surprises!

The conference will run several parallel tracks with 90-minute sessions. There will be no published conference proceedings, but presentation graphics will be posted on our web site. The audience will consist primarily of professionals from the public and private sectors working in planning (city, county, and state), public health, and healthcare related jobs.

Whether you are an APA member, an AICP member, an Academy/DPHA member, a student, or a person with an interest in the practice of Planning, this conference always delivers something for everyone!

Call for Presentations

The Conference is now accepting proposals for presentations.

Eligible submissions can cover a broad range of topics related to technological advances and their impacts on infrastructure planning, design, operations, and management related to the conference theme. Subjects may include those related to Economic Development, Environmental Quality, Public Health, or Planning-related Communications.

We are accepting proposals for full 90-minute sessions, for individual presentations within a session, and for Mobile Workshops. Research-based sessions highlighting promising emerging and innovative research ideas, best practices, or case studies are encouraged.

The submission deadline has been extended to March 31, 2018.
CLICK HERE for Information, or here to submit an abstract

Sponsorship Opportunities

To host a conference of this magnitude, we rely on a variety of sponsorships and contributions. These sponsorships not only benefit our organizations but also the sponsors whose message will be before planning professionals (including land use planners, landscape architects, engineers, architects, GIS professionals, etc.), other local and state government decision makers, interested residents, and, this year, given our topic, health care and public health professionals.

More information on the conference in general, on the Call for Presentations, and on sponsorship opportunities is available on the Chapter's website: http://delawareapa.org.

IN THIS ISSUE

Omar A. Khan, M.D., M.H.S.
President Elect

Timothy E. Gibbs, M.P.H.
Executive Director

This issue of the Journal has been two years in the making, inspired by a grant to the Delaware Chapter of the American Planning Association and the Delaware Academy of Medicine/Delaware Public Health Association. That nationally competitive grant from the CDC made to APA and APHA state level affiliates led to ground breaking work for the City of Dover and Kent County, Delaware. It combined the disciplines of planning and public health to undertake city and county evaluations, and create a toolkit to inform the next round of master plans for those areas. A master plan is a living document with usual lifespan of 10 years which sets the stage for all manner of future activities within the geographic area it covers: new development, land use, infrastructure, parks and recreation, air and water quality considerations, and much more.

We were gratified to learn how much overlap exists between planning and public health goals and practices. The disciplines certainly share common antecedents including a person-centered approach and a commitment to safe, evidence-based practices for the benefit of the community.

Even though the original project has been completed the relationship with Delaware APA and the Academy/DPHA remains strong and active, with a planner being part of the DPHA advisory council, and new members from both disciplines, joined with local and national entities. This fall, a joint educational activity will be held continuing the dialog, and an insert on page 3 provides additional detail on this event, and has a call for abstracts.

This edition has been co-edited by Bill Swiatek, AICP and David Edgell, AICP and they have executed a masterful and comprehensive view of this all important intersection of planning and public health - and how it benefits us all.

As always, we seek your input and suggests for future issues. Email Deputy Editor, Liz Healy at ehealy@delamed.org .

Guest Editors

William Swiatek, A.I.C.P. and David Edgell, A.I.C.P.

The way our communities are designed and built influences public health. One hundred years ago, major cities across the USA were grappling with overcrowding, undeveloped sanitary systems, disease outbreaks, poorly controlled fires, and air and noise pollution. The automobile revolution and government-led highway development, land zoning, and suburban home ownership programs drained central city populations through mid century, which helped to alleviate these early public health issues.

Today, most North Americans live in suburbs. While the public health challenges of the past have largely been resolved in part by this migration, new ones have arisen. Cars and highways are the lifeblood of suburban landscapes. Widespread car ownership ushered in an era of unprecedented human freedom and mobility for many. But these everyday machines are still dangerous to operate and interact with, expensive to buy and maintain, are a continuing source of pollution, and are now recognized as a leading and stubborn human contributor to global warming. Land zoning policies which supported suburban growth properly spaced industry from homes, which reduced residential exposure to emissions, odors, and noise. However, the rigorous implementation of strict land zoning also led to the isolation of many neighborhoods from nearby commerce and jobs – such as food markets and retail – and community spaces, such as parks and schools. This residential isolation has created an over dependence on cars. In turn, this overreliance has supported the rise in sedentary lifestyles, limited access to healthy foods and medical care for some and has helped fuel many of the public health challenges of our day, such as obesity, diabetes, death and injury from vehicle crashes, and cardiovascular disease.

With these health impacts becoming increasingly evident, planners and public health professionals are working more closely together than ever before to propose solutions. And this is nowhere truer than in Delaware. The First State is nationally recognized as a place where the planning and public health professions proactively work together. This issue of the Journal will explore the intersection between planning and health in Delaware, and some of the collaborative policy, infrastructure, and program solutions which have come about. Taken together, we are confident that the articles in this Journal present a full picture of the development of the two professions, examples of current collaborative work underway, and ideas for future efforts.

Enjoy!

Bill Swiatek, A.I.C.P. A principal planner with the Wilmington Area Planning Council (WILMAPCO), Bill leads the agency's long-range planning efforts. He has also completed transportation studies concerning equity, regional connectivity and accessibility, climate change, and community planning. Bill holds a Master of Arts in Geography from the University of Delaware.

David L. Edgell, A.I.C.P., is a Principal Planner with the Delaware Office of State Planning Coordination. His responsibilities include coordinating State land use priorities and resources with county, municipal and development interests, statewide land use planning, school siting, capital and facilities planning, demographics, and integrating land use planning into the State budget process. He has a Bachelor of Arts in environmental studies from Rollins College in Winter Park, Florida and a Master of Regional Planning from Cornell University in Ithaca, New York. David is a member of the American Institute of Certified Planners (AICP)

Example Delaware Planning Projects: Improving Health by Planning the Built Environment

Bill Swiatek, A.I.C.P., James J. Galvin, Jr., A.I.C.P., and David L. Edgell, A.I.C.P.

The Plan4Health effort has been invaluable in identifying the major health principles to include in comprehensive plans. However, Delaware planners and the communities they serve have been planning for improved public health in comprehensive plans and elsewhere for decades. They just did not always firmly link the plans or their recommendations to positive health outcomes, nor fully consider the plans from a health perspective. These past efforts include things like: planning for safer roads, new parks, economic revitalization, planning for those with disabilities, and reducing vehicle emissions.

In this article, we will examine three plans across Delaware that positively impacted public health, pre-Plan4Health. Beginning in Sussex County, we will show how Milford's Southeast Neighborhood Master Plan helped preserve agriculture and guide the development of what would become a new hospital in a walkable, mixed-use setting. In Dover, we will examine how a new mass transit center helped to spark efforts to plan for neighborhood revitalization. And, outside of Wilmington, we will learn about how public health considerations recently helped drive the master plan for the Route 9 corridor, an area fraught with health and social equity challenges.

Sussex County: Milford Southeast Neighborhood Master Plan

A master planning process in the City of Milford provided a unique opportunity to envision the future of a large area that is now home to Delaware's newest hospital facility. The unique collaboration between the City and various State agencies led to a plan that will enable the creation of a healthy community in a rapidly growing part of northern Sussex County.

During the housing boom of the early 2000s, a great deal of residential development activity occurred in the southern part of Milford, in Sussex County. The City annexed some large parcels in this area and development consisted of single-family homes, attached housing, and condominiums. In 2005, a developer proposed a 600-home residential development in Sussex County, just east of State Route 1 near the southern most City limits. The City became concerned that if this subdivision were constructed, the City would be the de facto provider of services (police, fire, library, parks, and eventually even sewer and water) without the benefit of a tax base to support those services. The City reached out to the developer and to the State to discuss annexation. At the time, the area was considered a rural area by the city, county and state plans.

The developer was interested in annexing into the city, but the annexation raised significant concerns from various state agencies. These concerns included agricultural preservation, environmental protection, coordination with transportation improvements, and preventing sprawl into a rural area of Sussex County.

The City, the OSPC, DelDOT and DNREC entered into a Memorandum of Agreement to solidify all parties' commitments to work together on a master plan for the area in 2009. The master plan was a means to thoughtfully meet the developer's objectives, account for the City's concerns over growth and services, and ensure that the State's environmental and agricultural resources were protected. It also allowed all parties to anticipate the impact of a new grade separated intersection (e.g. overpass) on land use and the rest of the transportation network.

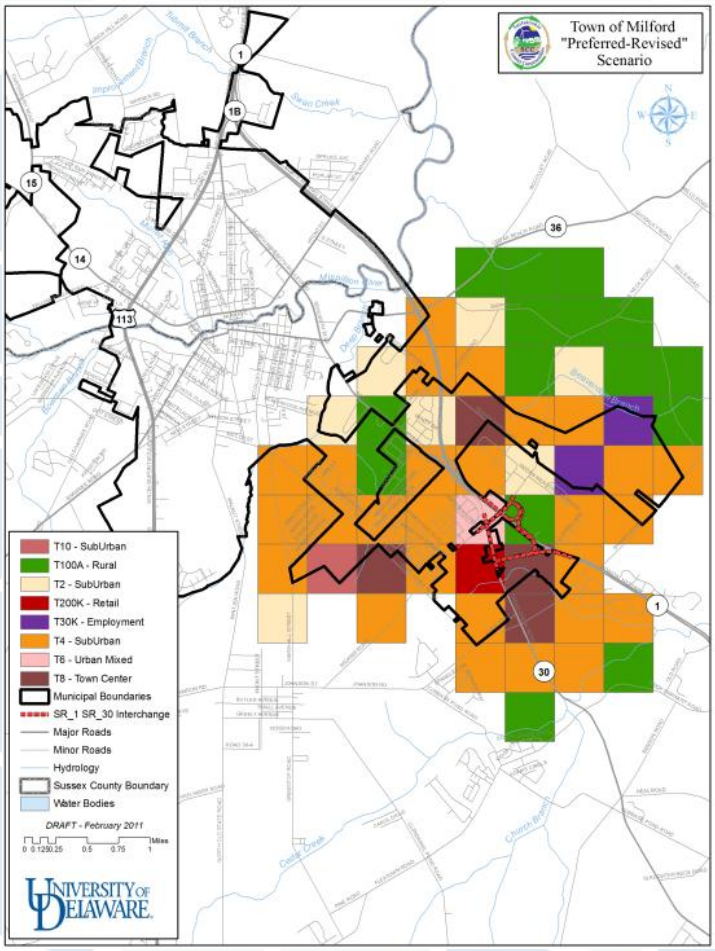
The planning process included a series of public workshops, held with assistance from the University of Delaware, to help residents and business owners envision the future of this area. As a result of these workshops, a consensus plan was developed that concentrated development around the Route 1 and Route 30 grade separated intersection, with a variety of housing densities. A transfer of development rights program was envisioned to protect agricultural lands surrounding this area, and a future road network was planned to serve the developed areas as they built out. The plan was adopted in July of 2011.

The Southeast Neighborhood has continued to grow in accordance with the mast plan. As of 2017 DelDOT has completed construction of the grade-separated intersection, and the City has completed sewer and water system installation, including a new water tower.

As this was occurring, Bayhealth was searching for a new site to build a health campus to replace the aging Milford Memorial Hospital. They reviewed site options throughout the Milford area and settled on a parcel in the Southeast Neighborhood Master Plan due to its superior access and utility availability. This new campus, a more than $300 million project, is currently under construction and is anticipated to open in 2019. The construction of the hospital is driving interest for a variety of other office, commercial, and residential projects that are now in the planning phases in this section of Milford.

The idea of incorporating public health into master plans was not common back in 2009 when this planning process began. Even so, this plan provides a good framework for the creation of a healthy community in Southeast Milford. The transportation plan is a good example. Although there is a great deal of new development activity in this part of Milford, it is still somewhat remote from the historic downtown area. In addition, the roads are currently designed for rural traffic and, for the most part, do not contain sidewalks or bike paths. As the area grows, the master plan envisions an interconnected road network that meets the principles of "complete streets." Complete streets is a policy, adopted by DelDOT, that strives to include all modes of transportation in new road design. As such, all future road improvements will include sidewalks and bicycle paths as appropriate. A transit loop was also envisioned to link this neighborhood with the historic downtown. Once these improvements are made, future residents will be able to use active transportation (walking and biking) to move around the neighborhood and throughout the city.

This future transportation network would not work very well if development occurred in a spread out, low density pattern. The distances would be too great between the various homes, businesses and institutions for people to choose to walk. The land use plan for the Southeast Neighborhood addresses that concern by creating a pattern of development that will support a healthy community by encouraging walking and biking. Development is concentrated in the vicinity of the new grade separated intersection. What was originally envisioned as a shopping district is now the site of the new Bayhealth hospital campus. New offices, commercial uses and homes are also envisioned near the campus. Areas further away from this district have lower densities, and agricultural preservation is planned for the lands farthest away.



Since we are talking about creating healthy communities, it should be mentioned that a new hospital or other medical facility was always envisioned as an anchor institution in this neighborhood. The Bayhealth project will provide numerous healthcare services to those who live in this neighborhood and throughout Milford and Sussex County.

Although many features of this master plan support the creation of a healthy community, there are some aspects missing from the plan. Most notable is the lack of a parks and recreation plan in the master plan. At the time (2009 – 2011) the City and the various state agencies were very concerned with preserving open space and agricultural lands and protecting environmental features. These are important components of any plan, but it is also important to plan for parks or a park system to provide places for "active recreation" near residential areas where they can be easily accessed.

The Milford Southeast Neighborhood Master Plan is guiding the growth of this neighborhood as a healthy community. It will have a diverse mix of uses (including first class medical facilities) designed in a way that will make it possible to walk or bike to take care of many daily needs. Although more planning for parks and recreational facilities are probably needed, the City will undoubtedly be adjusting the plan in the future as the area grows.

Kent County: Dover Transit Center

As early as 2004, the Delaware Department of Transportation (DelDOT) and its transit provider, the Delaware Transit Corporation (DTC), began discussions on developing a transit center for central Delaware. DelDOT planners began discussing the potential elements of the transit center with the Dover/Kent County Metropolitan Planning Organization (MPO), the community, and amongst themselves.

The MPO envisioned a compact, and vibrant mixed-use development pattern around the new transit center, with good walking and bicycling opportunities and discussed this concept with the team. Known in planning jargon as Transit Oriented Development (TOD) – or its antecedent Transit Ready Development (TRD) – the idea is to create a compact and vibrant development pattern which takes advantage of the proximity to a transit hub. The Downtown Dover Partnership (DDP), a group promoting reinvestment in Dover's downtown, became involved, and supported the concept of using the new transit center to support redeveloping the surrounding area. Together, both the MPO and the DDP helped drive what would become the Dover Transit Center Neighborhood Plan and Design Book.

In 2010, the MPO and DDP formally began the planning effort by hosting a five-day design charrette. Charrettes serve as an open and often exciting public design process where issues are discussed, ideas are identified, and solutions are created collectively. Dover's charrette brought together local and national design teams to study the strengths and opportunities around the transit center. More than 100 people participated, including Dover City Council members, city county

and state agency staff, Dover downtown partnership representatives, community leaders, developers, business owners, and residents.

Next, a plan was created which cataloged work done prior to and during the charrette in a written and visual format. The purpose of this document was to serve as a roadmap for downtown development and implementation of the vision plan as well as to serve as a marketing tool to highlight the development potential of downtown Dover to private and public stakeholders. The plan illustrated a redevelopment vision based on a 25-year buildout.

The proposed plan documents the benefits of density with welcoming street frontages to create a walkable neighborhood, cornerstone tenets of a healthier built environment. It suggested street network improvements including alternative street design cross-sections. It identified street parking in proposed opportunities for more efficient surface parking and even parking structures for the future. The plan incorporated areas of open space including a civic plaza and parks. The plan identified opportunities for new and infill development to occur around the transit center, sensitive to the existing context, scale, and materials of existing buildings and seek to create a harmonious mixture between old and new.

Building design principles identified in the plan included elements of Traditional Neighborhood Design, including

- buildings should be oriented to the street, human scaled and encourage pedestrian activity
- create attractive buildings based on traditional urban architecture. Ensure buildings work together to reinforce the character of a downtown -- a vital and lively place with an abundant diversity of commercial, retail and residential uses
- enrich the quality of the pedestrian experience as street-level buildings by using lighting, signage, and storefront design
- mixed-use buildings are strongly encouraged

In the years since the plan, the bus facilities were constructed and are today in operation. Hundreds of riders each day, of both regional service and city buses, pass through the new Dover Transit Center. The other portions the plan that have been implemented already influence pedestrian activity in this part of downtown Dover. The DDP has used this plan to guide their activities in improving this neighborhood. For example, at least two blocks of North Street were rebuilt, a vacant lot was rebuilt to create Loockerman Way (a public plaza, an important community gathering place and home to the DDP's farmers market), and the multiple owner and segregated parking lots on North Street were combined to create a single lot with restricted access and other improvements. Plans for redevelopment of a key DDP site (former ACME site/Kunkles Auto Parts and Kent County Community Action Program day care facility) on the 100 block of South Governors Ave. have been created and were approved by the Dover Planning Commission. Despite the fact that there have been few new buildings constructed by private investors there is an increasing interest in revitalizing older structures and opening new businesses in long dormant storefronts. Continued future improvements depend on the city and private property owners supporting the plan's vision and dedicating improvements that represent its goals. Readers who would like to learn more about this effort, or to read the Dover Transit Center Neighborhood Plan and Design Book should visit: https://www.downtowndoverpartnership.com/FinalPlanBookwithDDPAppendixV2.pdf

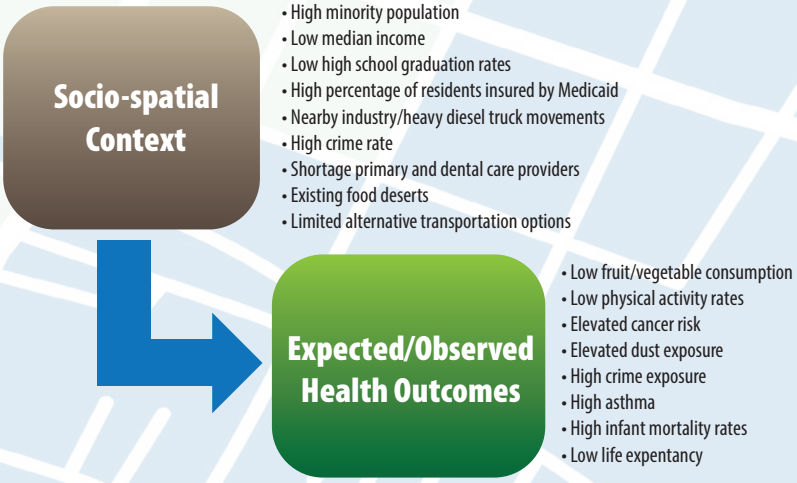
New Castle County – Route 9 Corridor Master Plan

Twentieth-century development along the Route 9 corridor near Wilmington occurred in a haphazard way. Industries and homes were built too closely to one another; streets and sidewalks did not always link together neighborhoods; major roads were overbuilt; commercial activity was not centralized; and busy raised expressways--I-495 and I-295 divided local communities. Policies which led to concentrated pockets of joblessness and poverty have encouraged a high crime rate – the number one community concern – to become entrenched.

The Wilmington Area Planning Council (WILMAPCO), Wilmington's Metropolitan Planning Organization, recently completed a 20-year master plan for the Route 9 corridor which aims to reverse decades of inattentive planning. Study and area boundaries stretched north/south from the City of Wilmington line to the City of New Castle line, and west/east from US 13 to the Delaware River. More than 16,500 people live within this area today. The initiative, which came at the request of New Castle County, makes a series of land use and transportation recommendations aimed at sparking economic revitalization and improving the health and quality of life for area residents. It was guided by a

steering committee comprised of local civic leaders, government agencies, and non-profit organizations. This group met regularly to provide feedback on the study, and to help spread the word about it.

Public health connections feature strongly into the plan. Closely working with Nemours Health and Prevention Services and the Delaware Department of Natural Resources and Environmental Control (DNREC) (both members of the plan's steering committee), WILMAPCO combed through available data to show the correlation between the corridor's socio-spatial context and expected and observed health outcomes. The corridor's underlying demographics, limited preventative health care and healthy food availability (most neighborhoods are "food deserts," home to low income residents some distance from food markets), high crime statistics, and car-centric development pattern all place it squarely in the realm of being a public health concern. Further, recent air testing by DNREC indicates high levels of total suspended dust in communities near the port, in violation of a state welfare standard but below levels that would be medically dangerous on their own. Still, DNREC and others have shown that cancer and respiratory illness risk in communities along this corridor have been shown to be slightly elevated, with causation not yet established.



Strong, innovative public engagement occurred throughout the planning process, with several hundred area residents contributing their vision for the future. Special attention was also given to collecting feedback from area children, which is unique with planning studies. Residents young and old who contributed to the plan at either one of the two big public workshops, online, at a basketball game or community festival, or simply on the street, were asked to identify their neighborhood. These locations were mapped. Later, WILMAPCO identified neighborhoods along the corridor with limited resident responses. These limited response areas were then specifically targeted for additional outreach. In the end, WILMAPCO achieved feedback from residents in each of the neighborhoods—important given the area's racial and class diversity.

Taking the existing conditions research -- including public health considerations -- a detailed market assessment (potential growth through 2036), and feedback from key stakeholders and the public into consideration, the Route 9 Master Plan makes a series of sweeping land use and transportation recommendations to spark revitalization and better protect quality of life:

- Changing the underlying zoning of land to properly space industrial from residential uses. This will involve relocating residents in two neighborhoods – Hamilton Park and Eden Park Gardens – away from industry and, in other parts of the corridor, rezoning land out of industry and into residential/commercial.
- Along with the previous recommendation, new strategically-placed truck routes to keep big trucks out of existing and future neighborhoods (a key community concern) while simultaneously improving freight movement efficiency.
- Zoning adjustments to allow compact, walkable mixed-use development (residential/commercial/office) to grow within several identified "suburban centers."
- The first center proposed for this healthier, complete development style is around the new Route 9 Library and Innovation Center. There, new rental and for-sale housing (mostly market rate, but with a percentage of affordable units), along with new office and retail and park space are proposed. In the 20-year timeframe, this intensive cluster should encourage the redevelopment of nearby underused commercial properties.
- Both Route 9 and Memorial Drive, a key west/east link, should be placed on "road diets" – that is they should have what are now (and will be in the future according to demographic and traffic projections) functionally-excessive motor lanes removed. Instead, more space for buses and people walking and bicycling should be provided. Key intersections will have to be rebuilt (some as roundabouts) to keep traffic moving. Both road diets and roundabouts have been shown to reduce dangerous vehicle crashes and improve pedestrian safety and connectivity.

The Route 9 Master Plan was finalized in May 2017. A project monitoring committee, comprised largely of members of the original steering committee, has been established to guide its implementation. And, indeed, implementation is already underway:

- The Delaware Department of Transportation (DelDOT) has proposed $1.2 million in spending to begin engineering the major transportation recommendations. The monitoring committee is prioritizing these recommendations, and exploring ways to involve local labor in their construction.
- "Safe Routes to School" Programs were begun at two local schools in response to the Master Plan. These initiatives will make it more feasible and safer for kids to walk and bike to school. DelDOT and local elected officials have committed $125,000 for each school to improve surrounding sidewalks and road crossings and signage, with a further $10,000 commitment from Nemours to support one of the programs.
- New Castle County has engaged the University of Delaware to survey residents of Hamilton Park and Eden Park Gardens about their feelings of potentially being relocated.

Readers who would like to learn more about the Route 9 Master Plan, or stay abreast of the work, should visit: www.wilmapco.org/route9.

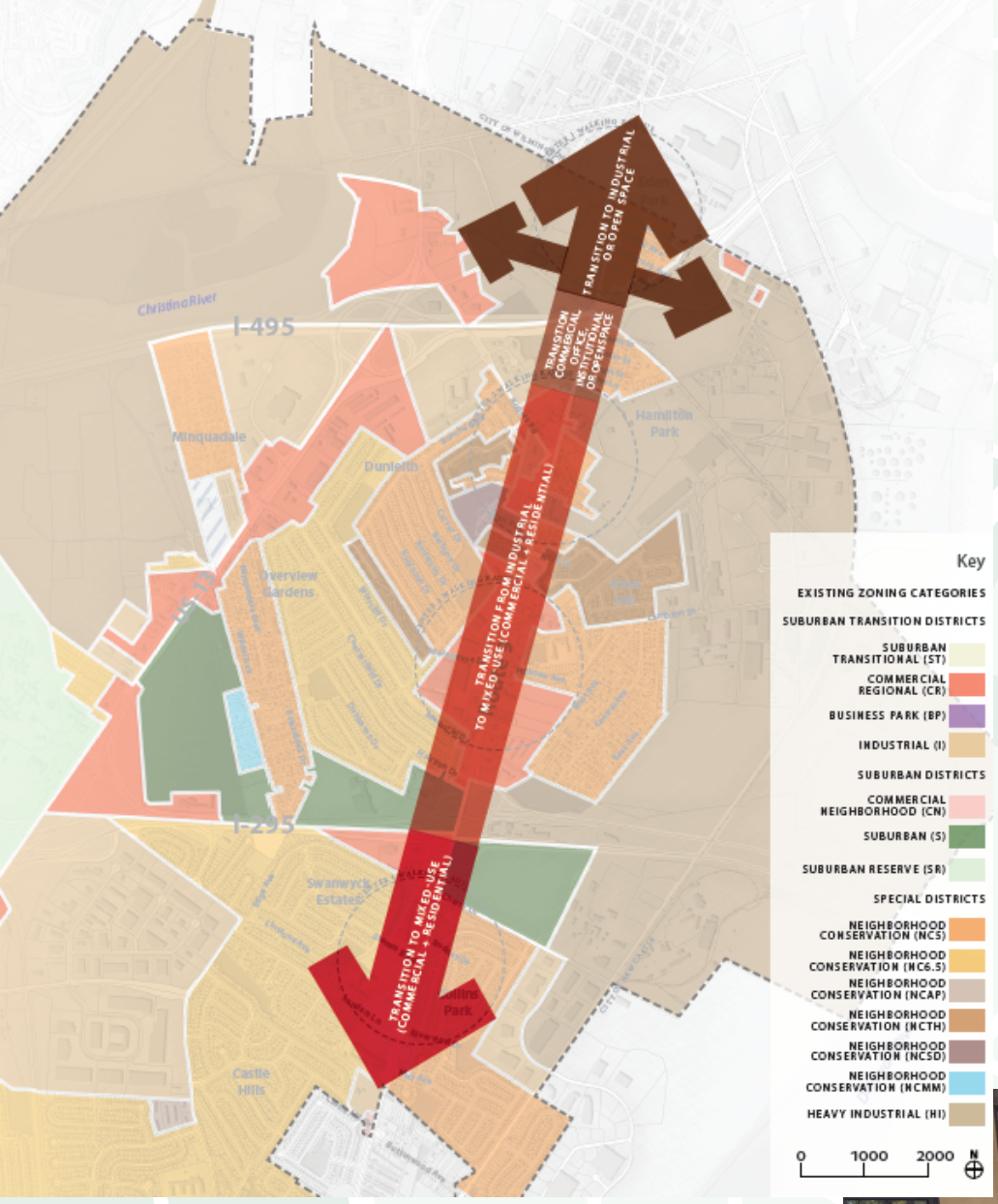
Conclusion

As shown by the three examples in this article, planners have been long helping to plan for changes to the built environment that, if implemented, will help achieve positive health outcomes. Protecting agricultural resources, promoting infill and redevelopment in a walkable setting, better spacing residential neighborhoods from industry, planning for more parks, and rethinking the way that our streets function to reduce crashes and promote alternative transportation are key recommendations from the three plans highlighted here. As new plans are initiated in the coming years, better and more fully incorporating public health considerations will not be difficult. A solid foundational history of doing so is already built.

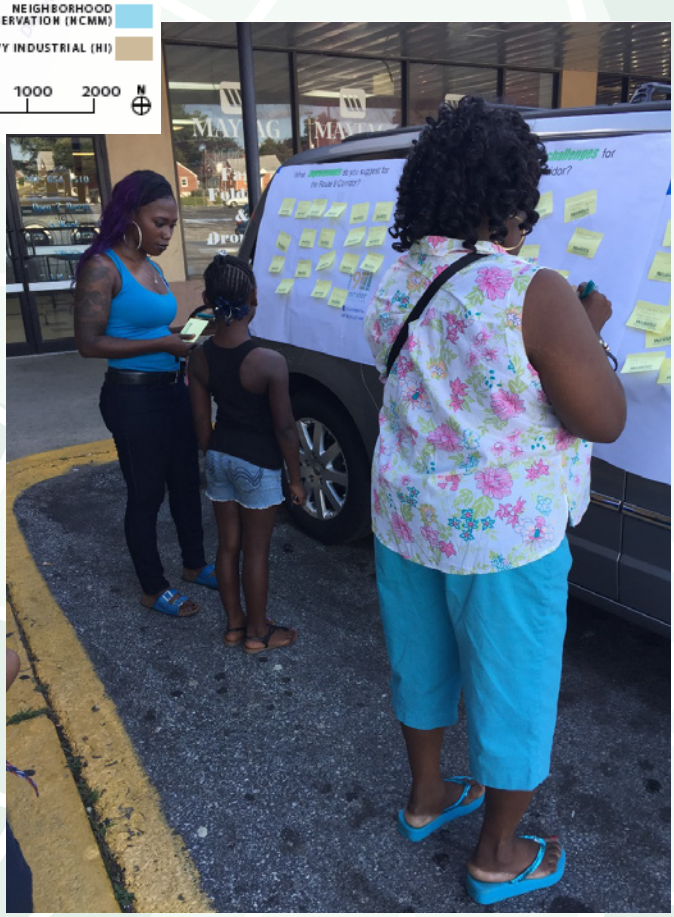
Bill Swiatek, A.I.C.P. A principal planner with the Wilmington Area Planning Council (WILMAPCO), Bill leads the agency's long-range planning efforts. He has also completed transportation studies concerning equity, regional connectivity and accessibility, climate change, and community planning. Bill holds a Master of Arts in Geography from the University of Delaware.

James J. Galvin, Jr., A.I.C.P., a Principal Planner with the Dover/Kent Metropolitan Planning Organization since September 2008, has over 20 year's professional planning experience. He has held positions in New York and Delaware, exploring the implementation of CDBG in a stressed region, controlling development in a growing region and, now, forecasting the transportation solutions to accommodate inevitable growth. Jim hails from Syracuse and Central New York, attended the State University of New York College at Potsdam, and received his Bachelors of Science Degree in Environmental Studies from the SUNY College of Environmental Science and Forestry in Syracuse.

David L. Edgell, A.I.C.P., is a Principal Planner with the Delaware Office of State Planning Coordination. His responsibilities include coordinating State land use priorities and resources with county, municipal and development interests, statewide land use planning, school siting, capital and facilities planning, demographics, and integrating land use planning into the State budget process. He has a Bachelor of Arts in environmental studies from Rollins College in Winter Park, Florida and a Master of Regional Planning from Cornell University in Ithaca, New York. David is a member of the American Institute of Certified Planners (AICP)



Key Rezoning Proposals: Route 9 Corridor Master Plan



Mobile Outreach During the Route 9 Corridor Master Plan

Health Equity Forum: Community Health in Practice with Dr. Jack Geiger

Tuesday, March 27, 11:30 a.m. - 1:00 p.m.
John H. Ammon Medical Education Center

The Health Equity Forum will feature a conversation with world-renowned leader in community health, Dr. Jack Geiger. He is a founding member of Physicians for Human Rights and co-founder of America's Community Health Center movement more than 50 years ago. Dr. Geiger will share insight into his life's work dedicated to achieving health equity in the primary care setting.

A buffet lunch will be provided. Forum is free of charge.

11:30 a.m. to noon: Registration and Lunch

Noon to 1:00 p.m.: Remarks and Conversation with Dr. Jack Geiger

Forum Speakers:

Jack Geiger, M.D., M.Sci. Hyg. (Epidemiology), Sc.D. (hon.) is the Arthur C. Logan Professor Emeritus of Community Medicine, City University of New York Medical School

Dan Hawkins, Senior Vice President, Policy & Research, National Association for Community Health Centers

Lolita Lopez, FACHE, President & CEO of Westside Family Healthcare

Bettina Tweardy Riveros, Esq., Chief Health Equity Officer, Senior Vice President, Government Affairs and Community

The John H. Ammon Medical Education Center is located at Christiana Care's Main Campus in Newark, Delaware. This forum is hosted by Westside Family Healthcare and Christiana Care Health System. Lunch is sponsored by Christiana Care.

Register Online:

www.westsidehealth.org/forum/

Pre-registration is encouraged as seating is limited. Online registration closes on Friday, March 23.

30TH Anniversary 1988-2018

Westside Family Healthcare

CHRISTIANA CARE HEALTH SYSTEM

Public Health, Population Health, and Planning: Ideas to Improve Communities

Zeinab Baba, Dr.P.H., M.S., Stephanie Belinske, M.P.H., and Donald Post
Division of Public Health, Delaware Department of Health and Social Services

Addressing the health of communities involves collaboration within different sectors to achieve these goals. "Public health" and "population health" are two terms that are often used interchangeably, but there are differences between the two and it is important to understand these differences. Addressing health in communities also involves planning, by ensuring that the built environment, where people live, work, and play, also promotes healthy lifestyles. Each of these subject areas bring unique frameworks, processes, and strategies to address issues of health in communities.

Public Health

The philosophies and principles surrounding public health have been around since the Hippocratic physiology described the four humours (blood, black bile, yellow bile, and phlegm) in ancient Greece[1]. Civilizations, then scholars and journalists noted health impacts, attempted remedies, and identified results. By the 1800s, industrialization and urbanization brought the spread of cholera, smallpox, dysentery, and other infectious diseases to New York City, Boston, Philadelphia, and beyond. Early public health efforts[1] included identifying environmental improvement to prevent endemic disease (Lemuel Shattuck), reporting of maternal and fetal mortality rates (Lemuel Shattuck), and improving sanitation practices (C.E.A. Winslow) – all which evolved into the public health that we know today.

Public health is the "science and art of preventing disease, prolonging life, and promoting health through organized efforts and informed choices of society, organizations, public and private, communities, and individuals."[2] Public health focuses on the population's health as a whole, initiates prevention strategies, and identifies problems that may affect the larger population.

According to the Centers for Disease Control and Prevention (CDC), the 10 great public health achievements of the 20th century[3] are:

1. *Immunizations.* There were dramatic declines in vaccine-preventable diseases and smallpox was eradicated.
2. *Motor vehicle safety.* There are fewer deaths from motor vehicle crashes through changes in driver and passenger behavior and enhanced safety laws.
3. *Workplace safety.* Government agencies improved mining safety and similar industries through research, education, and regulatory activities.
4. *Control of infectious diseases.* Advances in sanitation, hygiene, vaccination, antibiotics, and technology detect and monitor infectious diseases.
5. *Declines in deaths from heart disease and stroke.* These resulted from prevention efforts and improvements in early detection, treatment, and care.
6. *Safer and healthier foods.* There were increased efforts in food safety, control of foodborne pathogens, and education about the role of essential nutrients in disease prevention.
7. *Healthier mothers and babies.* Maternal and child health achievements include environmental interventions, nutrition improvements, advances in clinical medicine, greater access to health care, disease monitoring and surveillance improvements, higher maternal education levels, and better living conditions.
8. *Family planning.* Educators pointed out the benefits of smaller families and longer birth intervals.
9. *Fluoridation of drinking water.* Fluoridation of public drinking water resulted in the decline in dental caries.
10. *Tobacco as a health hazard.* Educators taught that tobacco use is a leading preventable cause of death and disability.

Population Health

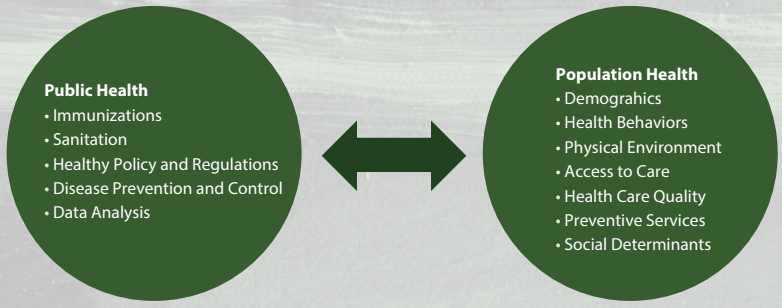
Population health is a relatively new term, having been coined in the 1990s to describe a conceptual framework for "thinking about why some populations are healthier than others."[4] Population health is the "health outcomes of a group of individuals, including the distribution of such outcomes within the group."[4] It describes conditions, or determinants, that are related and factors that "influence the health of populations over the life course, identifies systematic variation in their patterns of occurrence, and applies the resulting knowledge to develop and implement policies and actions to improve the health and well-being of those populations."[4]

Population health is focused on a defined community (state, county, city, etc.) and looks for effective ways to improve community health. Population health strategies improve health equity by addressing 'upstream' societal factors such as poverty, homelessness, and pollution before they lead to disease and other health problems. By addressing the underlying influences of health – such as the environment, education, and employment – we can improve the health of ourselves, our neighbors, and our communities. The population health approach relies on policies and broader practice and programmatic changes to influence large groups.

The Relationship of Public Health and Population Health

In the real world, public health and population health have a synergistic relationship (Figure 1). In government agencies that promote the health of communities, public health and population health are used together to describe health issues, formulate educational materials, determine areas of focus, and inform policies for healthier communities.

Figure 1: The Relationship of Public Health and Population Health



Source: Modified from the Alaska Health Status Model[5]

Data Sources

Information used for public health and population health is gained from different sources. Several state and national disease registries can be used to quantify disease in different locations. Registries that collect national and international data include the National Amyotrophic Lateral Sclerosis (ALS) Registry, the Severe Chronic Neutropenia International Registry, and the Alzheimer's Prevention Registry. Examples of registries that collect state-specific data include cancer registries like the Delaware Cancer Registry. These registries provide health professionals with the opportunity to describe disease conditions at either one point in time, or trend data over time. The ability to track diseases over time is important in formulating hypothesis about the burden of disease in a community.

Information on population demographics are also needed for this kind of work. Data sources like the National Health and Nutrition and Examination Survey (NHANES) includes additional information on health and nutrition status on adults and children by doing interviews and physical exams. This survey uses a representative sample of the United States so results can be extrapolated to the general population. Similar surveys include the National Health Interview Survey (NHIS) and Medical Expenditure Panel Survey (MEPS). In Delaware, the Behavioral Risk Factor Survey (BRFS) is an annual survey of a representative sample of the Delaware adult population about behaviors related to the risk of disease, premature death, and disability. Included in BRFS data is information for some disease screening.

The U.S. Census Bureau is the primary source for demographic data. It includes data for the United States that can be narrowed down to a geography of choice (state, county, census tract, municipality, etc.). The Census Bureau also has data tools and visualization mechanisms so that data can be presented in different ways.

Ideas for Using Public Health, Population Health, and Planning to Address Diabetes and Cancer in Delaware

The Delaware Department of Health and Social Services' Division of Public Health (DPH) is using a comprehensive multisector public health approach to prevent chronic disease by reducing overweight and obesity through physical activity and healthier eating. Part of DPH's strategic approach is to promote the adoption of these public health policies: menu labeling at restaurants and other food establishments; worksite policies that accommodate physical activity during the work day; school-based fitness and healthy-eating policies; and worksite policies that support healthy food and drink offered in vending machines.

"By adapting or creating new public health policies, governmental public health and our traditional and non-traditional partners can initiate the most impactful health changes on our state population," said DPH Director Dr. Karyl Rattay, MD, MS. "This intersectoral approach reaches the most people in their various environments to promote health and prevent chronic physical and mental health conditions."

Diabetes and cancer, two chronic health conditions, affect Delawareans at rates higher than the national average (cancer incidence in Delaware was ranked 2nd in the nation for the most recent time period of 2009-2013)[6] or increased rapidly in recent years (diabetes prevalence in Delaware has almost doubled between 1991 and 2015)[7]. A possible link has been between Type 2 diabetes and certain kinds of cancer[6] due to some shared risk factors between the two conditions.

DPH's Comprehensive Cancer Control Program (CCCP) uses data from the Delaware Cancer Registry (DCR) and BRFS to describe the cancer population in Delaware. The DCR is a dynamic dataset of cancers diagnosed in Delaware, and analysis of this dataset is used to inform public health efforts like cancer prevention and control programs. Age-adjusted incidence rates are calculated from the DCR and can be compared to national cancer incidence rates. The data in the DCR allows for incidence rates to be stratified by several factors including race/ethnicity, sex, and county. BRFS data is used to describe the demographics of people living in Delaware, understand cancer screening trends, and other social determinants that are related to cancer diagnosis (health status, nutrition, physical activity, etc.). Similar to the DCR, BRFS data can also be stratified allowing for comparisons among groups.

DPH's Diabetes and Heart Disease Prevention and Control Program (DHDPCP) uses the principles of population health and public health to drive healthier outcomes for Delaware adults diagnosed with diabetes. Population health maximizes DPH's limited funding allocations and other resources for the most impactful interventions. The DHDPCP uses the BRFS for s tate-based and county-based diabetes prevalence estimates, which can be stratified by age, race, sex, income, education, and other variables to determine health inequities.

Information collected using public health and population health methods on cancer and diabetes, DPH can identify target areas for different initiatives. Areas with high incidence rates of cancer and high prevalence of diabetes can be identified. Further analysis can be conducted to explore risk factors within the target areas that are common to both cancer and diabetes, and to create interventions. Risk factors common to both diseases include non-modifiable risk factors (age, race/ethnicity, sex) and modifiable risk factors (tobacco use, alcohol use, obesity, poor nutrition, physical inactivity). A different way of approaching some of the risk factors like physical inactivity, poor nutrition, and obesity is through planning.

Planners can use information gathered from the target areas described above to improve health in the community. Planners should take all aspects of the built environment into consideration: clean air and water, green buildings, walkable neighborhoods and trails, active transportation, access to healthy food, and overall community design[8]. Part of this process incorporates the "Four A's" to influence healthy eating and an active lifestyle[10]. These principles address different reasons why communities may not engage in healthy activities. Are the healthy behaviors:

1. *Available:* Is the healthy behavior available to the individual where they live, work, learn, and play?
2. *Affordable:* Is the healthy behavior affordable to the individual?
3. *Accessible:* Can an individual get to the healthy opportunity?
4. *Appealing:* Is the opportunity to engage in healthy behavior appealing?

To start, planners would identify if the targeted areas with high cancer incidence rates and diabetes prevalence are areas with low walkability, lack stores with fruits and vegetables, safe recreational spaces, or health care centers. There may be different ways to address health challenges including:

1. Encouraging neighborhood markets and convenience stores to stock more fruits and vegetables.
2. Encouraging neighborhood clean-up efforts to make outdoor recreational activities more appealing.
3. Partnering with local law enforcement to ensure safe outdoor spaces.
4. Reducing advertisements for tobacco and alcohol products in area stores.
5. Ensuring that there are facilities offering health services in close proximity to the community.

Once evidence-based best practices are implemented, public health and population health systems evaluate possible changes in cancer incidence or diabetes prevalence. Both the DCR and BRFS collect data on a yearly basis allowing for trend analysis. Planners should modify solutions to better suit the needs of specific communities.

Data shows nearly a quarter of Delaware adults diagnosed with diabetes are age 65 and older[11] so interventions for this chronic disease focus on older populations. DHDPCP's Diabetes Self-Management Program (DSMP) is an evidence-based intervention program provided to Delaware adults diagnosed with diabetes. The DSMP provides individuals with evidence-based self-management skills, including proper nutrition, regular physical activity, medication adherence, and regular provider visits, so Delawareans can manage their chronic illness. It is not uncommon to find the DHDPCP's workshops at senior centers and older adult housing facilities, though they are held statewide for adults of all ages. This intersection of population health and public health targets disparate populations for intervention to help those diagnosed with diabetes become active self-managers. Self-management helps prevent life-changing and costly complications such as nerve damage, blindness, and amputations. Better health outcomes improve clients' overall quality of life while reducing health care spending for participants, the State of Delaware, and the federal government. In this case, planners might partner with the DSMP to address some of the areas discussed above to improve physical activity and nutrition access in areas of the state with high populations with those age 65 and older. These are just two examples of how public health, population health, and planning can come together to improve communities.

Conclusion

DPH and health agencies across the country use the principles of public health and population health to provide services, design health promotion activities, and consult with internal and external stakeholders to improve health. The concepts defining these two areas work synergistically to address health challenges of populations. Current DPH initiatives involve using

elements of public health and population health to address and formulate health guidelines, programs, and prevention strategies for the people of Delaware. Practitioners who influence health outcomes benefit from assessing public health issues through a population health lens and partnering with planners to improve the environments where people live. Data can be used to describe the problem in the population, identify areas of concern or risk, measure current health care practices in the population, and hypothesize methods for improving health outcomes[12]. Planners can use this data to infuse opportunities for healthy behaviors into new communities and built environments. Once target areas are identified, planners can bring their expertise in the built environment to help reinforce ideas surrounding healthy living. It is crucial for all sectors to work together to ensure the health of communities.

"DPH has evolved and improved to better meet the needs of Delaware's growing and diverse population by emphasizing population-based activities as our core services, and working to strengthen our community-based public health system," said DPH Director Dr. Karyl T. Rattay, M.D., M.S. "It may take several years for us to see improvements and subsequently, a return on investment, but ultimately, prevention efforts are the best levers to improve health. We continue to address health inequities and help decision-makers understand that the systems that have been developed and policies put into place don't always treat people fairly, and this impacts health. Our challenge is to help others see that certain populations need more support than others."

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Zeinab Baba, Dr.P.H., M.S., currently works for the Delaware Division of Public Health as the epidemiologist for the Comprehensive Cancer Control Program. In this role she is responsible for analysis of data in the Delaware Cancer Registry. She is also responsible for conducting epidemiologic investigations, formulating program evaluation protocols, and compiling the annual Delaware Incidence and Mortality Report. She was previously a research assistant and data analyst at the Children's Hospital of Philadelphia working on projects relating to patient outcomes, health literacy and underserved populations.

Stephanie Belinske, M.P.H., works for the Delaware Division of Public Health as a Chronic Disease Epidemiologist for the Diabetes and Heart Disease Prevention and Control Program. Her current role includes analysis of the Behavior Risk Factor Survey (BRFS), the Delaware Cancer Registry (DCR), and various other internal data sources. She has over 12 years of experience working for various programs within the Division including the Office of Infectious Disease Epidemiology as the Enteric Disease Epidemiologist, Environmental Health Services as an Environmental Health Specialist, and Northern Health Services as a Disease Intervention Specialist.

Don Post is the Program Administrator for the Diabetes and Heart Disease Prevention and Control Program, was expanded in 2012 with the addition of heart disease initiatives. Prior to joining DPH in 2000, Don served as a District Manager for the American Diabetes Association, Delaware Affiliate from 1995 to 2000. He has collaborated extensively with community leaders, health professionals, and state agency partners in developing, promoting, and implementing state and national initiatives to control and prevent diabetes and heart disease in the state. He often speak to government and community groups, health professionals, social service professionals, business leaders, political leaders, and consumers on the prevalence, management, and prevention of diabetes.

The DPH Bulletin

From the Delaware Division of Public Health *March 2018*

DHSS and partners identify Substance Use Disorder strategies

Delaware Health and Social Services (DHSS) staff and key partners recently met to work on the department's Substance Use Disorder strategy map. The strategy map will enable DHSS to meet its vision of Delaware having a coordinated and comprehensive approach to prevent, identify, effectively treat, and support those impacted by substance use disorder. Nine objectives are supported by initiatives and activities, all of which will align with the Addiction Action Committee, which is chaired by Division of Public Health (DPH) Director Dr. Karyl Rattay. This strategy map is now transitioning to a performance management system to establish accountability.

From top: Recorder Jeffrey Gentry, DHSS Manager of Internal Communications, and Brent Waninger of DPH's Emergency Medical Services and Preparedness Section, listen intently to Diane Hainsworth of the Office of EMS. Community Relations Officer Jen Brestel of DPH's Office of Health and Risk Communication provides a summary.

DPH offers chronic pain course

Delawareans with a primary or secondary diagnosis of chronic pain – pain lasting longer than three to six months – may find some relief through DPH's Chronic Pain Self-Management Program (CPSMP).

Volunteer lay leaders teach the free six-week CPSMP course, using an evidence-based standardized curriculum developed at Stanford University. Participants learn to manage their chronic pain through physical activity, decision-making, action planning, breathing techniques, problem solving, communication, healthy eating, medications, and working with health professionals.

To review the class schedule, visit http://www.dhss.delaware.gov/dhss/dph/dpc/files/smpschedule.pdf. To register, call Tiffany Pearson in the Bureau of Chronic Disease at 302-744-1020.

Flu cases hit record high

DPH reported 6,674 laboratory-confirmed influenza cases for the current flu season as of the week ending February 27, an all-time high since record-keeping began with the 2004-2005 season. The actual number of flu cases in the community is likely much higher. Twenty-four flu-related deaths had occurred by that date.

DPH Director Dr. Karyl Rattay advises people to stay home if sick, to contact their doctor at the first sign of illness, and to prevent the spread of the flu virus with frequent hand-washing, covering coughs and sneezes, and sanitizing common surfaces.

MCH Bureau awarded for community health work in Sussex County

The Sussex County Health Coalition (SCHC) presented DPH's Maternal and Child Health (MCH) Bureau with its "2017 Community Partner of the Year" award. SCHC also gave a special recognition award to MCH Program Manager Patricia "Patti" Burke, who has attended their monthly meetings for the past four years to determine shared goals.

Through the partnership, birth discharge papers in some Sussex County hospitals now contain developmental screening information, and the gift bags that SCHC gives to new mothers contains developmental screening literature. Those gains support the Early Childhood Comprehensive Systems grant administered by DPH.

Other positive outcomes support good oral and dental health and bullying prevention. MCH and SCHC partnered with DPH's Bureau of Oral Health and Dental Services (BOHDS) to organize a professional development training for 60 Sussex County child care providers. MCH and BOHDS also encouraged pediatric medical providers to conduct an oral health assessment and fluoride varnish application as part of the well-child visit. An analysis of 2016 Medicaid claims data showed that the number of pediatricians statewide who are billing for fluoride applications grew from 10 practices in 2016 to 28 practices in 2017, Burke said.

DELAWARE HEALTH AND SOCIAL SERVICES
Division of Public Health

DHSS Press Release

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Date:March 06, 2018
DHSS-03-2018

DELAWARE EMERGENCY DEPARTMENT (ED) DATA SHOWS SIGNIFICANT INCREASE IN OPIOID OVERDOSES; DPH ANNOUNCES FORUM FOR FIRST RESPONDERS AND EDs TO ADDRESS OVERDOSE MANAGEMENT

Dover (March 6, 2018) - The Centers for Disease Control and Prevention (CDC) today released data from emergency departments (EDs) showing substantial increases in opioid overdose numbers nationwide, including in Delaware.According to the CDC's Vital Signs report, which examined ED visit data in 45 states, visits for suspected opioid overdoses increased 30 percent nationwide from July 2016 to September 2017. Of 16 states participating in enhanced data surveillance, Delaware reported the second-highest percent change for suspected opioid overdose ED visits during that time period (105 percent).

Of 2,075 suspected overdose-related ED visits during this time, 1,529 (74 percent) were in New Castle County, 355 (17 percent) in Sussex County and 191 (nine percent) in Kent County. Most significantly, the number of ED overdose visits increased most sharply and more than doubled in New Castle County from 189 in the third quarter of 2016 to 464 in the third quarter of 2017. It is important to note, however, that the report does not include the state rates per 100,000 overdose-related deaths, which is a more stable measure of increases and decreases over time.

"Emergency department data can point to alarming increases in opioid overdoses, and clearly we are concerned about the increases here in Delaware," said Division of Public Health (DPH) Director, Dr. Karyl Rattay. "The report's findings highlight the need for enhanced prevention and treatment efforts in EDs, including offering overdose prevention education, naloxone and related training for patients, family members, and friends, initiating buprenorphine in the ED and linking patients to treatment and services in the community as needed."

The Division of Public Health, already recognizing the important role that not only emergency departments, but also first responders have to play in battling the state's opioid epidemic, is holding the Acute Overdose Management System of Care Forum on Tuesday, March 13, 2018, at Delaware Technical Community College in Dover for these audiences.

DPH hopes to use the System of Care approach that it has successfully used with its Trauma, Pediatric and Stroke programs to address opioid overdoses in the state. The System of Care approach focuses on an organized approach to patient management throughout the continuum of care statewide. It involves coordination of care from pre-hospital transport through acute-care discharge, multidisciplinary involvement from dispatch, prehospital, hospitals, medical specialists, prevention, the use of documenting system data resulting in improved communication and collaboration among stakeholders to ensure patients receive the same quality of care no matter where in the state they enter the system.

"Partnerships, organized into a System of Care, will strengthen and expand efforts, providing better patient experience and outcome system-wide," Dr. Rattay said. "We will also use the opportunity to encourage emergency responders at all levels to provide all-important and extremely critical connections to treatment resources for patients in crisis."

Data from 16 states in the CDC's Enhanced State Opioid Overdose Surveillance (ESOOS) Program were analyzed for the report, showing quarterly trends by state and rural/urban differences from July 2016 through September 2017. Overall, ED visits for suspected opioid overdoses increased 35 percent in these 16 states hit hard by the epidemic. The data show:

- Eight states from three U.S. regions report substantial increases-25 percent or greater-in the rate of opioid overdose ED visits.
- Significant increases in all states reporting in the Midwest, including Wisconsin (109 percent), Illinois (66 percent), Indiana (35 percent), Ohio (28 percent), and Missouri (21 percent).
- Considerable variation among states in the Northeast and Southeast; some states reported substantial increases and others modest decreases:
    - In the Northeast, large increases were seen in Delaware (105 percent), Pennsylvania (81 percent), and Maine (34 percent), but other states, like Massachusetts, New Hampshire, and Rhode Island, showed nonsignificant decreases (less than 10 percent).
    - In the Southeast, North Carolina reported an increase (31 percent), while Kentucky reported a statistically significant decrease (15 percent).
- Continued rises in cities and towns of all types. Highest rate increases (54 percent) were in large central metropolitan areas (a population of 1 million or more and covering a principal city). While Delaware's ED overdose visits more than doubled during this time period (from 296 in the third quarter of 2016 to 596 at the end of the third quarter of 2017), due to Delaware's small population, it is possible that our rates of ED overdose visits are still lower than other states' rates who did not show a percent change (or a negligible one) during this time.

The sharp increases and variation across states and counties indicate the need for better coordination to address overdose outbreaks spreading across county and state borders. Closer coordination between public health and public safety agencies can support identification of changes in supply and use of illicit opioids, further allowing communities to take appropriate action to reduce opioid overdoses.

To learn more about the signs of addiction, prevention and treatment resources, and the availability of naloxone training in the community, visit HelpIsHereDe.com.

A person who is deaf, hard-of-hearing, deaf-blind or speech-disabled can call the DPH phone number above by using TTY services. Dial 7-1-1 or 800-232-5460 to type your conversation to a relay operator, who reads your conversation to a hearing person at DPH. The relay operator types the hearing person's spoken words back to the TTY user. To learn more about TTY availability in Delaware, visit http://delawarerelay.com.

Delaware Health and Social Services is committed to improving the quality of the lives of Delaware's citizens by promoting health and well-being, fostering self-sufficiency, and protecting vulnerable populations. DPH, a division of DHSS, urges Delawareans to make healthier choices with the 5-2-1 Almost None campaign: eat 5 or more fruits and vegetables each day, have no more than 2 hours of recreational screen time each day (includes TV, computer, gaming), get 1 or more hours of physical activity each day, and drink almost no sugary beverages.

Delaware Health and Social Services is committed to improving the quality of the lives of Delaware's citizens by promoting health and well-being, fostering self-sufficiency, and protecting vulnerable populations.

Postwar Growth in New Castle County is Defined by Suburban Pattern

William Swiatek, A.I.C.P. and David Edgell, A.I.C.P.

Abstract

America's settlements have been carefully planned since colonial times. From the 1600s through the early 20th century our cities and towns were designed in compact, interconnected urban patterns modeled after the European cities known to early colonists. This settlement pattern is steeped in urban traditions that go back thousands of years and is very flexible and efficient. However, the rapid industrialization in the 19th century led to serious urban problems including pollution, poor sanitation, and abhorrent housing conditions for working class people. A new, uniquely American, form of development evolved in the early 20th century and greatly accelerated after World War II. This is known as the suburban pattern of development, which is characterized by the segregation of land uses, the dominance of single family detached housing, and nearly exclusive automobile access. While this development pattern has its benefits, and helped ease many of the problems of the previous era, it has created new social and health consequences. New Castle County's rapid growth since 1950 has followed, and even epitomized, this suburban pattern. Today's built environment in New Castle County (and indeed throughout the USA) has created several challenges for both planners and health professionals. These are beginning to be addressed in many creative ways to create modern, complete, and healthy communities.

Traditional Neighborhood Design vs. Suburban Neighborhood Design

There are some significant differences between the design of a "traditional neighborhood" and a suburban neighborhood. Traditional neighborhoods are based on thousands of years of urban design traditions. The suburban neighborhood design evolved in the late 19th and early 20th century, and was adopted as the "default" style of development after World War II. The diagram below shows the differences between these two development styles.

Traditional neighborhoods, depicted in the bottom half of the diagram, can be found in any community in New Castle County planned and constructed prior to 1940. New Castle, Wilmington, Newark and Middletown are examples that we can all relate to. The various land uses (single family homes, apartment buildings, schools and the commercial district or mall) are located within a grid street pattern. The grid street pattern is "permeable," which means that there are many routes or pathways to get from any point in the neighborhood to any other. As such, all uses are interconnected for all users. Traffic is dispersed because there are many pathways, so it is safer for children, pedestrians, and cyclists. And because there are so many pathways to get to every single use, most trips can be short because the most direct path can be chosen.

Compare this to the suburban model of development, depicted in the top half of the diagram. This reflects the way most suburban areas of New Castle County are developed. Each land use (single family homes, apartment buildings, schools and the mall) is conceived of and constructed as separate project. There are no connections between the land uses, except by way of the large arterial road. Traffic on this road is likely to be very high because every single trip requires a drive on this road. Even if sidewalks are provided on the arterial road (which is not a given, by the way), walking or bicycling along such a road would be dangerous due to high traffic and often high speeds. Automobile ownership or at least access is essential in this model.

There is one more distinction between the two urban design models which must be mentioned. In order for the traditional neighborhood design to work, it must be relatively compact. The term compact means, in this instance, that all of the various community components and land uses must be relatively close to one another to enable the synergies that occur between them that enable people to take advantage of that permeable street pattern with multiple routes to destinations. For

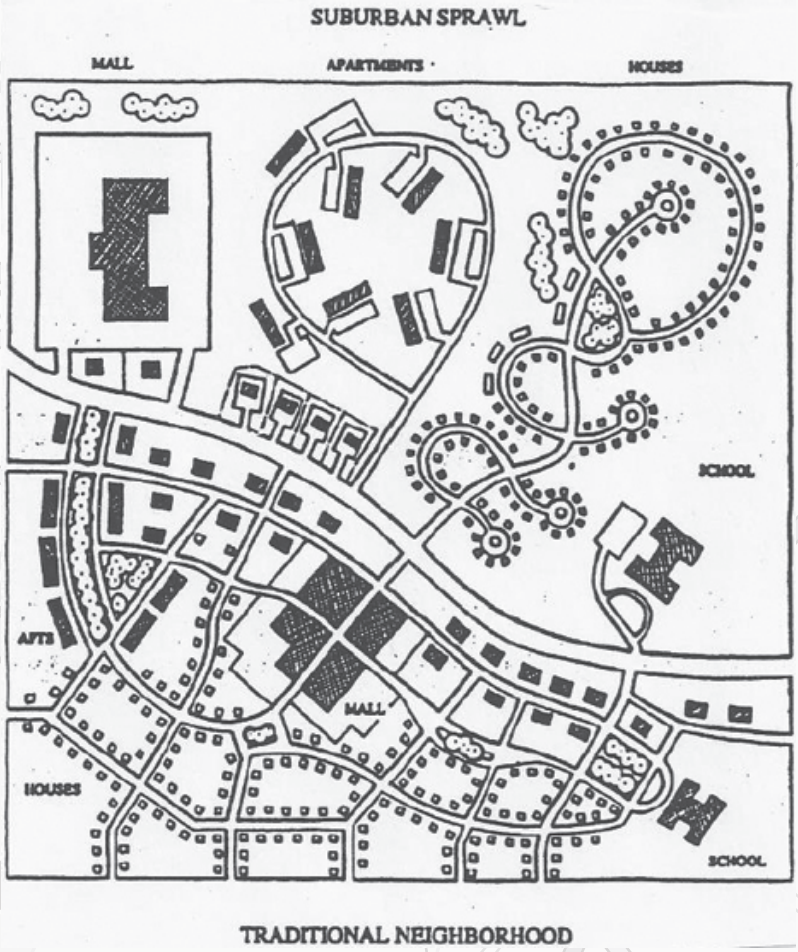


Diagram: Comparing suburban sprawl to traditional neighborhood design. Source: (Katz, 1994, p. xxx; adapted from Andres Duany and Elizabeth Plater-Zyberk)

example, imagine walking from work at the mall to pick up your children from school, then walking home. That is only possible if these land uses are in close proximity. Now, think back to our examples in New Castle County – Wilmington, New Castle, Newark and Middletown. All contain areas or neighborhoods where this is possible.

The suburban design pattern does not rely upon compactness. Because it is assumed that all travel between land uses will be by automobile (or bus or truck), there is no need for anything to be particularly close to one another. The school can be miles from the workplaces, shopping and homes requiring separate automobile trips to get to and from each one. This transportation flexibility allowed the continued growth of residential, commercial, and other uses all along high speed arterial road corridors.

In New Castle County, Kirkwood Highway, Route 13 and Route 896 are examples of this growth that we can all relate to. See the images below of growth along Kirkwood Highway (SR 2) through the decades. Prior to the highway's construction in the 1950s, this area around its intersection with Limestone Road (SR 7) was agricultural. The highway helped open the land for

development though the 1960s, which occurred in a typical suburban style with commercial retail strip malls along the road with isolated residential neighborhoods behind it. Today, accessing the many shops and bus stops at the Kirkwood Highway and Limestone Road intersection with or without a car is uncomfortable and unsafe.

The Emergence, and now Dominance of the Suburban Development Pattern

Traditional neighborhoods were designed based on urban patterns that had been honed over thousands of years of human settlements. The suburban development pattern is completely different, and very new – it emerged in the late 19th century and became the default pattern for new growth after World War II.

There were a number of factors which led to this change in our building patterns, but to understand them it is helpful to look back to the colonial roots of our traditional cities. Early European settlements in America were designed based traditional urban patterns known to early colonists. This design can be best described as a "grid" street network, which is the historical basis for the design of the traditional neighborhood found in the diagram. Sometimes the grid was punctuated by squares, parks or other features. New Haven Connecticut (1630s), Philadelphia (1682), New Orleans (1718) and Savannah (1733) are examples of settlements designed based on this grid pattern. (Gerkins, 1988, p. 20)

The grid style of development pattern has many advantages to the early settlers. It was simple to define lots or parcels of land to transfer for development. The street pattern was interconnected making it easy to access all parts of the community. And due to the fact that people moved about by foot and goods were transported by carts and wagons, sometimes horse drawn, the settlements were relatively compact. This compact, grid pattern of community design persisted through the 18th and 19th century. It was often used instead of more creative design patterns in order to simplify the subdivision and land development process, and maximize property values. (Gerkins (1988), pp. 22-23)

Changing technology and economic influences exposed some serious problems in the design of American urban areas by the mid 19th century, if not before. These problems were exacerbated by the fact that local governments had a very limited role in regulating the private use of land until the early 20th century. As such, private land owners were free to do whatever they pleased on their land within the city. Rapid industrialization led to factories located near ports, rail lines and power sources often in close proximity to the residential areas where their workers lived. While this made it easy to walk to work, it also exposed the population to significant pollution. In addition, sanitation systems were sometimes rudimentary or non-existent, and fresh potable water was limited in some of these densely packed neighborhoods. Moreover, housing conditions for the migrants flooding cities were often deplorable, being widely recognized as overcrowded, dangerously designed, poorly built and unsanitary. Parks and open spaces were often rare or non-existent. (Gerkins (1988) pp. 23-26)

As these problems became widely known, there were a wide range of efforts to address urban problems. The city planning profession did not exist as we know it today until the early 20th century, so these early urban reform efforts addressed specific issues. For instance, the rapid growth of New York City in the mid-1800s caused concern about the lack of open space in the original grid plan (which dated to 1811). An urban parks movement was born, culminating in the purchase and design of Central Park in 1857. (Gerkins, 1988, p. 26)

Housing reform was another significant reform movement in the late 19th century. Author Jacob Riis published two popular books (How the Other Half Lives in 1890 and The Children of the Poor in 1892) about housing conditions for the working class in New York City. The books outraged the public, and led to a congressional investigation into conditions in "slums" and ultimately to a series of laws governing housing construction, health and safety. The first laws were enacted by New York City, but soon became models and were widely copied. (Gerkins (1988, pp. 28-29)

There were yet other movements that sought to solve urban problems through the redesign of cities. The most prominent example of this was the "City Beautiful" movement, which involved envisioning, and sometime implementing, large scale public works projects and civic buildings intended to beautify the city, reduce congestion and inspire economic growth. The 1893 World;s Columbian Exhibition in Chicago is an example of this approach. Architect Daniel Burnham and others produced a monumental grouping of civic buildings and public spaces as part of this exhibition that became a model demonstrating how a city could be beautiful as well as functional. (Gerkins 1988, p. 28.)

Krikwood Highway from 1937 through 2013

What we know as the suburban design pattern (as depicted in the top of the diagram) was yet another reaction to urban problems of the era. Wealthy city residents seeking to escape the congestion and pollution of the city centers began to relocate to communities of detached single family homes on the periphery of the urban areas. The same landscape architect who designed Central Park in New York designed some prototype suburban communities on the outskirts of Chicago which contained curved streets and homes set in parklike garden settings in the late 1860s. These designs were widely replicated and living in a similar suburban area became a status symbol for the wealthy owner-manager class in many cities. These suburban communities were far enough away from the city center to be isolated and private, yet close enough to access the center easily by horse and carriage, and later by streetcar or rail. (Gerkins, 1988, p. 26)

In early 20th century America, the invention of the automobile created tremendous urban challenges as well as new opportunities for suburban growth. In 1910 there were 92 million Americans, and already 500,000 automobiles registered in the United States. By 1950, 151 million Americans owned 48 million automobiles. (Gerkins (1988) pp. 32 and 45). Today, 91.3% of US households have a vehicle available, most more than one. (http://www.governing.com/gov-data/car-ownership-numbers-of-vehicles-by-city-map.html.) The integration of this new form of transportation was the topic of much discussion and innovation.

In the early decades of the 20th century it became clear that while automobiles provided unprecedented freedom of movement, they were also dangerous. The design of cities had never had to accommodate such mechanized, high-speed traffic. There were many innovative design concepts developed to help address continued population growth in this era, but one is relevant to the emergence of the suburban design that characterizes so much of New Castle County today. In the 1929 Regional Survey of New York and its Environs Clarence A. Perry proposed the "neighborhood unit" as the basic building block for urban growth. The neighborhood unit was to be limited in size based on a population that would support an elementary school. The school was to be the center of the neighborhood, and the streets designed so that it would be safe for children to walk to the school from anywhere in the neighborhood. High traffic, arterial streets would define the boundaries of the neighborhood to avoid conflicts between pedestrians and cars. Commercial areas were to also be on the periphery of the neighborhood, along the arterial streets, to discourage cut through traffic. (Gerkins 1988 p. 32)

Clarence A. Perry's Neighborhood Unit Diagram, from Regional Survey of New York and its Environs, 1929v

Post World War II Suburban Expansion

Housing construction in America slowed greatly during the Great Depression in the 1930s, and shifted to housing for war workers during World War II. The cumulative effect was that there was a shortage of over 7 million housing units at the end of the war. (Gerkins (1988) p. 45) The Federal government recognized the need to stimulate housing construction in order provide housing for returning service members and others. Federal Housing Administration (FHA) and Veteran's Administration (VA) housing programs were developed to stimulate private housing construction. These programs, which expanded on previously successful wartime programs, provided mortgage insurance for 90% of the loan for a period of 25 years. Embedded in this program were criteria for qualifying loans. These criteria were based upon Perry's "Neighborhood Unit" concept, simplified to exclude all but single family detached housing. Curiously ignoring the entire "neighborhood" component of Perry's initial concept, the standard for receiving mortgage insurance dictated that homes were to be located in exclusive residential districts, be on curved streets, with grass front yards

and two trees per lot. These standards fueled massive suburban expansion outside of cities starting in the late 1940s, and continue today. Levittown, New York became the first large scale residential subdivision to be constructed to take advantage this program, and served as the prototype for an entirely new type of residential community. (Gerkins (1988) pp.42-45)

Another study that influenced the Federal mortgage criteria was a 1948 publication by the American Public Health Association, Committee on the Hygiene of Housing titled Planning the Neighborhood. This document reflected an acknowledgment that the nation was about to begin a massive postwar housing expansion. Its purpose was well described in the forward:

> *"The problem [of substandard housing and housing shortage] offers both a challenge and an opportunity. The city slum and the rural shack constitute grave threats to the physical and emotional health of their occupants; and they menace the social and economic structure of American life. We have the chance now to replace our substandard housing as well as to meet the need for new housing. With the application of new techniques in construction, of the growing science of planning, and sound methods of financing we can - if we will - rebuild our cities and our countryside. If we miss this chance, no such opportunity may occur again. If we do not plan wisely and act promptly and courageously, new slums worse than any we have known before may arise" (APHA, Committee on the Hygiene of Housing, p. v.)*

The document is very thorough, and provides detailed recommendations about how to build healthy housing in healthy neighborhoods. It addresses site selection, land development and utilities, residential dwelling types, community facilities, density, and transportation. Perry's "Neighborhood Unit" is referenced, and indeed the APHA document recommends centering new residential neighborhoods around schools and ensuring that there are adequate community facilities to meet the essential daily needs of the community. Although the document does suggest that "Predominantly single-family house developments have a place in outlying parts of the metropolitan area . . ." (APHA, Committee on the Hygiene of Housing, p. 27.), providing a diversity of housing types for all population groups in safe, healthy neighborhood settings was an overall recommendation. Unfortunately, as in Perry's work, the only aspect that made it into the Federal mortgage standards was the preference for single family detached homes.

The pioneers of the planning movement provided many innovative models that could have shaped the massive postwar housing and suburban development expansion. The presence of these models, and the research and examples of well-designed communities that contain complete neighborhoods, did little to influence what became American suburbia, or more pejoratively labeled "suburban sprawl." Federal mortgage standards (and may other influences not addressed here due to their complexity) fueled a mass production model among builders to produce primarily one product - the single family home in an isolated, suburban setting accessed almost exclusively by private automobile. Other land uses, such as shopping centers, office parks, and apartments, were similarly conceived as standalone "products," financed separately, and constructed without much – if any- regard to how they contributed to the overall community design.

Suburbanization in New Castle County, 1920s - 1980

Like many places across the United States, New Castle County experienced rapid growth in the postwar years which followed this suburban development model. New residents and new jobs began to settle outside the county's principal city, Wilmington. The population which left the city during this period were never replaced. Wilmington's population contracted from 110,000 residents in 1950 to about 70,000 in 1980 through today (a decline of 27%). Meanwhile, its suburbs and small towns doubled in size, adding about 219,000 residents.

Suburban growth in New Castle County began during the 1920s. Before and around the Civil War, the county, like Delaware, was chiefly agricultural. Most residents lived outside of Wilmington, working on the farmland cleared and sowed during previous centuries. With industrialization a fresh wave of European immigrants and rural migrants flooded into Wilmington to work in its factories and their support services. The surrounding rural population stagnated through the turn of the century. By 1920, Wilmington's population reached its peak of about 110,000--amounting to 74% of New Castle County's total population. During the 1920s, this

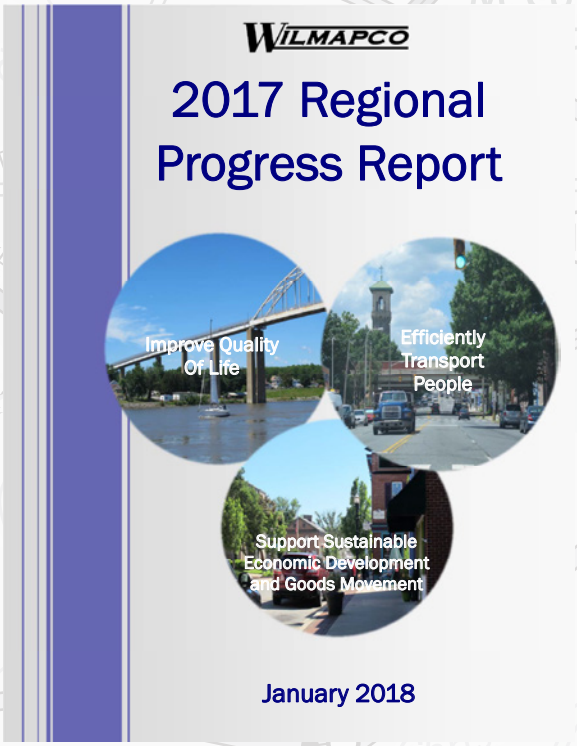
percentage dropped as early suburbs developed along an increasing network of all-weather roads. By 1930, 66% of New Castle County residents called Wilmington home—and that proportion has fallen steadily ever since. New waves of Wilmington migrants, most notably rural blacks from the American South around the war years, could not replace those lost. Today, at the peak of our suburbanization, only 13% of county residents live in Wilmington.

Following the Second World War, suburbanization accelerated across the county. Fresh straight highways, such as Kirkwood Highway (Route 2) in the 1950s and Interstate 95 in the 1960s, were laid down. The new highways, along with the availability of affordable personal cars, ushered in an era of unprecedented mobility. Now an average family was not tied to the ridged network of mass transit to make trips of some distance. Together with the expanding network of water and sewer infrastructure, the availability of affordable suburban housing, and a spike in population (the "baby boom"), the stage for a mass sprawl was set. This early sprawl occurred northeast of Wilmington towards the Pennsylvania line, along Kirkwood Highway (between Newark and Wilmington), and along US 13 southeast of Wilmington. By the 1970s more highway and water and upgrades enabled the valleys north of Route 2 to suburbanize, along with the patchwork of farms along the US 40 corridor.

The shift from a manufacturing economy to financial and services through the 1980s helped accelerate the suburbanization of work and shopping and everyday life. While many office jobs still located in Wilmington's high rises downtown, they were not tied to railways, or waterways, or a transit dependent workforce as were the old manufacturing jobs. Isolated suburban office parks developed along major highways. So too did retail shopping markets. Some, notably the Christiana and Concord Malls, were concentrated clusters of retail, while most simply dropped alongside highways in strip-malls, largely cordoned off from the surrounding residential uses. Parks and other community services were placed in and around the ever-spreading residential and commercial developments.

Recent Suburbanization (1980s – today)

Since the 1980s, suburban development has overtaken former farms along the US 40 corridor and across southern New Castle County. Like previous waves of suburbanization, it was triggered by enhancements to highways (such as the construction of Route 1 in the 1990s), the extension of the web of sewer and water infrastructure, and the continuation of general policy which favors the expansion of suburbs rather than redevelopment and the intensified use of existing cities, towns, and existing suburbs. Like the early waves of suburbanization beginning about 100 years ago, most of this new development south of US 40 is residential.



The Wilmington Area Planning Council (WILMAPCO), the transportation planning agency for the Wilmington region, has been tracking the southern wave of suburbanization. Between 2000 and 2011, over 11,000 new residents settled in rural areas outside of the I-95 corridor, mostly in southern New Castle County, and nearly 7,000 others settled in a county-targeted suburban growth zone just north and east of Middletown. In examining non-residential permitting data between 2008 and 2010, the agency found very weak corresponding growth within rural and developing areas. Most job and business development, then, still favored places around the I-95 corridor. Projecting out until 2040, the agency expects these trends to slow, but largely continue. Rural areas and the targeted suburban growth zone are expected to add a further 5,000 new households each though 2040, with less than 2,000 new jobs between them. (http://www.wilmapco.org/data/TIAPopandDev-Jan12.pdf)

Efforts to Improve Community Planning, and Reverse the Effects of Sprawl

Planners and public health professionals have become

increasingly aware of the drawbacks to our continued suburban expansion. As articulated by Patti Miller's article in this issue, suburban style development created numerous unforeseen health impacts. Deaths and injuries from car use – necessary to navigate suburbs – remain stubbornly high. Sprawling development patterns and isolated neighborhoods have been linked to a rise in inactive lifestyles and poor connections to jobs, retail, medical care, and healthy food. These have helped fuel several of the public health challenges of our day, which include: obesity, diabetes, cardiovascular disease, air pollution, global warming, and accidental vehicle deaths and injuries.

Strong efforts within and around planning to rethink and reverse prevailing suburban development patterns have occurred over the past half century. Nationally, growth management strategies began to take hold in the 1970s. These aimed to protect environmental resources from runaway land development (Nelson, 2000, pp. 375-399). The New Urbanist movement, a wave of pushback from within the allied professions which began in the late 1980s, sought to articulate the benefits of urban design based on the traditional model of development as well as refocusing growth within towns and cities (Congress of New Urbanism: https://www.cnu.org/who-we-are/movement). Leading proponents, such as architect June Williamson (w/Dunham-Jones, 2008), also seek to redevelop suburbs in a more traditional urban form. Though not tied in early years as a response to public health problems, these efforts have aimed to safeguard environmental resources from runaway land development and foster the development of diverse, mixed-use, and walkable places. There is even mounting evidence that this urban design style is one preferred by younger generations, leading to an economic and real estate development case for developing more complete communities. (Leinberger, 2008).

For the past two decades, Delaware's Office of State Planning and Coordination (OSPC) has led high-level efforts to begin halting and reversing the prevailing sprawling development pattern. In 1999, it adopted the first Strategies for State Policies and Spending, which provided guidance on coordinating land use decisions with infrastructure and programming (https://stateplanning.delaware.gov/strategies/). Updated continuously since then, the document maps which areas in Delaware are ripe for development or redevelopment (such as the I-95 corridor), and which areas should be off-limits to development (such as rural and natural areas). Development and infrastructure plans are reviewed for consistency to this statewide growth plan, and though it informs decisions, it does not have the force of law as land use decisions are made locally. More recently, the OSPC collaborated with the University of Delaware and the Delaware Department of Transportation to develop a "Complete Communities" toolbox (http://www.completecommunitiesde.org/). The work provides exhaustive policy guidance for developing complete communities – which are described as healthy, sustainable, inclusive, and efficient places. During the past few years, state funding to support complete communities has made available through the Downtown Development Districts program (https://stateplanning.delaware.gov/ddd/). So far, this competitive program has awarded $22 million to spur $448 million in private and other investment in eight districts—from Milford to Wilmington.

Last year, New Castle County updated its Unified Development Code (http://czo.nccde.org/), which sets out requirements for land development, to include principles which would better support healthy communities. Advice and participation from Delaware's Healthy Eating and Active Living Coalition informed the principals. Placed in the appendix as, "Guiding Principles for Development," the final language encourages the development of specific building, transportation, infrastructure, and civic features in different parts of the County. They encourage the development of mixed-use, walkable places while preserving the character of existing neighborhoods. While not required of new development as would be desired, it offers specific and articulated design standards that should be considered.

This issue of the Journal details other more recent work across the state to support redeveloping existing places in a healthy and sustainable way. The Plan4Health initiative (see "Plan4Health – 7 Principals for Integrating Health into Local Government Comp Plans" on page 40) amplifies the complete communities' framework through a public health and planning lens. Local plans, such as the Route 9 Corridor Master Plan (see "Example Delaware Planning Projects: Improving Health by Planning the Built Environment" on page 6) and program efforts (see "Growing a more Food Secure Wilmington" on page 72) are weaving these principles into long-term redevelopment recommendations and actions.

Still, while attention is growing around this issue and action is occurring to promote redevelopment and reverse sprawl, more work and attention is

needed. Much of WILMAPCO's approved spending on transportation projects has been in response to southward sprawl in New Castle County. Over $1 billion is identified for ten major projects along or south of US 40 alone though 2040, or 60% of all planned transportation spending for new projects (WILMAPCO 2040 RTP). About half of that funding is going towards the construction of the US 301 Expressway, a new high-speed road north of Middletown. That project, along with major planned upgrades to Route 1 and US 40, are in direct response to growth pressures and the safety and congestion issues additional traffic volume creates. These major transportation projects open the door for even more sprawling growth and development, as Kirkwood Highway did in the 1950s and Route 1 did in the 1990s, and raise serious concerns about the equity of transportation spending.

Autonomous (self-driving) vehicles (AV), on course to comprise much of our vehicle fleet within the next two decades, may also encourage more sprawl. The deployment of a mostly or fully AV traffic network holds great promise in significantly reducing vehicle crashes by eliminating human error from the equation. However, drivers are likely to tolerate a longer commute if they can engage in other activities while driving, such as work or play (Barnes and Turkel, 2017). And the driving commutes of today are themselves poised to become shorter due to the promise of reduced congestion and higher speeds that AVs bring. Careful planning is needed to instead encourage the concurrent urban redevelop opportunities that AVs will also open up – such as redeveloping the seas of parking lots and garages in our urban areas that will become less necessary with an AV-dominate system (Chapin et. Al, 2016).

As was detailed in this article, the suburban model development adopted in New Castle County (and throughout much of the USA) has been positive in some respects, but has had many unintended drawbacks that have urban planners, health professionals, and others in the allied professions calling for rethinking how we develop land. These efforts have been gaining momentum over the past two decades, but much of the underlying problems with land use policy and transportation spending remain. Ultimately, we must continue to work towards ending policy which favors expansion over the redevelopment and more intensified use of existing places.

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Founding Director, National Human Genome Center, Howard University

Dr. Dunston's research on human genome variation in disease susceptibility and health disparities has been the vanguard of efforts at Howard University to build national and international research collaborations focusing on the genetics of diseases common in African Americans and other African Diaspora populations. Her passion is building community-academic partnerships that connect the African Diaspora to the global genome revolution in knowledge on human identity in precision medicine and population health.

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Health Impacts of Suburban Development Patterns

Patti Miller, M.P.P., Nemours Children's Health System

Decades ago, Americans enthusiastically embraced the move from cities to the suburbs facilitated by the availability of the automobile, aggressive roadway and highway building policies, and mass production of affordable homes in suburban areas. Many residents of urban areas were eager to leave the poor living conditions of cities that resulted in health problems attributable to pollution, poor sanitation and overcrowding. However, research has shown that this explosion of development outside of urban areas has negative impacts on health.

The sprawl and suburban development patterns commonplace today are characterized by the wide distribution of the population across low-density residential areas; residential, commercial and institutional uses being separated; lack of defined activity centers like town centers; and road networks with large block sizes and poor access.[1] This separation of uses means that traveling from home to school, work, or retail areas is rarely attainable by walking or bicycling. Suburban residents often have no choice other than to drive on a daily basis to get to where they need to go. Thus, suburban development patterns contribute to an over reliance on motorized transportation, which directly affects health through air pollution, motor vehicle crashes, and pedestrian injuries and fatalities.[2]

Heavy automobile use in suburban communities contributes to emissions, which generate a number of pollutants including p**articles and ground-level ozone.** Fortunately, data has shown reductions in emissions and improvements in air quality over the years, attributable to the Clean Air Act and technological innovations. For instance, the Environmental Protection Agency (EPA) has found that since 1990, Ozone (O3) (8-hour) has decreased 22%; coarse particles (PM10) (24-hour) have decreased 39%; and fine particles (PM25) (24-hour) have decreased 44%.[3] Although regional air quality also has shown improvement over time,[4] air pollution continues to be a concern in certain geographic areas of Delaware. The American Lung Association's (ALA) 2017 State

of the Air Report gave New Castle, Kent and Sussex Counties the grades F, B and D, respectively, for number of high ozone days. In the time period evaluated in the report, New Castle County had 17 code orange days and 1 code red day. For particle pollution, New Castle County received an F grade, while Kent and Sussex Counties received A's.[5]

Exposure to air pollution has numerous negative health consequences, including premature death; asthma attacks; cardiovascular disease; lung cancer;

developmental damage; susceptibility to infections; worsened symptoms of chronic obstructive pulmonary disease; lung tissue swelling and irritation; low infant birth weight; and wheezing, coughing and shortness of breath.[6] Based on 2010 data, the EPA estimated that there were approximately 160,000 $PM_{2.5}$ exposure-related and 4,300 ozone exposure-related premature deaths.[7] Analyses of the contributions of various sectors to air pollution show that approximately 53,000 $PM_{2.5}$-related and 5,300 ozone-related early deaths every year are attributable to road transportation.[8]

Of particular concern are disparities in the health impacts of exposure to air pollution among different populations, with some demographic groups suffering more significant consequences compared to others. Children are particularly at risk, even beginning during the prenatal period when a mother's exposure to higher particle pollution levels is linked to greater risk of preterm birth. Children are more susceptible to negative health outcomes of air pollution than adults because their lungs are still developing, their ability to fight infection is still developing, and they tend to have more respiratory infections. Additionally, children inhale more polluted air than adults because they spend more time outdoors and are more likely to be physically active while outside.[9] Data from the 2014 Delaware Survey of Children's Health show that 17% of Delaware children ages 0-17 have ever had an asthma diagnosis, compared with a national prevalence of 14%[10].

Studies assessing racial differences in premature death from air pollution have yielded mixed results in terms of the disparities. Findings linking differential impacts of air pollution among different socioeconomic groups have been more consistent. For instance, a study of New Jersey residents revealed higher risks of premature death from long-term exposure to particle pollution in communities with a higher concentration of African-Americans, and lower home values and lower median income.[11]

Despite a reduction in motor vehicle crash deaths in the past century, the U.S. continues to experience 32,000 deaths and 2 million injuries annually from motor vehicle crashes.[12] Research has identified specific aspects of suburban development that contribute to vehicular crashes and pedestrian injuries and fatalities. The separation of uses mentioned previously means more time spent driving, which increases exposure to the dangers of the road and increases the likelihood of crashes. The very design of suburban roads also is to blame. In particular, major commercial thoroughfares and feeder roads combine high speeds, high volume of traffic, and frequent curb cuts for entering and exiting commercial areas.[13] A study using a county-based sprawl index composed of variables for residential density and street accessibility found that counties which are more compact had lower pedestrian fatality rates. The study's authors concluded that differences in pedestrian fatality rates between more and less sprawling areas may be attributable to vehicle speed. The wide, long streets of sprawling areas encourage higher speeds; pedestrians struck by cars traveling at higher speeds have a higher likelihood of dying than those hit by cars traveling at slower speeds.[14]

The State of Delaware has been working to address pedestrian injuries and fatalities in response to 2015 data from the National Highway Traffic Safety Administration showing that Delaware has the highest state pedestrian fatality rate per 100,000 population in the country (3.70 in 100,000).[15] Data from 2003-2012 showed that pedestrians represented 15.9% of all traffic-related deaths in Delaware; 72.6% of pedestrian deaths were on arterial roads, which are designed to move the greatest amount of automobile traffic over long distances with little delay.[16] Delaware's number of pedestrian fatalities has continued to rise year after year, with a 2016 report showing a 100% increase in the number of pedestrian fatalities between the first half of 2015 (9 deaths) and the first half of 2016 (18 deaths).[17] In 2015, former Governor Jack A. Markell created the Advisory Council on Walkability and Pedestrian

Awareness to convene state agencies, local governments, non-profit organizations and citizen advocates. The Council was tasked with supporting and making recommendations for: identifying and fixing gaps in pedestrian paths and sidewalks; designing crosswalks,

sidewalks, and pathways in the most effective way possible and ensuring compliance with the Americans with Disabilities Act; reviewing traffic rules to support a safe pedestrian environment; and developing strategies for pedestrian safety education and awareness.[18]

The design of communities also influences opportunities for physical activity, and has been linked to the nation's increasing obesity rate. The separation of uses in suburban communities is a barrier to active travel modes. Residents of suburban communities have fewer opportunities for walking and biking for utilitarian reasons, and spend more time in the car. This reduces the amount of time available for engaging in physical activity, which is essential to good health because it lowers the risk for heart disease, stroke, type 2 diabetes, depression and some cancers, and helps with weight management.[19] The 2008 Physical Activity Guidelines for Americans recommend adults engage in at least 150 minutes per week of moderate-intensity, or 75 minutes per week of vigorous-intensity aerobic activity, or an equivalent combination of both types of aerobic activity. Children and adolescents should participate in 60 minutes or more of physical activity each day.[20] The guidelines allow for increments of at least 10 minutes of aerobic activity, which can easily be achieved by walking for recreation or utilitarian reasons.

Numerous studies have examined the association between sprawling development and declines in physical activity rates and increases in obesity over time. One study found that the land use mix (distribution of development across residential, commercial, office and institutional land uses within 1 kilometer of an individual's home), time spent in the car, and distance walked were significantly associated with obesity, when adjusting for age, income and educational attainment. Each kilometer walked was associated with a 4.8% reduction in the odds of obesity; each additional hour per day in the car resulted in a 6% greater chance of being obese.[21] Another study found that after controlling for age, education, fruit and vegetable consumption, and other sociodemographic and behavior variables, residents living in more compact counties had lower body mass index (BMI) and lower odds of obesity and chronic diseases, compared to residents of less compact counties.[22] Finally, the Nurses Health Study found that study participants living in higher-density counties had lower BMI and higher levels of physical activity per week than participants in lower-density counties. Among older study participants, increasing density – of population, intersections or facilities – was associated with a greater chance of meeting the physical activity recommendations by walking.[23]

There is also a body of research showing the impact of sprawl on mental health. Long daily commutes can result in stress that affects well-being and social relationships. Civic engagement can suffer as those with long commutes find themselves with less time to spend with family and friends, or to engage in community activities. This can contribute to a decline in a community's social capital.[24]

There are also environmental consequences of suburban development and sprawl, like declines in water quantity and quality and intensification of heat island effects, that impact human health.[25] Natural landscapes like forests, wetlands and grasslands capture and enable rain and melting snow to gradually filter into the ground, but the impervious surfaces of roads, parking lots and rooftops more prevalent in urban and suburban communities do not enable this type of infiltration. Instead, melting snow and rain stay at the ground's surface and quickly run off in large quantities, taking along with them oil,

grease, toxic chemicals, pesticides and heavy metals. These pollutants end up in streams, rivers and lakes, where they harm fish and wildlife, kill native vegetation, pollute drinking water, and damage recreation areas.[26]

Sprawl has the potential to expand the heat island effect in urban areas, particularly when development has included road construction and cutting down numerous trees.[27] An analysis of the occurrence of extreme heat events (EHE) over decades found that the average number of EHEs each year increased across all cities. However, the rate of increase in EHEs in the most sprawling cities was more than two times greater than for the most compact cities.[28] Extreme heat can contribute to fainting, swelling of extremities, cramps, heat exhaustion and heat stroke. Those at greatest risk of heat-related health concerns are seniors, the socially isolated, persons with certain health conditions or on specific medications, and persons living on higher floors of multi-story dwellings.[29]

In Delaware, projects like Plan4Health and Planners4Health are bringing together planners and health professionals to address obesity and chronic disease by identifying and implementing land use and transportation planning strategies that support healthy lifestyles by improving opportunities for active recreation, active transportation and access to healthy food. The final outputs of both projects have been informed by input from various stakeholders and community members to ensure the strategies fit within the community context. While dense, mixed-use development patterns have been shown to support healthy lifestyle behaviors by increasing walking and biking, this approach is not always feasible or even supported by residents. In some instances, other improvements on a smaller scale are feasible and can garner public support and make an impact. Examples include the addition of bike lanes on wide, low-traffic roads to create an interconnected bike route or the installment of recreational amenities within existing green space adjacent to a residential community. While intended primarily to encourage physical activity, these interventions can positively affect the environment through lower emissions as increasing numbers of people bicycle and improve mental health as residents engage with other community members in the open space. These serve as examples that development can contribute to improvements across various health outcomes.

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Patti Miller, M.P.P., is a population health specialist at Nemours Children's Health System, one of the nation's largest pediatric health systems. In this role, she works to advance policy, systems and environmental changes that promote optimal health and development for all children. She participates on various workgroups and steering committees to represent strategies for incorporating health and equity considerations as part of land use, transportation and recreation planning processes. She also has engaged in Nemours' injury prevention efforts by spearheading the initiative to reduce pediatric all-terrain vehicle-related injuries by convening a multi-sector coalition, supporting establishment of an ATV safety training program, and advocating for a policy change to strengthen state regulations. Patti holds a bachelor's degree in economics from the University of Delaware and a master's degree in public policy from Harvard University's John F. Kennedy School of Government.

It's the most *dangerous time* of the year.

Mitch Topal, OHS Marketing Specialist and Public Information Officer

On November 22, the Delaware Office of Highway Safety launched its Safe Family Holiday media campaign with much fanfare. Using a giant inflatable snow globe as a backdrop, Wilmington Mayor Pike Purzycki along with OHS Director Jana Simpler and OHS PIO Mitch Topal cut the ribbon to launch the campaign. Also in attendance were members of the Delaware State Police, paramedics, OHS staffers, representatives from AAA Mid-Atlantic and the media.

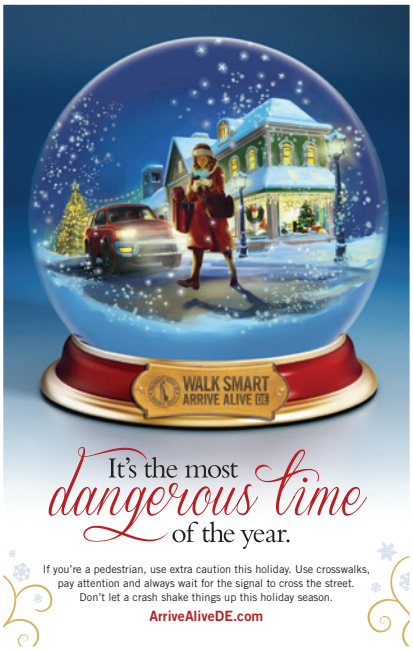
With shorter days, holiday festivities that may involve alcohol and more cars on the road, the potential for crashes increases significantly. The Safe Family Holiday campaign touches on many of our priority areas including Impaired Driving, Pedestrian Safety, Distracted Driving, Occupant Protection and Speed. OHS is launching this campaign to build awareness and motivate Delawareans to slow down and be aware of the many dangers that can cause injurious and sometimes deadly crashes.

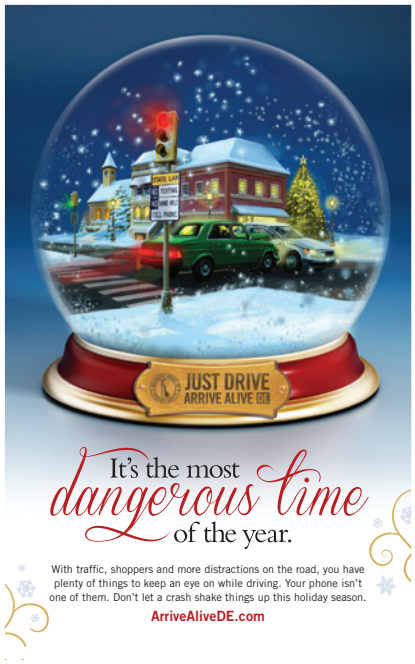
Last year, the Delaware law enforcement responded to more than 21,000 collisions—with 117 of these being fatal crashes resulting in 120 deaths. The combination of winter weather and holiday celebrations makes November through the end of December one of the most dangerous times of the year for drivers and pedestrians. It also makes it one of the most tragic times of the year for families who lose loved ones, as well as the thousands of crash victims who survive but are faced with debilitating injuries, unexpected expenses and legal repercussions. Recent statistics emphasize why OHS is focusing on four core areas of travel safety during The Most Dangerous Time of the Year campaign.

- Pedestrians: Over the past 5 years, 146 pedestrians have been killed in traffic accidents; in 2016, collisions caused the death of 28 pedestrians in Delaware. We now have the highest per-capita pedestrian fatality rate in America.
- DUIs: So far in 2017, the state of Delaware has seen 3,141 DUI arrests and 32 impaired driving-related fatalities.
- Speeding and failure to use seatbelts: Last year (2016) Delaware had 44 fatalities related to seatbelt and speed violations. Police issued 93,509 speeding tickets, and 5,797 seatbelt tickets.
- Distracted driving: Inattentive driving caused the majority of harmful or fatal crashes in Delaware in 2016.

About the Campaign

OHS's The Most Dangerous Time of the Year campaign—which runs November 22, 2017 through December 31, 2017—was developed to help Delawareans make an easy and memorable connection between everything that's cherished about the holidays and how quickly that joy can turn into harmful or fatal accidents. At the heart of the campaign are two ubiquitous holiday favorites: snow globes and caroling. However, OHS has given these icons a message-laden twist to advance the campaign objectives. Snow globes will be depicted in posters, print ads, billboards, theater ads, retail floor displays, social media posts, website pages and more with a call to action of "Don't let a crash shake things up this holiday season," as well as specific messaging related to the core topics. Two





over-sized inflatable snow globes will also be on display with pledge-signing opportunities. One will remain at the Riverfront Rink, with the other traveling to malls, holiday events and other venues in Delaware. Carolers singing favorite holiday songs with new lyrics reinforcing campaign messages will be present with the snow globes and heard over the airwaves.

Finally, OHS urges motorists to make good decisions. If you drink, don't drive. If you drink and don't have a designated driver, visit our website at www.arrivealivede.com/Drive-Sober for a list of safe ride options, including taxies, and links to the Uber and Lyft apps.

We want everyone to have a safe and enjoyable holiday. Plan ahead. Buckle up. Pay attention. Arrive alive.

HEALTHY DELAWARE

Healthy Delaware Update:
Healthy Tips
Posted Monday, January 22, 2018

Start AND Stay Healthy in 2018
Happy New Year! By now, you're probably working toward that New Year's resolution. Whether it's eating better, exercising more, or finally putting out the cigarettes for good, we hope your resolution will help you better yourself. Lifestyle changes can lower the risk of developing, and even prevent, many chronic diseases. Here are some ways we can help you get healthy — and stay healthy — all year long.

Increase physical activity to reduce your risks.
Pick activities you like doing, whether it's walking, biking, dancing, or playing with your kids. Start out slowly. Set a goal of just 10 minutes a day and gradually build up to 60 minutes every day. Mix it up, have fun, and work out all your muscles. Whatever you do, just get moving. **Find a park or trail near you.**

Eat better to feel better.
Eat at least five servings of vegetables and fruits every day. They are full of natural energy that can help fight diseases. And avoid foods that are high in saturated fats, added sugars, and sodium. This will help y ou maintain a healthy weight. Follow the recommendations of the **5-2-1-Almost None formula.**

Avoid tobacco to avoid health problems.
All tobacco products are harmful. It's not just cigarettes. Cigars, dip, chew, and every form of tobacco is toxic, addictive, and deadly. If you or someone you love uses tobacco, don't give up on giving up. It can be a challenge to quit, but the Delaware Quitline can help. **Get the support and encouragement you need.**

Get screenings to get answers.
Most chronic diseases can be detected through annual checkups. And having routine cancer screenings can increase the chances of finding cancer early, when it's most treatable. It's important to talk with your health care provider about screening recommendations. Individuals with a family history of cancer may qualify for a screening at an earlier age. **Know when and how often you should be screened.**

Know the signs of non-screenable cancers.
Certain cancers, such as bladder, kidney, uterine, pancreatic, and non-Hodgkin's lymphoma, can disguise themselves as something else. If you're experiencing persistent symptoms, don't ignore them. Blood in your urine, excessive fatigue, night sweats, unexplained weight loss, and even chronic pelvic pain could all be signs of cancer. Take another look and talk to your health care provider right away. **Learn more about these cancers and their symptoms.**

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Jefferson College of Population Health Forums

March 14, 2018

Connecting Consumers to Resources: Closing the Gap on Social Determinants

Erine Gray, MPA
CEO & Founder

Chris Dunkin
Vice President of Sales

Aunt Bertha, Inc.

Bluemle Life Sciences Bldg.
233 South 10th Street, Room 105/107

April 11, 2018*

Community-Based Population Health Research: A Report from the Field

Sharon Larson, PhD
Executive Director

Norma Padron, PhD, MPH
Associate Director

Main Line Health Center for Population Health Research at Lankenau Institute for Medical Research

Trina Thompson, DrPH, MPH, BSN
Executive Director

Marquita Decker-Palmer, MD, MPH, PhD
Associate Director

1889 Jefferson Center for Population Health

Bluemle Life Sciences Bldg.
233 South 10th Street, Room 105/107

May 9, 2018

Amplifying the Patient Voice: Advancing Quality and Improving Care

Shantanu Agarwal, MD, MPH
President
National Quality Forum (NQF)

Bluemle Life Sciences Bldg.
233 South 10th Street, Room 105/107

June 13, 2018

Working to Make Philadelphians Healthier

Cheryl Bettigole, MD, MPH
Director, Chronic Disease Prevention
City of Philadelphia

Bluemle Life Sciences Bldg.
233 South 10th Street, Room 105/107

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Principles for Incorporating Health into Comprehensive Plans: Delaware Plan4Health

Sara Ivey and David L. Edgell, A.I.C.P.

Comprehensive Plans as Tools for Public Health Promotion

Comprehensive plans convey a local government's strategic vision for its future. Through a concert of policies, statements, and goals, comprehensive plans guide the direction of future development. Comprehensive plans serve several purposes. They are used to craft a jurisdiction's land development codes, and they provide a framework for development and annexation. Comprehensive plans are also unified advisory documents for municipal councils and planning commissions on land use and growth issues, and they are resources for community members and organizations, businesses, and government officials.

The process of creating a comprehensive plan brings the public together with elected and appointed leaders to craft a vision for the future of the community. Municipal planning staff or planning consultants usually guide a community through the planning process. It is common practice to start with an extensive public outreach effort that may include surveys, public workshops, listening sessions, and other strategies to involve community members. Information gathered through this process is used by planners, and other technical staff or consultants to develop a written plan that reflects a community's aspirations for the future, and charts a path forward. The draft plan is presented to the public for review and comment at workshops and hearings before being adopted. An actively engaged public is crucial to the planning process. Their ideas, concerns and issues can and should guide the planning process.

In Delaware, comprehensive plans are required of all incorporated municipalities, and have the force of law: development must be consistent with their plans.[1] As defined by the Delaware Code, comprehensive plans must address many components of community design, infrastructure and growth that impact livability and health of a community- including land use, transportation, economic development, housing, open space, parks and recreation, environmental protection, water and wastewater infrastructure, and community facilities.[2]

Because comprehensive plans touch so many aspects of a community they offer a unique opportunity to holistically promote health. Specifically, comprehensive plans can offer a vision for a healthy community, and propose modifications to built and social environments in support of that vision. They should be viewed as tools to address local health challenges and achieve community health goals.

Despite their potential to benefit public health, comprehensive plans often lack a health focus, and the strategic components to promote health. A 2010 survey conducted by the American Planning Association (APA) found that only about 27% of comprehensive plans addressed health.[3] The survey identified funding for comprehensive planning at local and state government levels as barriers to incorporate health-related content.[4] Additional barriers suggested by survey findings include little involvement by local health departments and lack of public health expertise among planning officials.[5] Delaware Plan4Health emerged to improve coordination between planning and public health sectors, and mainstream health-promoting content in comprehensive planning efforts.

Delaware Plan4Health

In 2016 the Delaware Chapter of the APA was awarded a Plan4Health grant to combat two determinants of chronic disease—lack of physical activity and access to nutritious foods. Implemented in partnership between the APA and the American Public Health Association with support from the Centers for Disease Control and Prevention, Plan4Health sought to convene stakeholders in cross-sector coalitions focused on improving health equity. Delaware Plan4Health brought together the Delaware Chapter of the APA, the Delaware Public Health Association, and the Delaware Coalition for Healthy Eating and Active Living to leverage the City of Dover and Kent County's future planning efforts for health. Using feedback from the community, the Coalition developed land use, design and policy guidance to help improve access to healthy foods and encourage active living.

Delaware Plan4Health used several tools to understand community health issues and how they may be addressed through planning interventions. The project surveyed residents about physical activity and eating patterns, and used geospatial analysis to map priority areas to improve access to healthy food retailers, park facilities and active transportation networks. Survey data and maps were reviewed by the public during the project's community design charrettes. That information was used to identify priorities and develop recommendations for planning interventions to improve community health. Delaware Plan4Health also relied on an in-depth review of the City of Dover and Kent County's comprehensive plans to measure how well the plans integrate key modern public health concepts, and identify where opportunities to further benefit public health exist.[6] From these analyses, guidance was developed to aid Kent County[7] and the City of Dover[8] in incorporating health-promoting content into their comprehensive plan updates, scheduled for 2018 and 2019, respectively. That guidance is summarized by the following principles.

Seven Principles for Incorporating Health into Comprehensive Plans

The following principles were developed as a framework for incorporating health concepts into Dover and Kent County's comprehensive plan updates – intended to guide community conversations, visioning, plan preparation and implementation. These may be useful to other local governments as they prepare comprehensive plans.

Principle 1 – Health Equity: Let health equity guide the planning process

Principle 1 asserts health equity as a goal, and guiding focus of comprehensive plans. Implicit to health equity is the recognition that barriers prevent individuals and communities from accessing what they need to achieve their highest levels of health. These inequities can result in health disparities when health status differs between people based on social or demographic factors like race, ethnicity, geographic location, age, gender or ability. Achieving health equity requires improving the conditions where people live, work and play, and working across sectors on factors that influence health like employment, housing, food access and transportation.[9] Local governments can use demographic, economic and health assessments to target strategies to communities of greatest need, and emphasize health equity through a plan's vision, goals and policies.

Health equity is useful as a guiding principle for comprehensive plans given they touch on many factors that influence health. Applying a health equity lens to the work of comprehensive planning helps illuminate

where inequities and health disparities exist and prioritize actions to address them.

Delaware Plan4Health relied on health equity - and health data - to guide its work. The project used local health and demographic data to map access to healthy foods, parks and open space, sidewalks and safe bike lanes, and to identify the location of priority communities in Kent County. Maps and data from a countywide survey were used to guide Delaware Plan4Health's more detailed planning efforts, including the location and content of its planning charrettes.

Principle 2 – Transportation: Promote all transportation modes and prioritize mobility

Transportation elements of comprehensive plans can promote physical activity by emphasizing active transportation, and they can advance health equity by developing transportation systems that serve everyone regardless of age, ability or income. Principle 2 underscores the need to promote active transportation modes, and plan for a complete transportation systems that serves all.

Active transportation refers to walking, bicycling and transit use - transportation modes that require physical activity. Good access to active transportation facilities enables residents to integrate physical activity into their daily lives. Increased levels of physical activity that result from active transportation can help reduce/prevent overweight/ obesity, Type II diabetes and other chronic diseases, and minimize healthcare costs.

Comprehensive plans can promote active transportation by advocating for: pedestrian and bicycle friendly places - through traffic calming and placemaking; and facilities that encourage walking, biking and transit use - like street furniture and improved crossings. Well planned transportation systems emphasize function and mobility, connecting neighborhoods, schools, neighborhood/ commercial centers, healthcare providers and other services with all transportation modes including transit, sidewalks and bike paths.

Comprehensive plans can also promote active transportation through land use policies that encourage mixed-use, compact development, and focus on complete communities. Such development builds more livable, active communities where walking, biking and transit use are convenient and attractive options. Policies that support compact develop may also help reduce air pollution by limiting vehicle emissions.

Principle 3 – Parks and Recreation: Let community health needs guide parks and recreation planning

Parks and recreation facilities are important resources that confer certain physical and mental health benefits, and enhance wellbeing and quality of life. Parks provide opportunities for a spectrum of structured and unstructured physical activities for people of all ages and abilities, including trails; playground equipment; and sports facilities (e.g. fields, courts, pools). They are also natural gathering places that promote community connectivity and cohesion.

Besides promoting active recreation (physical activities like sports, kayaking and swimming done for recreational purposes) parks are important in terms of providing open space and access to nature. Open space helps mitigate air and water pollution, and reduce heat island effects which can impact public health by exposing populations to hazardous pollutants, and extreme heat events, respectively. Further, accessing nature can improve physical and mental health by: providing opportunities for physical activity (e.g. walking, biking, sports) and community gatherings; reducing stress and depression; and improving cognition in adults and behavioral issues in children.

Comprehensive plans can maximize the potential public health benefit of parks, open space and recreational facilities by ensuring local access, and through targeted programming to promote use. Principle 3 establishes

community health needs as a compass for parks and recreation planning. Using information generated through assessment of community health needs and existing park resources, local governments can identify the communities or neighborhoods of greatest need. Need should be assessed both in terms of access to park facilities, and programming of recreational activities. Besides parks, comprehensive plans can encourage developing and improving trails and access to natural features, including wetlands, floodplains and steep-slopes as practicable – and ensuring these features are preserved.

Principle 4 – Community Facilities: Provide facilities that help keep people healthy

Community facilities are public and private sector facilities that provide services to residents. Such facilities include libraries, schools, emergency services, health care facilities, social service agencies, parks and recreational facilities, and commercial services such as pharmacies. Recognizing the myriad health benefits such facilities can provide, Principle 4 encourages using community facilities as opportunities to address local health challenges.

Comprehensive plans often contain an inventory and map of community facilities, and evaluate how well these facilities serve neighborhoods and population centers. Most plans focus on the facilities and services that are provided by the local government authoring the plan; however, local governments should look at facilities and services provided by community based organizations, faith-based organizations, private entities and other community actors. With health equity as a guiding principle, comprehensive plans can assess how well residents of all ages and abilities are served by the available public and private facilities and services, and where opportunities exist to leverage these facilities for health. Such opportunities to promote health through comprehensive planning may include: developing shared use agreements to broaden community access to existing facilities; and leveraging capital projects for health.

As an example, imagine a comprehensive planning process identified a shortage of healthcare providers. In support of the plan's vision for a healthy community where residents have access to the healthcare they need, the plan set forth a goal to attract more providers. Implementation of that goal may involve evaluating the availability of land use, and zoning regulations conducive to constructing healthcare facilities. Local elected leaders could also work with realtor's, healthcare providers, and chambers of commerce to enhance market conditions to attract providers to the community.

Principle 5 – Food Systems: Promote the production, distribution and consumption of local, healthy foods

Poor access to healthy foods and nutrition are associated with nutritional deficiencies, food insecurity, overweight and obesity, chronic diseases and other adverse health impacts. Access to healthy, nutritious foods differs across communities- by geography, income, race and age, resulting in health disparities. Comprehensive plans can help address food access issues through interventions in the food system which may be defined as the network of activities in the production, distribution and consumption of food. Food system interventions may include: promoting rural and urban agriculture; expanding food retail opportunities; and supporting a local food distribution hub. Principle 5 promotes food systems work.

Comprehensive plans often consider agricultural zoning as part of a comprehensive plan use strategy. Municipal plans may designate land for agricultural use temporarily until development pressures precipitate a change to urban or suburban use. In contrast, counties with large rural areas may consider agriculture a long-term, viable land use and take steps to protect agricultural uses from urban sprawl or encroachment.

Despite their promise to improve healthy food access, comprehensive plans rarely consider food systems in their entirety. Plans can better promote health by articulating a strategic vision for an integrated food system which emphasizes local food production, distribution and consumption. They can promote local food production through strategies that protect agricultural land uses like agricultural zoning and transfer of development rights programs, and by supporting urban agriculture and community gardening projects. Local food hubs can facilitate the distribution of locally-produced foods, and programs like corner store and produce cart programs can expand access to healthy food where most needed. Food systems interventions can also help spur economic development.

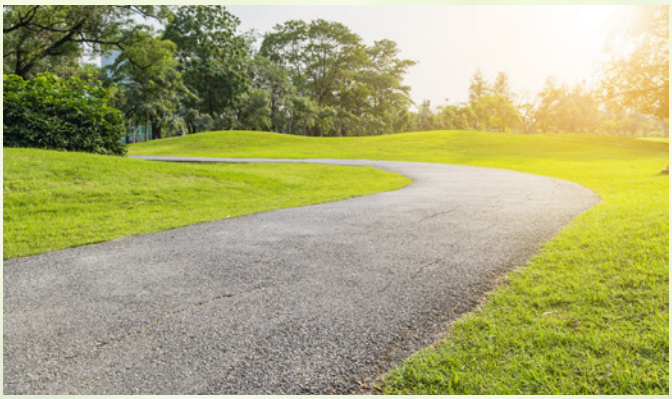
Principle 6 – Economic Development: Emphasize strategies to alleviate poverty and improve employment opportunities for all

Principle 6 recognizes income and employment as important determinants of health, and emphasizes equity as a priority of economic development efforts. Income is a factor in access to healthy foods, medical services, educational opportunities and other resources for health. Quality, stable employment helps facilitate income and financial security, and the health benefits they provide. In support of advancing health equity, comprehensive plans should focus on creating and enhancing job opportunities for those that face economic injustices and barriers to employment, including people with low incomes, communities of color, young adults, people with disabilities, and ex-offenders.

Economic development components figure prominently in most comprehensive plans, typically articulating a host of strategies to encourage local economic growth. Economic development is defined in Dover's current comprehensive as "the planning, design and implementation of community efforts which influence where wealth is created in order to strengthen an area's economy by creating and retaining jobs and expanding the tax base."[10] Economic development components traditionally address: major industries and employers; land use and zoning to accommodate employment generating businesses; and strategies and policies to promote retention of existing businesses and attract new ones. Principle 6 aims to help comprehensive plans leverage their economic development efforts for poverty alleviation and inclusive workforce development.

Economic development provides a compelling frame through which to advance health equity by targeting specific sectors that influence health. Such sectors include food production, distribution and retail; tourism and active recreation; health and dental care services; and housing and real estate development. There is untapped potential in each of these sectors to develop and align strategies that respond to community health needs, advance equity, and leverage a community's assets and opportunities. Examples of such strategies may include: assisting local businesses with healthy food procurement and marketing; partnering with community based organizations to create new opportunities for people who experience barriers to employment (like a produce cart program); contracting with women and minority-owned firms to provide services to the local government; and offering incentives to develop low income and workforce housing.

Principle 7 – Land Use: Create compact, walkable, mixed-use, vibrant communities



Land use is at the heart of every comprehensive plan. A local government's land use strategy prescribes allowable types of uses and buildings, and where they will be located. In Delaware, local government zoning ordinances and land use regulations must be based on future land use plans and other elements of the adopted comprehensive plan. Comprehensive plans' land use elements differ in their specificity. They range from quite general – designating uses for large swaths of land - to rather specific in terms of urban design standards.

Land use strategies determine patterns of development, urban form, and urban design which have major implications for the health of our communities. For the past half century, suburban subdivision development dominated the comprehensive planning landscape. Such development can contribute to health inequities. New subdivisions are often sited away from existing schools, healthcare facilities and commercial centers, so residents may lack good access to these facilities and services. Typical suburban subdivision design emphasizes cul-de-sacs that restrict connectivity. Subdivision development often occurs at the edges of urban areas which makes car ownership a necessity, and can undermine efforts to improve transit networks and increase ridership. These trends increase vehicle miles traveled and contributes

to more air pollution, a public health hazard. Moreover, suburban development can be a symptom of "white flight"/flight of the middle class which has implications for school funding, urban disinvestment and other social ills. Compact, mixed-use development promotes complete communities, and access to important resources for health, like grocery stores, healthcare facilities and schools; and walkable, well-connected neighborhoods. Principle 7 encourages such development that supports community health and cohesion.

Comprehensive plans can promote complete, healthy community design through land use in several key ways: 1) Encouraging a mix of uses; 2) Designing a mobility-centered transportation system; 3) Supporting a housing strategy that emphasizes affordability, accessibility and a mix of housing types; 4) Promoting urban agriculture and community gardens in neighborhoods; and 5) Focusing on "placemaking," that is designing and building distinct places that reflect local character where people want to live, work and play.

Integrating Health into Dover and Kent County's Comprehensive Plan Updates

The following are specific recommendations developed through Delaware Plan4Health that illustrate how the Principles for Incorporating Health into Comprehensive Plans informed our work.

Felton East

Kent County's current comprehensive plan identifies a "growth zone" wherein new development occurs. Sewer infrastructure and zoning regulations inside the growth zone encourage housing and other land uses.[11] New single use residential subdivisions of single family detached homes are the by-right, or de-facto, use within the zone. Housing types other than single family detached, and the mixing of land uses are either prohibited or subject to extensive special approval processes. As discussed in Principle 7, typical suburban subdivision development patterns do not build complete, healthy communities.

Delaware Plan4Health envisions a future in which complete, healthy communities are standard in Kent County. As part of Kent County's design charrette, participants designed a model suburban community, called "Felton East." The targeted parcel is currently active farmland inside of the growth zone that is slated for future development by Kent County's current comprehensive plan. In lieu of the standard single family subdivision, our Felton East Conceptual Plan includes a number of health-promoting features (see the graphic above). We recommended that Kent County specifically include Felton East in their comprehensive plan update, and generally adopt design standards that mainstream health-promoting features.

Saulsbury Park

The City of Dover's design charrette focused on Dover's downtown. Downtown Dover follows an urban development pattern with a traditional street grid, older buildings, a diverse mixture of uses, and sidewalks on almost every street. Downtown residents are predominantly from communities of color, and lower income. Despite being urban and mixed use, we found that few stores in downtown Dover sell healthy foods, and there is only one park within easy walking distance of downtown neighborhoods.

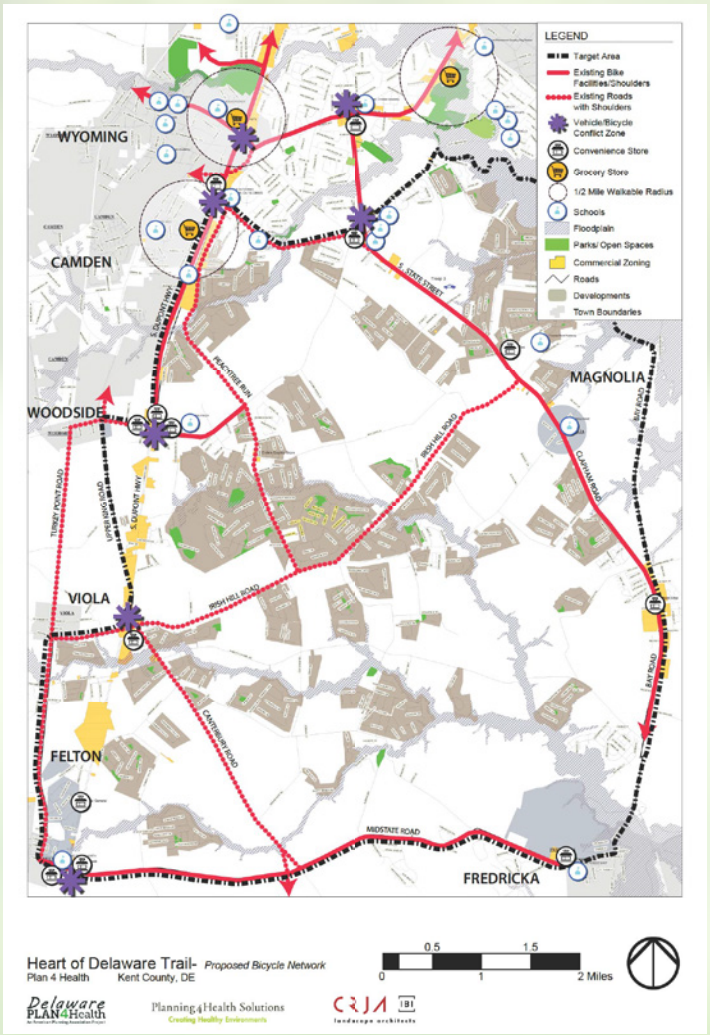
Charrette participants identified a creative opportunity to help improve access to healthy foods, and parks and recreation in downtown Dover with their conceptual plan for Saulsbury Park. Downtown's sole full-service supermarket is separated from adjacent residential neighborhoods[12] by a vacant field and fence. While sidewalks connect to the supermarket, most able residents cut through a hole in the fence and walk across the field – which is actually an under-developed city park. The charrette re-imagined the park as a

fully developed facility with a multi-modal trail connecting residential with commercial areas.

Heart of Delaware Trail

Our assessments of demographic, health and survey data indicate that some residents of Kent County's growth zone have poorer indicators of health than elsewhere in the county. About 18,000 people reside in the area between the small towns of Magnolia, Frederica, Felton and Camden; yet, the area has no services or amenities – no parks, schools, supermarkets, shopping or healthcare services. While nearby towns offer such services and amenities, most residents require an automobile to access them.

The Delaware Plan4Health team discussed transportation options and opportunities for the growth zone with community members. The growth zone encompasses a beautiful, pastoral part of Kent County containing homes interspersed with broad open spaces and natural areas. We noticed during a windshield tour of the area that most main roads have wide shoulders that could be retrofitted to include bicycle lanes at minimal expense. A plan for an interconnected network of bike lanes along major roads emerged from the charrette that became known as the "Heart of Delaware Trail."



The Heart of Delaware Trail aims to improve transportation connectivity, and enhance active transportation and recreation options for area residents and visitors. The trail is envisioned as a link between residential subdivisions and nearby schools, commercial areas and other destinations, and a resource that increases physical activity among residents. It is also envisioned as an economic development tool that attracts bicycle tourists to countryside attractions.

Shared Use Policy

Our analysis of park access revealed that many neighborhoods in Dover and Kent County lack park and recreation facilities. We explored options to address park access as part of our public and stakeholder-engaged processes. We identified opportunity to broaden community access to open space and recreational facilities by collaborating with local schools to put in place shared use policies, and developed a toolkit develop and implement shared use policies.

Shared use policies (also called "joint use" or "community use" policies) refer to formalized processes that enable governmental entities, or private or nonprofit

organizations, to open or broaden access to their facilities for community use. While shared use may apply to a variety of resources or facilities, policy guidance developed through Delaware Plan4Health emphasized the shared use of recreational facilities for physical activity such as open space, playgrounds, fields, courts, tracks and gymnasiums. Such recreational facilities, including those at schools, are often inaccessible to the public due to maintenance, security, and liability concerns. In many low-income, low-resourced communities, recreational facilities at schools may be the only safe and affordable facilities of their kind - making their access an important resource for health.

By improving access to existing facilities for physical activity shared use policies can help to improve health equity, and neighborhood livability. Opening or expanding use to recreational facilities introduces a new public health resource that may increase physical activity levels, thereby helping reduce or prevent overweight/obesity and chronic disease, particularly in low-income and low-resourced communities. New shared use policies often include public or private investment in facility improvements and maintenance. When channeled to local businesses and nonprofit organizations, those investments can stimulate local economic activity. Further, well-maintained and well-used facilities are associated with decreased crime, vandalism and violence on or near their premises. Such facilities are neighborhood assets and may catalyze other improvements that build vibrant neighborhoods.

Call to Action

Developing and implementing remedies to the public health challenges that face our communities requires working together, cooperative learning, tearing down silos, and leveraging our collective knowledge and assets for change. The Joint Call to Action to Promote Healthy Communities calls upon planners, architects, landscape architects, developers, engineers, and professionals from public health, parks and green building. Adopted in 2017, the Joint Call to Action recognizes that addressing our growing health challenges and inequities requires new partnerships and collaborations. The Joint Call to Action encourages members of signatory organizations to partner to make health a primary consideration in land use, design and development practice.

Many in Delaware are already engaged in work that promotes healthy communities, including local and statewide multi-sector collaboratives, planning initiatives, data projects and assessment of health impacts. And you can join them. Beyond existing forums, public health and healthcare sectors can collaborate with planning by setting up formal and informal communication channels to learn about each other's work, participate in each other's events and processes to advance their practices, and develop supportive relationships.

True engagement requires going beyond traditional public involvement strategies, like public hearings and comment periods, to collaborate with partners from the conception of a project, program or plan, through its implementation and beyond. While often complex and messy, partnerships are key to promoting healthy communities - because we all hold a piece of the puzzle.

References:

1. § 702, Title 22, Delaware Code
2. Small towns are required to make position statements regarding most of these components, while larger municipalities (over 2,000 population) must develop plans to address each component.
3. APA, Comprehensive Planning for Public Health
4. Ibid.
5. Ibid.
6. Scorecare info
7. Guidance for Incorporating Health into Kent County's Comprehensive Plan, October 2017 (weblink)
8. Guidance for Incorporating Health into the City of Dover's Comprehensive Plan, November 2017 (weblink)
9. https://www.apha.org/topics-and-issues/health-equity
10. City of Dover 2008 Comprehensive Plan, pg 113
11. Agricultural preservation and rural land uses are encouraged outside of the growth zone, and zoning ordinances prohibit large scale development and infrastructure extensions.
12. The neighborhood contains a subsidized public housing project that is managed by a housing authority.

Sara Ivey is an urban planner and public health professional based in Portland, Oregon who specializes in healthy community planning and assessment. As an associate with Planning4Health Solutions, and now in her role with the Institute for People, Place, and Possibility, Ms. Ivey seeks to advance place-based health and equity through collaborative community-based work, and evidence-driven decision-making. Ms. Ivey received her bachelor's of science in public health from the University of Washington, and dual masters' degrees in Public Health and Urban and Regional Planning from Portland State's University College of Urban and Public Affairs.

David L. Edgell, A.I.C.P., is a Principal Planner with the Delaware Office of State Planning Coordination. His responsibilities include coordinating State land use priorities and resources with county, municipal and development interests, statewide land use planning, school siting, capital and facilities planning, demographics, and integrating land use planning into the State budget process. He has a Bachelor of Arts in environmental studies from Rollins College in Winter Park, Florida and a Master of Regional Planning from Cornell University in Ithaca, New York. David is a member of the American Institute of Certified Planners (AICP)

National Public Health Week www.nphw.org
AN INITIATIVE OF THE AMERICAN PUBLIC HEALTH ASSOCIATION

HEALTHIEST NATION 2030

April 2 - 8, 2018 | National Public Health Week

DAILY THEMES

Monday, April 2: Behavioral Health

Advocate for and promote well-being

Focus on and advocate for improved access to mental and behavioral health services. Use education and training to de-stigmatize mental health diagnoses and encourage people experiencing mental illness to seek treatment. Coverage for mental health services must be on par with physical health services in all health insurance coverage.

Tuesday, April 3: Communicable Diseases

Learn about ways to prevent disease transmission

Wash your hands. Know your HIV status. Call on employers to support and provide sick leave so sick workers can care for themselves and avoid spreading disease to others. Support comprehensive sexual health education in schools, which can reduce rates of sexually transmitted disease (as well as teen pregnancy). Keep yourself and your families immunized against vaccine-preventable diseases — and get your flu shot!

Wednesday, April 4: Environmental Health

Help to protect and maintain a healthy planet

Reduce our collective carbon emissions footprint. Transition to renewable energies. Protect our natural resources and use evidence-based policy to protect our air, water and food. Support environmental health efforts that monitor our communities for risks and develop health-promoting interventions. Call for transportation planning that promotes walking, biking and public transit — it not only reduces climate-related emissions, but helps us all stay physically active.

Thursday, April 5: Injury and Violence Prevention

Learn about the effects of injury and violence on health

Increase funding to programs that reduce and prevent community violence. Advocate for occupational health and safety standards that keep workers safe on the job. Support policies that save those struggling with addiction from a fatal drug overdose. Many injuries are preventable with the appropriate education, policy and safety measures.

Friday, April 6: Ensuring the Right to Health

Advocate for everyone's right to a healthy life

Everyone deserves an opportunity to live a life free from preventable disease and disability. The places where we live, learn, work, worship and play should promote our health, not threaten it. That's why creating the healthiest nation requires a dogged focus on achieving health equity for all.

Join us in observing NPHW 2018 and become part of a growing movement to create the healthiest nation in one generation. During the week, we will celebrate the power of prevention, advocate for healthy and fair policies, share strategies for successful partnerships and champion the role of a strong public health system.

For events co-sponsored by the following partners, please visit www.delamed.org/NPHW2018

Partnership for Healthy Communities
A COMMUNITY ENGAGEMENT INITIATIVE

DELAWARE ACADEMY of MEDICINE
DPHA
DELAWARE PUBLIC HEALTH ASSOCIATION

MATTER
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UNIVERSITY OF DELAWARE | Cooperative Extension
COLLEGE OF AGRICULTURE & NATURAL RESOURCES

DELAWARE ACADEMY of MEDICINE

DPHA
DELAWARE PUBLIC HEALTH ASSOCIATION

88th Annual Meeting & Awards Ceremony

Chase Center on the Riverfront, Christina Ball Room
Wilmington, Delaware

FRIDAY, MAY 11, 2018
5:30—9:30 p.m.

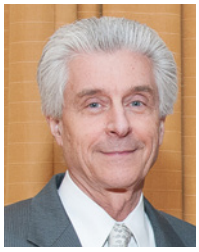
Keynote Speaker

DARSHAK SANGHAVI, M.D.
Chief Medical Officer and Senior Vice President of Translation
OPTUMLABS

OPTUM™ Labs

President's Award Honoree

NICHOLAS J. PETRELLI, M.D.
and the Helen F. Graham Cancer Center and Research Institute



CHRISTIANA CARE HEALTH SYSTEM
Helen F. Graham Cancer Center
& Research Institute

Public Health Recognition

JFS DELAWARE
Jewish Family Services

Register online at www.delamed.org/2018

Health in All Policies:

cross-sector collaboration prevents and solves health problems

Cassandra Codes-Johnson, M.P.A., Associate Deputy Director, Division of Public Health, Delaware Department of Health and Social Services
Karyl T. Rattay, M.D., M.S., Director, Division of Public Health
Laura Saperstein, M.S., M.B.A., Director of the Physical Activity, Nutrition and Obesity Prevention Program

The responsibility of Public Health is to protect and promote health, and prevent disease and injury. Historically, Public Health has been viewed as the provider of safety net services for our most vulnerable populations. As recognition of the connections between social injustice and health becomes more broadly understood, public health finds that preventing harm requires involvement in areas such as housing, labor, education, and transportation to name a few.[1] We are transitioning into Public Health 3.0 in order to address some of our most persistent health challenges which requires different sectors coming together to address upstream determinants. Complex societal problems are best solved when government, private, and non-profit agencies and community advocacy groups collaborate to promote healthy communities utilizing prevention strategies. Implementing a Health in All Policies approach can be a huge lever to help us move in this direction.

The Association of State and Territorial Health Officers (ASTHO) defines "Health in All Policies" [2] (HiAP) as "a collaborative approach that integrates and articulates health considerations into policy making and programming across sectors, and at all levels, to improve the health of all communities and people." In sum, "all policy is health policy." The HiAP approach addresses the complexity of health inequities and improves population health, systematically incorporating health considerations into decision-making processes across sectors and at all government levels, and shared planning and assessment between government, community-based organizations, and often businesses.[3]

"Everyone has a role to play in improving the health of our communities," ASTHO says. HiAP is an emerging paradigm that requires public health to collaborate with traditionally non-health sectors such as finance, economic development, transportation, law enforcement, criminal justice, natural resources, education, and agriculture to achieve common goals and innovatively tackle problems.

Stakeholders go beyond state government agencies to include the business community, religious leaders, non-profit executives, medical leaders, social service providers, managers of transportation, education,

and sanitation staff; and even volunteers. Cross-sector collaboration identifies potential health impacts before adopting policies and enacting legislation, which improves population health on a large scale and creates healthier neighborhoods on a smaller scale. Proponents say this preventive approach can improve the efficiency of government agencies[4] when public health practitioners collaborate with other non-health agencies on policies, programs, and projects. Long-term cost savings can result because the effects of changing socioeconomic and environmental conditions are far more consequential than costly individual clinical interventions, such as medical and mental health care.[5]

HiAP is cross-cutting. For example, job creation and Earned Income Tax Credit help families buy healthy foods, affordable housing, and childcare – activities that improve population health. Schools can be required to designate a minimum period per week for physical education for K-12 students as well as daily recess. The HiAP approach is being used throughout Delaware to address complex challenges that significantly impact health. For instance, the Delaware Office of State Planning Coordination regularly seeks technical review comments on proposed land use actions from the Division of Public Health (DPH), other state agencies, and local governments.

In land use planning circles, tools such as health impact assessments (HIAs) can be used to identify the health consequences of plans, projects and policies traditionally considered to be outside the health sector domain. With the dual goals of maximizing health benefits and minimizing adverse health effects, HIAs aim to help stakeholders and policy-makers weigh the merits and drawbacks of a proposed project, compared with alternate approaches.[6] A rapid HIA, an abbreviated form of HIA, is currently informing City of Dover, Kent County and State of Delaware officials seeking to redevelop vacant and formerly contaminated properties, known as brownfields, to spur revitalization in the Downtown Dover area.

Looking at HiAP from a transportation perspective, the Delaware Department of Transportation (DelDOT) transitioned its transportation system policy from auto-centric to one with multi-modal options and improvements supporting safe and accessible walking, biking, and transit usage. On April 24, 2009, former Delaware Governor Jack A. Markell issued Executive Order No. 6 to create a Complete Streets policy for the state of Delaware. The intent of Delaware's policy is to promote safe access for all users, including pedestrians, bicyclists, motorists and [transit] riders of all ages to be able to safely move along and across the streets of Delaware. DelDOT adopted a Complete Streets policy on January 6, 2010 thus creating a formal process to implement Complete Streets principles and design standards that consider all modes of transportation. The policy focuses on implementation during the development or scoping phase of a transportation project to ensure that all users are considered in planning, designing, building, operating, and maintaining Delaware roadways. The Complete Streets policy also defines the applicability, roles and responsibilities, and an exemption and waiver process to be administered by DelDOT.[7] Additionally, Delaware Department of Transportation and other partners developed a policy-oriented master plan that promotes and enable safe, easy bicycling throughout the state. Active transportation options such as walking and bicycling also spur physical activity and boost weight loss.[8]

In Delaware, the Healthy and Transit Friendly Development Act was formed by state and local government partnership seeking to encourage the development of "Complete Communities," communities where everyday destinations, like shopping, offices, schools and services, are within easy walking or cycling distances. It sets out the basic a framework for any local government to choose to "opt-in" to encourage walkable, bike-able and transit-friendly development in their communities in partnership with state government, thus creating economic development, jobs, active and health lifestyles and poverty reduction.[9] Public health experts are encouraging walking and bicycling as a response to the obesity epidemic, and complete communities and complete streets can help. One study found that 43 percent of people with safe places to walk within 10 minutes of home met recommended activity levels, while just 27 percent of those without safe places to walk were active enough.[10]

Not only does walking yield health, economic, and environmental benefits, it is recognized as the First State's favorite outdoor activity. Thirty-six percent of Delawareans responding to the 2011 Outdoor Recreation Participation and Trends phone survey for Delaware State Parks said they participated in walking or jogging in the past year, and 74 percent

said they would walk or jog in the next year.[11] To meet the publics continued demand for walking, jogging, and cycling paths, and to improve safety, the State of Delaware has installed and repaired multi-use trails. To help Newark-area walkers avoid a dangerous road, a short trail was constructed in 2009 to connect a New Castle County park to an adjacent neighborhood, according to the 2013 Delaware State Comprehensive Outdoor Recreation Plan.[12]

Governance processes such as legislation and ordinances can also help advance HiAP initiatives. Legislation is another way to change unhealthy behaviors. Over the decades, the Delaware General Assembly passed tobacco-oriented legislation to decrease lung cancer, the most frequently diagnosed cancer in the nation and in Delaware, and other cancers, heart disease, emphysema, chronic obstructive pulmonary disease, and asthma[13] – all costly conditions to the State of Delaware. Lawmakers raised Delaware's wholesale cigarette tax in September 2017 from $1.60 to $2.10 per standard pack, the first increase since 2009[14]. A nicotine vapor product tax of $0.5 per fluid millimeter became effective January 1, 2018.[15] To protect individuals from the dangers of secondhand tobacco smoke and vaping emissions, lawmakers passed the landmark Delaware Clean Indoor Air Act of 2002 and added e-cigarettes in 2015.[16]

There are many other HiAP approaches happening in Delaware; only a few were mentioned in this article. Approaching our work from a Health in All Policies lens and creating healthy public policy to address social injustice and continued engagement of communities to participate in decision making that impacts their living conditions and overall health status, is the goal of our collective HiAP work. The Delaware Division of Public Health sees itself playing the role of Chief Health Strategist, working alongside partners so that they can drive initiatives including those that address environmental, economic, and social determinants of health. Critical public health efforts remain mostly invisible, except in times of crisis, such as epidemics or hurricanes. But public health today is striving to broaden its capacity by working with partners to address the social context in which disease and illness occur.[17]

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2 "Health in All Policies" fact sheet, American State and Territorial Health Officials, www.astho.org/hiap

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11 Delaware Statewide Comprehensive Outdoor Recreation Plan, 2013-2018, Delaware Department of Natural Resources and Environmental Control, Division of Parks and Recreation, http://www.dnrec.delaware.gov/parks/Information/Documents/2013%20Scorp/2013SCORP.pdf

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14 https://revenue.delaware.gov/information/faqs_cig.shtml

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Resources

Health in All Policies: A Framework for State Health Leadership, http://www.astho.org/HiAP/Framework/

Health in All Policies: A Guide for State and Local Governments: http://www.phi.org/uploads/files/Health_in_All_Policies-A_Guide_for_State_and_Local_Governments.pdf

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Social Vulnerability Index - 2014, Agency for Toxic Substances and Disease Registry, Centers for Disease Control and Prevention, https://svi.cdc.gov/

Health in All Policies

A slide from a presentation by Edward Ehlinger (MN) on health equity and health in all policies approaches in public health policymaking. http://www.astho.org/StatePublicHealth/Annual-Meeting-2016-Slide-Decks/

Karyl Thomas Rattay, M.D., M.S. is the Director of the Division of Public Health (DPH) within the Delaware Department of Health and Social Services. DPH is a nationally accredited public health agency. Dr. Rattay is board-certified in Pediatrics and practiced pediatrics for 14 years. Previously, she worked at Nemours Health & Prevention Services, where she led their childhood obesity initiative and efforts to prevent overweight in multiple settings. Dr. Rattay earned a Medical Doctorate from the Medical University of Ohio in 1992 and completed her pediatric residency at Georgetown University and a preventive medicine residency at the University of Maryland. Dr. Rattay earned a Master's of Science in Epidemiology from the University of Maryland in 2001. She holds Bachelor of Arts degrees in Zoology and Pre-Medicine, which she received in 1987 from Ohio Wesleyan University in Delaware, Ohio.

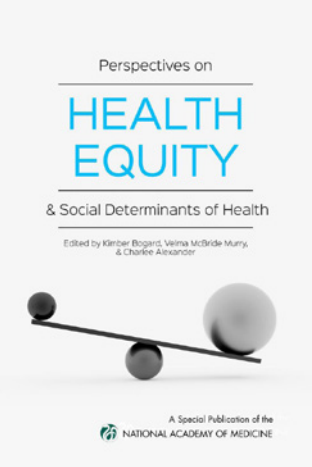
Cassandra Codes-Johnson, M.P.A., Lean Six Sigma Greenbelt, is an organizational management and Public Health strategist professional with over 20 years of experience in health care. Currently she is the Associate Deputy Director for the Division of Public Health within the Delaware Department of Health and Social Services. Cassandra has worked in the private, nonprofit and government sectors to improve lives through the improvement of systems and processes. Cassandra has worked with national and international organizations such as Family Health International, the Administration for Children and Families, Mathematica Policy Research, Nemours, Center for Urban Families, ICF International, National Resource Center on Domestic Violence, Annie E. Casey Foundation, White House Office of Faith Based and Neighborhood Partnerships, Brookings Institute, Columbia University and others to affect positive change for diverse populations through the implementation of policies, programs and research.

Laura Saperstein, M.S., M.B.A. is the Director of the Physical Activity, Nutrition and Obesity Prevention Program within the Division of Public Health. Since joining the program in 2014, she has served as the Nutrition Committee facilitator for the Governor's Council on Health Promotion and Disease Prevention, a Healthy Lifestyles Strategy Leader for the State Health Improvement Plan, and Board Member of the Delaware Healthy Eating and Active Living Coalition. In addition, Ms. Saperstein oversees the Preventive Health and Health Services Block Grant for Delaware, which allows the state to address their own unique public health needs and challenges with innovative and community driven methods. Laura has worked with in private, non-profit and educational sectors prior to joining the State.

NATIONAL ACADEMY OF MEDICINE

NAM Special Publication

Perspectives on Health Equity & Social Determinants of Health



Health disparities and health inequities have long been experienced between and among people and communities. Recognition and understanding of how social factors impact health outcomes and disparities is crucial to reversing the debilitating and lethal consequences of inequities.

This NAM Special Publication, an edited volume of discussion papers, provides authors' recommendations to advance the agenda to promote health equity for all. Organized by research approaches and policy implications, systems that perpetuate or ameliorate health disparities, and specific examples of ways in which health disparities manifest in communities of color, this special publication provides a stark look at how health and well-being are nurtured, protected, and preserved where people live, learn, work, and play. All of our nation's institutions have important roles to play even if they do not think of their purpose as fundamentally linked to health and well-being. *Download the Special Publication >>*

NAM Perspectives

Perspectives are expert commentaries and discussion papers by leading voices in health and health care. Read the latest releases and updates below and subscribe to receive new Perspectives as soon as they're published.

Care-Centered Clinical Documentation in the Digital Environment: Solutions to Alleviate Burnout

A Journey to Construct an All-Encompassing Conceptual Model of Factors Affecting Clinician Well-Being and Resilience

Nurse Suicide: Breaking the Silence

Top 10 Most Read Perspectives of 2017

Community Health Heroes

In the latest interview in this series, we talk to Diane Picard, executive director of the Massachusetts Avenue Project, an organization in Buffalo, New York, that works to nurture the growth of a diverse and equitable local food system and promote local economic opportunities, access to affordable, nutritious food, and social change education. *Read the interview>>*

NAM Action Collaborative on Clinician Well-Being and Resilience

Clinician well-being is essential for safe, high-quality patient care. However, clinicians of all kinds, across all specialties and care settings, are experiencing alarming rates of burnout. Clinician burnout can have serious, wide-ranging consequences, from reduced job performance and high turnover rates to—in the most extreme cases—medical error and clinician suicide. On the other hand, clinician well-being supports improved patient-clinician relationships, a high-functioning care team, and an engaged and effective workforce. In other words, when we invest in clinician well-being, everyone wins. Supporting clinician well-being requires sustained attention and action at organizational, state, and national levels, as well as investment in research and information-sharing to advance evidence-based solutions. On February 2, 2018, the Action Collaborative hosted a webinar to release several resources and provide a first look at an online repository that will share information related to clinician burnout and well-being. *View the recorded webinar and slides>>*

Expressions of Clinician Well-Being: An Art Exhibition. The National Academy of Medicine called on artists of all kinds to submit art exploring what clinician burnout, clinician well-being, and clinician resilience looks, feels, and sounds like to people across the country. Select art will be on display at a gallery show in May 2018. *Learn more>>*

NAM President Responds to Report of Banned Words at CDC

In December 2017, the presidents of the National Academy of Sciences, National Academy of Engineering, and National Academy of Medicine released a statement expressing concern over a report that the staff at the Centers for Disease Control and Prevention were instructed not to use certain words in budget documents. *Read the statement>>*

Healthcare Compliance Symposium 2018

Hosted by

Widener University
Delaware Law School
and 1st Healthcare® Compliance

DATE AND TIME
April 12, 2018
8:00 AM - 5:00 PM

LOCATION
Widener University
Delaware Law School-
Vale Auditorium
4601 Concord Pike
Wilmington, DE 19803

REGISTER ONLINE

DESCRIPTION

The Healthcare Compliance Symposium 2018 will bring professionals from the healthcare and legal communities together for a day of discussion and learning on the campus of Delaware Law School. Thought leaders will provide meaningful insight on time-sensitive topics including: elements of a compliance program, HIPAA Privacy and Security, OSHA, and Human Resources for compliance. Detailed program agenda coming soon!

Attendees are eligible to receive CME, CLE, and CEUs while networking with industry peers. Admission to the symposium includes continental breakfast, lunch, and an evening networking reception.

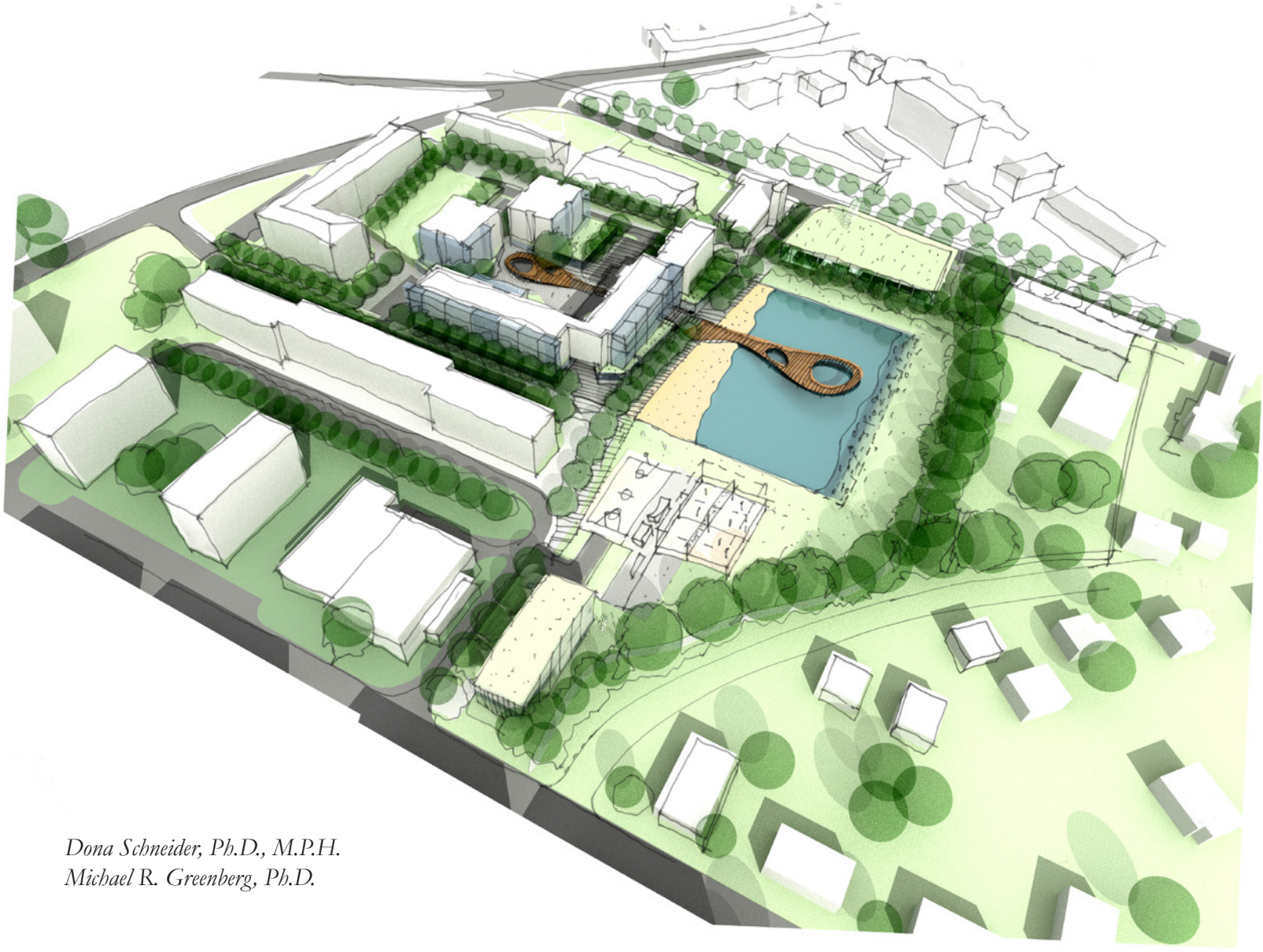
Attendees also receive a complimentary copy of First Healthcare Compliance's The Fundamentals Guidebook! This is a comprehensive resource designed to help physicians, compliance professionals and other healthcare professionals in private practice, hospital networks and health systems, healthcare billing companies and skilled nursing facilities comply with federal rules and regulations and to better understand their compliance responsibilities at a time of heightened scrutiny and increased regulations.

Rooms are available at a discounted rate at the DoubleTree by Hilton, located at 4727 Concord Pike, Wilmington, DE 19803.

About Delaware Law School:

The only law school in the state, Delaware Law School is enmeshed in Delaware's unique legal culture which prizes civility and respect within the bench and bar. Delaware's preeminence in corporate law, bankruptcy, and intellectual property, combined with the Law School's influential presence in Pennsylvania and New Jersey, give students abundant opportunities for clerkships, externships, pro bono experiences, and permanent employment after graduation. With specialized programs in health law and regulatory compliance and ethics, Delaware Law School leads the way in formalized compliance education.

Urban Planning and Public Health: Synergies for Achieving a Healthy Delaware



Dona Schneider, Ph.D., M.P.H.
Michael R. Greenberg, Ph.D.

"For too long in this society, we have celebrated unrestrained individualism over common community."

Joe Biden, Wilmington, DE
June 9, 1987

Delaware's almost one million inhabitants currently reside in 57 incorporated cities, towns, and villages. The largest municipality by population is Wilmington, while the largest by area is Dover ("U.S. Census Bureau QuickFacts selected: Delaware," n.d.). The present configuration of the state's land and people took hundreds of years to develop, from the earliest settlements at Zwaanendael in 1631 (currently Lewes), Fort Christina in 1638 (currently Wilmington), and Fort Casimir in 1651 (currently New Castle), to today's urban centers, strip malls, suburbs and subdivisions, resort communities, tourist attractions, and agricultural landscapes. When population growth and technological advances force economic and social change, it is often difficult for communities to agree upon how to cope. Historically, urban planners tended to focus on bringing order to the physical landscape while achieving prosperity through economic growth; the public health community focused on protecting and promoting human health, usually though containing contagions and providing sanitary living conditions. The two professions all too often talked past each other. Without a common vocabulary, they could not agree upon what made a "healthy community." Indeed, the CDC notes "As public health professionals and urban planners begin to work more closely, they need the ability to speak each other's languages in order to work together effectively" (Centers for Disease Control and Prevention, 2014). Why did this happen and how can Delaware synergize these professions to achieve a "Healthy Delaware"?

NOT SO HEALTHY HISTORY

In colonial times, the earliest concerns for public health revolved around containing infectious disease outbreaks, usually those linked to sanitation (M. R. Greenberg & Schneider, 2017). In 1793, however, yellow fever broke out in Philadelphia. Little was understood about vector-borne diseases at the time and Stephen Girard, a wealthy local banker, supervised the conversion of a mansion outside that city's limits into a hospital with volunteers who would isolate and nurse the victims (Wilson, 1996). Despite Girard's efforts, boatloads of Philadelphians fled down the Delaware River to safety in Wilmington. While no Wilmington residents died while caring for the sick that arrived during that outbreak (not surprising as yellow fever is not a communicable disease), they did not fare as well in 1798 when yellow fever broke out in the southern part of their own city. The yellow fever outbreak continued into November of that year when cold weather killed off the mosquito population. The outbreak of 1798 left 86 of 119 cases dead (Conrad, n.d.).

In 1832, cholera visited Wilmington, causing 17 deaths among the 47 who fell ill. The disease appeared again in 1849 with 65 deaths among the 116 who fell ill, primarily at the almshouse located on Fourth and Broome Streets. Smallpox outbreaks occurred sporadically across the state from the eighteenth century until 1883. The largest of these occurred in 1871, when 411 cases were reported (Scharf, 1888). In response, the Delaware State Board of Health implemented compulsory smallpox vaccination and quarantine for outbreaks of contagious diseases, efforts that made the state relatively free of outbreaks compared to the reported outbreaks that plagued its neighbors.

In the second half of the nineteenth century rapidly growing industrial cities such as New York and Pittsburgh belched steam and soot from smokestacks that made visibility at noon almost as bad as on a moonless night. Immigrants slept in shifts in the same bed, often a dozen wretched soles occupying a small, unvented room at the same time. For example, 1880 New York averaged more than 16 persons per dwelling (Riis, 1890). With no running water, few sewers, and night soil piling up between houses, living conditions in the major cities were filthy, smelly, and frankly abominable. Fire departments, where they existed, were run as for-profit businesses rather than as public services. They were mostly equipped with manual pumps and could not handle even small fires that broke out in the shoddily erected wooden structures that went up like matchsticks.

The lack of adequate public water supplies, poor building construction, and coordinated public fire-fighting services in the booming cities resulted in enormous conflagrations such as the Great Baltimore Fire of 1904. That fire broke out in on a Sunday morning in February, but was so intense and rapidly spreading that a call for additional firefighters and equipment from other cities went out within hours. Engines arrived from Philadelphia and Wilmington on Monday morning, and later that day from Altoona, Chester, Harrisburg, and York, Pennsylvania. Unfortunately, the arriving fire-fighting equipment and the couplings on hydrants in the city were not standardized so that much of the equipment could not be used. Despite the valiant efforts of more than 1200 firefighters, more than 1500 buildings were completely lost and more than 1000 additional buildings were seriously damaged (see Figure 1). The costs at the time were estimated at more than $100 million (Maryland Digital Cultural Heritage Project, 2003).

Figure 1. Baltimore fire aftermath
Photo by Fred Pridham, Baltimore aprés l'incendie de 1904
Source: Baltimore County Public Library. Image in the public domain.

The lesson about the dangers of fire, particularly for urban populations, was not lost on the residents of Delaware. While the City of Wilmington had chartered various private fire companies from the 1850s onward, they tended to come and go when not profitable. As a result, the city formally took over fire protection in 1921. Today, the City of Wilmington has multiple fire stations and residents of Delaware are well protected by 65 fire companies across the state (24 in New Castle County, 20 in Kent County and 21 in Sussex County), with some companies covering multiple fire stations ("List of Delaware Fire Departments," 2017).

In the late nineteenth century, Delaware had fewer problems with immigration, housing shortages, and sanitation than those faced by rapidly growing places such as New York City and Chicago. The state also engaged in some innovative planning practices and benefited from a revival of interest in conservation during the Progressive Era. For example, wealthy Quaker businessman William Poole Bancroft was successful in passing legislation to create the Wilmington Park Commission where he served as commissioner and president from 1884 to 1922. Bancroft hired acclaimed landscape architect Frederick Law Olmsted (co-designer of Central Park in New York City) to consult on the design of Brandywine Park. He also convinced the duPont family to donate land adjacent to his own 59 acres to create Wilmington's Rockford Park (Widell, n.d.). Bancroft's vision for a statewide park system for Delaware was acknowledged as "prescient planning" by President Barack Obama when he declared the establishment of the First State National Monument in 2013 (Figure 2). That proclamation included Woodlawn (1100 acres in the Brandywine Valley); land in New Castle, including the Sheriff's House and an easement to protect the Court House and Green; and land in the City of Dover to protect the Dover Green (Obama, 2013).

Figure 2. Before designation as a National Historical Park, First State was a National Monument. Photo by Claire Robinette Cooney. Permission requested for republication from The Conservation Fund on October 29, 2017.
https://www.conservationfund.org/blog/1339-delaware-how-the-first-state-became-the-last-state-to-receive-a-national-park/

Bancroft's prescient planning also extended to housing. Rejecting the poor living conditions suffered by residents of America's industrial cities, Bancroft visited Bournville in Birmingham, England. Bournville was and still is a factory town created by the Quaker Cadbury brothers (of Cadbury chocolate fame). The community was designed to provide a pleasant and affordable living situation for local workers in the Cadbury factory. Encouraged by what he saw at Bournville, Bancroft determined to build an affordable, planned community in Wilmington where each house had access to a private garden and community residents had access to parkland (Widell, n.d.). Today, Figure 3 shows how his planning efforts have survived time in the Rockford Park City Historic District, just below Rockford Park's southern border (City of Wilmington Department of Planning & Development, n.d.).

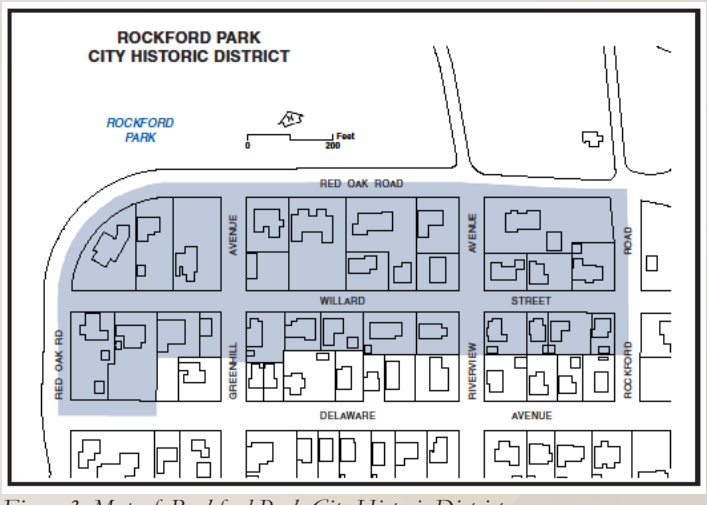


Figure 3. Map of Rockford Park City Historic District

PLANNING AND PUBLIC HEALTH AS SEPARATE PROFESSIONS

Around the turn of the twentieth century, activists were advocating loudly for reforms, pointing out the need for clean water, indoor plumbing and garbage removal, as well as housing reforms that included building and fire codes. Science was linking bacteria with specific diseases, and it was becoming clearer by the day that the poor health of the population was linked to inadequate housing, poor sanitation, unemployment, and dangerous working conditions. Most planners at the turn of the century had been trained as primarily either architects or civil engineers, focusing on the form and function of cities rather than population health. What constituted a healthy city from the planning perspective of the day were free flowing streets that could handle the increase in those journeying to work or moving goods through the system, a firm economic base that provided tax revenue and jobs, shining civic spaces to celebrate the American experience, and open space to provide for recreation. What mattered to practitioners of public health, who were mostly trained as physicians, was providing immunizations to prevent outbreaks of contagious disease, safe food and water, and education to promote better hygiene. The link to the built environment was less of an imperative for those practicing preventive medicine.

That planning and public health would veer even farther apart was inevitable once their professional associations were chartered and their pathways for education became formalized. The first academic urban planning program in the United States is credited to Harvard in 1900. Today, academic urban planning programs include training in housing and community development, environmental and land use planning, economic and regional development, historic preservation, transportation planning, urban design, and geographic information systems (GIS) and are accredited through the Planning Accreditation Board (PAB). A review of PAB accreditation standards and criteria shows that the word "health" appears in its documentation beginning in 2012 (Planning Accreditation Board Accreditation Standards and Criteria, 2012).

The beginning of formal training in public health can be traced to Johns Hopkins in 1916. Academic training in public health is acknowledged through programs that are accredited by the Council for Education in Public Health (CEPH). A search of CEPH accreditation standards and criteria does not yield the words "urban planning" (Council on Education in Public Health Accreditation Criteria and Procedures, 2011), although the websites of the American Public Health Association (APHA) and Centers for Disease Control and Prevention (CDC) websites do have pages describing the link between urban planning and public health .

As the vocabularies of professions did not readily overlap, and as the accrediting bodies of their academic training programs did not share a common vision, it is not surprising that their ships tended to sail in

Table 1. Selected Professional Organizations, Academic Training Programs and Associated Accrediting Bodies for Urban Planning and Public Health in the United States

Year	Organization
1857	The American Institute of Architects (AIA) is founded.
1852	The American Society of Civil Engineers (ASCE) is founded.
1872	The American Public Health Association (APHA) is founded. https://www.apha.org/
1899	The American Society of Landscape Architects (ASLA) is founded.
1906	The American Society of Sanitary Engineers (ASSE) is founded.
1917	The American City Planning Institute (ACPI) is founded, becoming the American Institute of Planners (AIP) in 1939.
1934	The American Society of Planning Officials (ASPO) is founded.
1937	The National Environmental Health Association (NEHA) is founded. http://www.neha.org/
1941	The Association of Schools of Public Health (ASPH) is founded becoming the Association of Schools and Programs of Public Health (ASPPH) in 2013. http://www.aspph.org/
1960	The National Education Development Committee (NEDC) of the American Institute of Planners (AIP) is created to credential planning program graduates. (1977 first AIP exam)
1974	Council on Education for Public Health (CEPH) is established to accredit schools and programs in public health. http://ceph.org/
1978	American Institute of Certified Planners (AICP) is founded. AICP Certification is introduced. https://www.planning.org/aicp/
1984	Planning Accreditation Board (PAB) is established to accredit schools and programs in urban planning. http://www.planningaccreditationboard.org
1994	The National Association of Local Boards of Health (NALBOH) is established.http://www.nalboh.org/
2005	The National Board of Public Health Examiners (NBPHE) is founded. http://www.nbphe.org/aboutthecph.cfm
2007	The Public Health Accreditation Board (PHAB) is established to accredit tribal, state, local, and territorial public health departments. http://www.phaboard.org/

different directions. For those with an interest in the history of the development of the professions, Table 1 lists the dates of the establishment of the professional associations and their respective accrediting bodies.

ENCOURAGING COMMON PLANNING AND PUBLIC HEALTH GOALS

In the second half of the twentieth century, Americans faced common concerns such as air and water pollution, disposal of hazardous waste, sick building syndrome, and the aging of housing stock. After World War II, the concept of a single family home, with fresh air and a yard for children to play became idealized. Residents began fleeing the nation's decaying urban centers in droves and planners began addressing this massive population shift by designing housing and infrastructure for the newly developing suburbs. Within a few decades, however, the impacts of suburbanization became apparent as the environment suffered from urban sprawl with ugly strip malls and traffic woes for commuters (M. Greenberg, Popper, West, & Krueckeberg, 1994). Even tiny Delaware was beginning to suffer. For example, the Sierra Club noted:

> *Delaware's size makes the issue of open space an important one. While we spend many billions of dollars to plan and build our infrastructure, our failure to plan for and protect our "green infrastructure" condemns it to inevitable destruction. The importance of open space to our environment and balance of life cannot be over emphasized. It is necessary to preserve our state's environmental health and biological diversity, which in turn protects the health of our citizens.* (McEvilly, Shipley, Steffens, & White, 2000)

To address urban sprawl, planners shifted to creating new urban designs that would result in human scale development—to be centered on walkable, mixed use neighborhoods with accessible public institutions and local shopping. Planning terminology shifted towards concepts such as "brownfields redevelopment," "green building," "sustainability," "traditional neighborhood development," and "transit-oriented development."

At the same time that planning was shifting its focus, public health was grappling with the skyrocketing costs of medical care. AIDS, cancer, diabetes, heart disease and stroke, and an aging Baby Boom generation would shortly bankrupt the country. The initial public health response was that Americans needed to reduce their risky behaviors, and get proper nutrition and regular physical exercise (US Government Printing Office, 1979). Of note was public health's initial lack of focus on the economic, environmental and social factors that impact public health.

Part of the difference in the two professions' view of the "social determinants of health"(Schroeder, 2007) is rooted in their academic and professional training. Planners are often visionaries who understand the relationship between the built environment and a good quality of life. In contrast, public health professionals are trained to require evidenced-based practices, with benchmarked data to document progress. The development of this public health mindset comes from protecting the public from quackery in the early years of medicine and from pie-in-the-sky expectations as advertised in the media today. Otherwise put, planners and public health professionals tend to think differently. They are, however, beginning to shift their understanding of each other's vocabularies.

COMING BACK TOGETHER

During the late 1980s, the World Health Organization (WHO) began stressing an ecological view of health and announced that 70 percent of the world's population will be living in cities by 2050. WHO stated that urban planning was critical to human existence to create healthy, equitable and sustainable cities (World Health Organization, n.d.). In the United States, the Healthy People 2000 initiative launched in 1990 set out health objectives that were data driven, requiring benchmarking and data monitoring for progress towards preset goals, often a decade away ("Healthy People 2000," 2009). Health People 2000 was largely focused on access to health care and individual behavioral risk factors (e.g., smoking, obesity, risky sexual behaviors). It did not focus on the social determinants of disease or "upstream" factors that influence health. Social epidemiologists responded by creating new, "soft" datasets to deal with these upstream factors and, when the Healthy People 2020 initiative was launched in 2010, the social determinants of disease were finally included. These were linked to an overarching goal of achieving social and physical environments that "promote good health for all" ("About Healthy People | Healthy People 2020," n.d.). Table 2 lists events that show the slow but sure reconnecting of the professions over the past two decades.

The events of 2011 and 2012, in particular, are currently working to bring planners and public health professionals into stronger partnerships that can result in healthier communities. For instance, many

Table 2. Reconnecting Urban Planning and Public Health

Year	Event
1999	The World Health Organization releases Healthy Cities and the City Planning Process, encouraging planners to develop health as a key principle in urban planning.
2003	The Institute of Medicine publishes The Future of the Public's Health in the 21st Century, with a separate section on the social determinants of health. A recommendation is to develop accreditation for public health infrastructure.
2003-06	American Journal of Public Health, American Journal of Heath Promotion, Journal of Urban Health, and Journal of the American Planning Association publish special issues linking public health and planning.
2009	The Pew Charitable Trust and the Robert Wood Johnson Foundation launch the Health Impact Project that promoting the use of health impact assessments (HIAs) to decisions such as transportation, planning, education or housing.
2010	The Healthy People 2020 initiative is launched, including the social determinants of disease for the first time.
2011	The National Research Council releases Improving Health in the United States: The Role of Health Impact Assessment (HIA) to assist decision-makers in examining the potential health effects of proposed projects, programs, plans, policies.
2011	The Public Health Accreditation Board (PHAB) begins accrediting public health departments. A pre-requisite of being accepted for accreditation requires a community (or state) health assessment (CHA).
2012	The Planning Accreditation Board (PAB) includes a criterion to address health. In the 2017 PAB Accreditation Standards it appears under: Values and Ethics Health and Built Environment: planning's implications on individual and community health in the places where people live, work, play and learn.

planners have now received training in Health Impact Assessments (HIAs), used to estimate how a planned change in the built environment will affect the health of a community. The local health department can be a key player in the development of an HIA. Similarly, public health departments must participate in community health assessments (CHAs) as part of their agency's requirement for accreditation. A good CHA obtains input from key informants and stakeholders in the community, one of whom might be the local planner. A CHA leads to a community health improvement plan (CHIP), which may require the help of planners to help implement (e.g., developing safe routes to school; improving parks and recreational options; reducing the impact of food deserts). In other words, collaborations between the professions are being built across the nation, collaborations that recognize the importance of the built environment to community health.

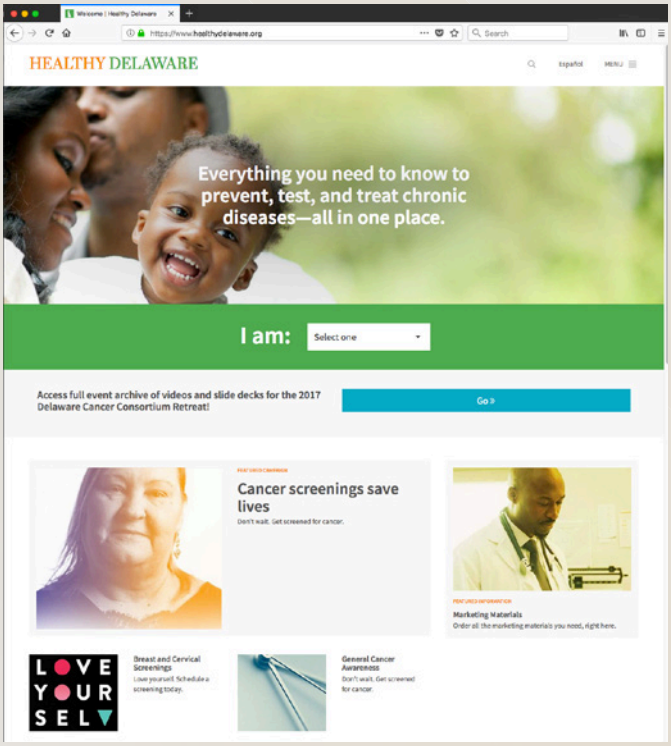
Signs that the training programs for the professions are also retooling can be seen in the academic literature. For example, our review of the academic literature resulted in hundreds of articles linking public health and urban planning since 2000. Fourteen journals published the most articles on topics such as active living, aging, air and water quality, climate change, crime and violence, food security, housing, noise, obesity, social environments, sprawl, traffic congestion, transportation access, walking and cycling (M. R. Greenberg & Schneider, 2017). These journals were:

- American Journal of Preventive Medicine
- American Journal of Public Health
- Annual Review of Public Health
- Environment and Planning A
- Environmental Health Perspectives
- Environmental Impact Assessment Review
- Environmental Planning and Management
- Environmental Science and Technology
- Health Affairs
- Journal of Planning Education and Research
- Journal of the American Planning Association
- Morbidity and Mortality Weekly Report
- Natural Hazards Review
- Risk Analysis, An International Journal

We were also pleased to find that the U.S. Environmental Protection Agency (EPA), the CDC, the Federal Emergency Management Agency (FEMA), and the National Association of County and City Health Officials (NACCHO) carry hundreds of links, webinars, and other resources for planning and public health practitioners to improve the health of their communities. As exemplars, cross-discipline programs can aid in chronic disease and injury prevention, aid community residents with disabilities in accessing public services, and help with preserving air and water quality. Recreational facilities can be planned to be made more accessible and extreme weather events can be planned for to reduce health impacts. Overall, planners and public health professionals are working together to provide safe and healthy places in which to live, work, and play. So how is this working in Delaware?

PLANNING FOR A HEALTHY DELAWARE AND BEYOND

A web search for "Healthy Delaware" yields a website which proclaims "Everything you need to prevent, test and treat chronic diseases--all in one place" ("Healthy Delaware," 2017), as well as a Facebook page ("Healthy Delaware - Facebook," n.d.), and a YouTube page from the same organization ("Healthy Delaware - YouTube," n.d.). In other words, the first set of "hits" does not relate to the built environment or healthy communities. Rather, it focuses on the individual health of Delawareans, as did the original Healthy People 2000 initiative.



A more detailed search of Delaware programs and initiatives linked to the term "healthy" brings up the Delaware Center for Health Innovation (DCHI), a non-profit organization dedicated to making Delaware one of the five healthiest states in the nation. The DCHI's website provides a link to its 2016 Strategic Plan which shows that the organization is primarily focused on health care, although it does include a Healthy Neighborhoods initiative which purports to focus on the social determinants of disease. There is no mention of the built environment in the information on the Healthy Neighborhoods initiative link. Rather, it lists healthy lifestyles, maternal and child health, mental health and addiction, and chronic disease prevention and management as priorities. Again, this approach is the linked to the original Healthy People initiative, with an individual, behavioral health focus.

Delaware Center for Health Innovation

Using a search engine to find URLs that address healthy communities through the built environment is somewhat difficult. The term "planning" brings up hits for health care planning, family planning, planning for emergency preparedness, and community planning for HIV prevention. A review of official state department and division websites is also not helpful. Two websites from the University of Delaware, however, stand out as excellent resources for both planners and public health professionals, as well as the general public. The first of these, Toolkit for a Healthy Delaware (Institute for Public Administration.1, n.d.), covers materials from an initiative funded by the Delaware Division of Public Health and the Delaware Department of Transportation. The website includes tabs for assessing and promoting walkability and likability (Scott, Boyle, Eckley, Lehman, & Wolfert, 2008), understanding food deserts and planning for access to healthy foods, comprehensive plan assessment (Beck, 2010), HIAs to create Healthy Places (Jacobson, Decoursey, & Rosenberg, 2011), planning for a smoke-free Delaware, and planning for complete streets (to make streets safe, comfortable, and convenient for both vehicles and pedestrians of any age and ability) (Scott, Beck, & Rabidou, 2011). For public health professionals not yet in the mindset of thinking about the built environment, this is an excellent tool to get your vocabulary ready so you can talk with your local planner.

The second website, the Complete Communities Toolbox, is also available from a University of Delaware website (Institute for Public Administration.2, n.d.). This one is supported by the Delaware Department of Transportation and is both highly interactive and visual, with five sections covering planning tools, community-design tools, public-engagement strategies, news, and visual tools. The planning tools link includes complete streets, as well land use tools for creating healthy communities and retooling communities facing distinct urban planning challenges (planning for redevelopment, infill, resilience, and more). Of particular interest is the section on how to engage the public. Here you find listed typical planning tools such as charrettes and visual preference surveys, but also newer ones such as gathering crowd sourcing data and creating mobile apps. The CommunityVIZ link provides a case study of rapidly growing Milford (Sussex County) where local citizens used digital crayons and real-time 3D to significantly influence the resulting City Plan. Bryan Hall from the Delaware Office of State Planning Coordination is quoted as saying the process allowed the people of Milford to collaborate so that the town and state could "develop shovel-ready projects while preserving quality of life for today and future Delawareans" ("Community Planning with Digital Crayons and Real-Time 3D," n.d.).

A variety of collaborative groups addressing community health and wellness issues have come and gone across Delaware over the past decade. Some of the groups are simply inactive, not for lack of interest but for lack of funding. Others have completed their task (such as agitating for hiking trails or bike lanes), found their issues subsumed by larger organizations (such as state agencies), or had their concerns addressed in community health improvement plans led by local hospitals or public health departments. Indeed, lack of concerned citizen groups agitating for community health and wellness issues across the state may actually be a sign that the planning and public health professions are working well together to address these concerns.

Public health has become more than providing immunizations and getting people to reduce behavioral risks, watch their diets, and increase their physical activity. Planning has become much more than drafting plans for open space and negotiating for more ratables to increase the local tax base. The professions are now intertwined with the common goal of providing healthy "common communities" (as per Joe Biden's quote) where we can live, work and thrive in an amenable environment that is sustainable for future generations.

The urban planning and public health professions have long known that the built environment can create unsafe conditions and foster disease. It stands to reason, then, that well-planned built environments should be able to promote human health and well-being and result in healthier communities. At the national level, the challenge is to create a shared language between public health and planning, and to adjust academic training programs so that both professions respect each other's strengths. In Delaware, the Toolkit for a Healthy Delaware and Complete Communities Toolbox websites demonstrate how the professions in one state have embraced the built environment and public participation as important for creating healthy communities. All that is needed now is for this fledgling process to continue with new and expanded collaborations that will result in a healthier Delaware.

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Lung cancer is the leading cause of cancer death in both men and women in Delaware and the U.S.

Lung cancer is the most frequently diagnosed cancer in Delaware[1] – and the leading cause of cancer death in both men and women in Delaware and the U.S.[2] Nationally, each year, an average of 411 people per day die from lung cancer.[3]

November is Lung Cancer Awareness Month. **Did you know that there are steps you can take to reduce your risk of lung cancer?** Don't smoke or quit smoking, avoid secondhand smoke, and get your home tested for radon. Learn more.

Risk Factors[1]

The following are ***lifestyle risk factors,*** which a person can modify to reduce his or her risk of getting lung cancer:

- The use of tobacco products: An estimated 85 to 90 percent of all lung cancer cases are caused by tobacco use, according to the U.S. Department of Health and Human Services.
- Exposure to secondhand smoke: When a person breathes in secondhand smoke, it is like he or she is smoking.
- Other suspected lifestyle risk factors include a diet low in fruits and vegetables, a diet high in cholesterol, heavy alcohol use, and smoking marijuana.

The following are ***environmental and medically related*** causes of lung cancer:

- Occupational exposures: Asbestos, mustard gas, radioactive ores, metals (chromium, cadmium, and arsenic), certain organic chemicals, and paint
- Environmental exposures: Radon gas released from soil or building materials, asbestos (among smokers), air pollution, and high levels of arsenic in drinking water
- Radiation therapy to the chest (especially for people who smoke)

The following are ***nonmodifiable*** risk factors (these cannot be changed):

- Family history of lung cancer
- Personal history of tuberculosis

To protect against lung cancer, individuals should avoid tobacco and secondhand smoke, consume a diet rich in fruits and vegetables, engage in recommended levels of physical activity, and maintain a healthy weight.

Early Detection

In January 2013, lung cancer screening guidelines recommending that health care providers discuss screening options with patients who meet certain high-risk criteria for developing the disease were released. High-risk patients are defined as those who:

- Are ages 55–74 and in fairly good health
- Have a smoking history equivalent to a pack a day for 30 years or longer
- Currently smoke or have quit within the past 15 years

Talk to your health care provider about whether you should get screened for lung cancer. Learn more.

Don't give up on giving up.

Smoking harms nearly every organ of the body and damages your overall health. Regardless of age, smokers can greatly reduce their risk of disease, including lung cancer, by quitting. If you or someone you love is a smoker, we can help. We understand that everyone is different and requires different resources. Learn more about three FREE ways you can get the help that's right for you.

[1] Delaware Department of Health and Social Services, Division of Public Health, Cancer Incidence and Mortality, 2009-2013, http://www.dhss.delaware.gov/dhss/dph/dpc/files/im09-13_july2017.pdf

[2] Centers for Disease Control and Prevention, https://www.cdc.gov/cancer/lung/index.htm

[3] Centers for Disease Control and Prevention, https://www.cdc.gov/cancer/lung/statistics/

Planning for the Complexity of Addressing Population Health Issues

Community Coalitions are one of the three critical components in Planning, Organizing and Impacting Health Outcomes.

Peggy Geisler, PMG Consulting, L.L.C.

Population health is complex. The plans that often accompany addressing population health issues will frequently fall short if the planning, design and implementation does not account for that complexity. Planning for population health should include three core components. These core components consist of a theory of change model, a systemic framework needed for change to occur and a vehicle to deliver/facilitate the change.

Each of these three components are critical in driving comprehensive population health impact and a community should work to understand the landscape through real data, engage multiple partners and plan. The following pieces to assist with that work should include a theory of change, a framing model and a community based coalition. These vetted best practices when combined, provide the complex infrastructure needed to address population health comprehensively. The three key components for this article respectively include: (1) Social Ecological Theory of Change (2) Collective Impact Model and (3) Community Coalition as the vehicle for change.

This article will briefly outline the three key components and their roles. It will then elaborate on each component consecutively to give the reader a basic working knowledge of the components to ensure an understanding of why each of the best practices individually are impactful. In addition, this article will

paint the significant picture of the community based coalition as the critical and effective means to deliver and address population health and provide a real Delaware state example for the reader.

The Theory

The Social Ecological Theory of Change (SETC) was coined by the Center for Disease Control and its violence prevention work is taken from the Social Ecological Model of McLeroy, Kenneth, Bibeau, Steckler and Glanz (1988) and takes into context all the factors that produce and maintain health and health-related issues. It allows for the community to identify layers that influence an individual's behavior within his/her environmental context and helps better plan interventions and supports holistically. It does this by showing how social problems are produced, sustained and interconnected within a community (see Figure 1. The social ecological theory nested system (1988)).

This theory of change model demonstrates that an individual's behavior is influenced by his or her beliefs, resources, family dynamic, community supports networks and the policy around his or her environment. An individual's ability to navigate his or her health needs and issues can be complex and based on many factors that influence them. This theory has yielded a growing acknowledgment of the complexity of these systems, **highlighting the need** for more sophisticated community **layered interventions and alignment to address the complexity.** It is through these lenses, taken into context of one another that the community can move population health through alignment of strategies to foster change. Any one of these pieces can create a limited, siloed impact but it is through the more unified and purposeful movement across all these layers that population health shifts. How do you ensure alignment through these layers and what is the most effective way to move a community together along these spheres of influence?

The Framework

The community needs to have a mechanism to frame this complex theoretical work and one such model would be the Stanford Innovations Collective Impact Model as described by Kania and Kramer (2011) in the Stanford Social Innovation Review.

Collective Impact is a framework that allows for a cross sector approach for the operationalization of the Social Ecological Theory of Change (SETC) in real time. Kania and Kramer (2011) described 5 core components that are key to the core feature of the Collective Impact Model that provides the Alignment process across stakeholders (See below Figure 2. Graphic of the 5 key elements of collective impact (n.d.)) and these include: (1) Common Agenda (2) Common Progress Measures (3) Mutually Reinforcing Activities, (4) Communications, and (5) Backbones Organization/s that are key in addressing complex social problems. This framework is the tactical mechanism for the alignment piece while the Social Ecological Theory gives the theoretical rational behind the layers where alignment will need to occur, and the community's strategies need to be integrated.

This innovative yet structured approach (Collective Impact) and the layered strategies where interventions occur (Social Ecological Theory of Change) will not be able to be operationalized by any one entity or stake-holder.

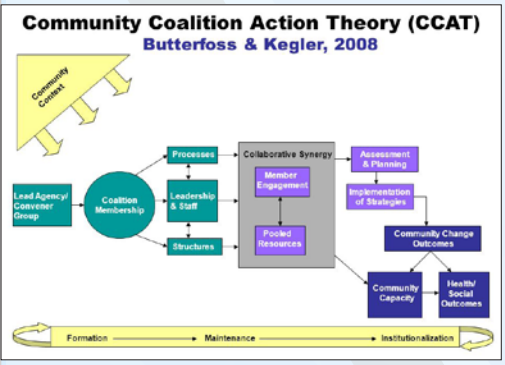
The final piece that is needed to allow for the transformational approach is the development of a population health vehicle designed to be the outward manifestation of both the social ecological theory of change and collective impact. In this case and for this purpose, it is a Community Coalition. A Community

Coalition can be organized as the catalytic driver behind planning and operationalizing the Social Ecological Theory of Change through a Collective Impact framework.

The Vehicle A Community Coalition

The Community Coalition is the real-time mechanism that allows for the physical alignment of government, business, philanthropy, non-profit organizations and citizens to achieve significant and lasting population health or other social change. The Community Coalition can be the entity that fosters and drives a Collective Impact Framework and the organizing mechanism across the identified layers in the Social Ecological Theory. The interdependency of the three provides a complex comprehensive approach in addressing population health and drives community health impact. A community driven approach such as a coalition allows for individuals, organizations and public policy to become aligned to drive change simultaneously. Change becomes more meaningful by providing an opportunity for those who are affected by the change to be part in guiding the change and developing the solutions that will be implemented. Coalitions empower the community and the individuals they serve to be part of the planning and decision-making process.

Butterfoss and Kegler (2002) developed the **Community Coalition Action Theory** (CCAT) which is a form of the Interorganizational Relations (IOR) **Theory**. A **Community Coalition** is a structured arrangement where all members from all sectors and different spheres of influence can converge around any community health initiative to organize, plan and implement strategies to create change. This is where the real work takes place by the people who are impacted the most.



The formation of the Community Coalition is the most crucial piece in operationalizing a population health initiative and it can range from taking on one targeted area identified by the group or addressing more holistic landscape of needs. It can be geographically focused, issue focused, it can be both long term and short term, but its key component is a group of individuals who care about a need or issue that come together to collectively problem solve and impact the community.

The impact occurs through the coalescing of key stakeholders and their ability to create a shared comprehensive plan and work synergistically to execute the plan. This vehicle of delivery creates increased community resources and demonstrates significant return on investments while ensuring greater impact. The very nature of multiple individuals sharing knowledge, resources and experience in crafting plans and community based solutions allow for innovation, extended resources and improved outcomes around any social issue health being one.

Coalitions as a vehicle for public health and prevention based activities have been highly studied and utilized as an evidenced based practice over the past decade and coalitions have been found to be a key foundational component to help address complex social issues. The reason coalitions are considered the best practice in working on complex issues like health is because a coalition structure by its very nature is often layered with the stakeholders that physically represent or mimic the layers outlined in the Social Ecological Theory of Change. This physical manifestation of the theoretical model allows for more complex solutions to be identified and implemented in addressing population health and social issues. Community Coalitions allow for the most relevant, real-time and innovative approaches around population health to occur. In addition, coalitions can employ strategies simultaneously within the layers of the social ecological theory strata ensuring aligned community work.

The formation of a coalition often relies heavily on one key component of the Collective Impact model and that is the Backbone Agency. Dedicated staff, research and evaluation are key critical components that ensure long-term sustainability. Community Coalitions need a myriad of resources to start and maintain their efforts that include technical assistance and funding to support professional planning, resolve problems, create and implement innovative approaches, measure and evaluate and sustain the work.

The early stages of a coalition's success hinges on the following according to Butterfoss & Kegler (2002):

1.) Inclusivity of a broad and relevant group of stakeholders
2.) Organizational structure and its development
3.) Evidenced based principles and practices
4.) Organizational capacity to plan, manage and implement
5.) Self-Assessment
6.) Sustainability
7.) Outcomes/impacts

The above list represents an outline of key ingredients that provide the internal framework needed to develop a successful coalition. To ensure it is successful out in the community there are some additional considerations. One is gauging the community's level of readiness as well the community's resources to execute on the population health issue/s identified.

Assessing a community's readiness is critical. First, is the backbone agency a well trusted agency and on strong community footing? Does the community believe the agency is committed to the outcome? Is the agencies mission aligned with the work? Is that organization willing to be engaged for the journey 5 -10 years or is it only interested in a short term fix? These questions are very important when you seek to engage stakeholders. The answers ensure for stakeholders whether there is enough social capital and momentum towards addressing the issues. In addition, does the community have tangible resources in place? Tangible resources include leadership, political will, community resources that include financial and finally\the stakeholder's willingness and capacity to engage.

It is recommended that you or your community conduct a readiness assessment. This assessment should reflect the readiness of all sectors of the community including the backbone agency. The assessment itself needs to utilize a culturally competent assessment process that involves working with representatives from across community sectors in the planning.

During the assessment process the following will be crucial; (1) Understand how the population health problems are perceived among different sectors in the community; (2) Identifying the stakeholders that are already engaged in other similar initiatives; (3) identifying other multiple initiatives taking place and if they relate to what your coalition will be doing and finally, (4) what critical barriers are there to the engagement and support by stakeholders when it comes to the nascent coalition and its work.

The backbone agency needs to understand the landscape fully before launching. If all conditions are favorable, if the backbone agency has identified and engaged key champions and if a launch plan includes a theory of change, a framework to align and conditions favoring a coalition launch then the real work begins.

Model Health Coalition

The Sussex County Health Coalition (SCHC) was established in 2003 to engage the entire community in collaborative family-focused efforts to improve the health of children, youth and families in Sussex County Delaware. The organization is the backbone agency in Collective Impact Model and uses the SETOC as its lens. The organization has over 172 partner agencies who meet Monthly in task groups and quarterly as a whole to identify community needs and concerns. These committees work to align around targeted areas of need but verify the need through local data and stakeholder feedback. The Task Forces then work together to plan how to address the need from local or national promising practices. They do this by seeking support from strategic partners to address the need. The backbone agency in this case the Sussex County Health Coalition (SCHC) assists in helping foster the implementation of strategies, programs and or collaborations to ensure the interventions are completed with fidelity. The committee and the organization through technical support ensures metrics are recorded and outcomes are reported to the stakeholders and Task Forces when a change in the environment, service or individuals occurs.

SCHC created a Behavioral Health Task Group several years ago in answer to a growing need and concern by partners. The Behavioral Health Task Group (BHTG) current partner membership and monthly attendance ranges from 22-30 members. Those members identified Mental Health access as a critical need for children in Sussex County through a stakeholder forum. This coupled with local data presented by the Delaware Rural Health Initiative was the spring board to planning. The BHTG group set out to target access to services for school age children and youth one of the largest needs identified. They reviewed best practices, located a replica table strategy and put together an initial plan to replicate that strategy in Delaware. The organizations leadership worked to help securing funding through local providers who had an interest in that work and included, Discover Bank, Highmark Foundation and now Arsht Cannon fund. The School based Mental Health Collaborative was formed and is currently sustained over three and a half years later. This group has been able to ensure that four School Districts serving close to 15,000 youth have built a comprehensive Behavioral Health infrastructure within each district that has allowed for the systematic early identification and referral for youth who demonstrated a Behavioral Health need. Increased service providers in the school districts to reduced wait

time for Behavioral Health services from 2.5 months to less than two weeks and increased provider capacity significantly in Sussex County. The model has allowed each district to collect real-time data and utilize that data to inform programming, policy and allocation of resources to meet the student needs. The districts have doubled the number of children being identified and receiving treatment. In addition, each district over 4 years have been provided minimal financial support but has also been able to sustain the services formed. Early data shows that this work is creating impact in school climate and academic performance in both Indian River and Woodbridge school districts who are model programs. This is just one example that a Community Coalition can have when stakeholders work together to identify issues in their community and when they work together to solve them. If you would like to learn more about Sussex County Health Coalition go to www.healthysussex.com.

Setting up a Health Coalition

A key backbone agency should work with an identified champion or champions of a few key stakeholders. Hiring and supplying the nascent group a person well versed in coalition development to provide technical assistance and administrative support is crucial. The role of this staff person is to assist with bringing the key stakeholders around the table to develop the coalition's initial organizational strategic plan and to identify the initial process for developing the community plan. It will be important to identify a vision as a coalition around the population health issue/s you seek to impact. Then a mission statement should be formed for the group along with core values. This will set the framework for the rest of the coalition's work. This framework and the infrastructure will help drive the community based planning approach now and well into the future.

The infrastructure based on a strong theoretical framework that includes a backbone entity, a well-organized group of champions, and a clear, relevant plan is the foundation that allows for a coalition's success. This, however, is only the beginning. Initially the Coalition must ensure timely small wins that allow for participants to practice working together in an aligned way and experience collaborative success. This increases the momentum of stakeholders and solidifies their commitment while often creating additional participation by other stakeholders. The early win is the first level of sustainability for a coalition as it demonstrates the potential of this model must to both the backbone funder and the stakeholders engaged. This allows for all involved to become more deeply committed and entices others to be part of the work. This is a shift from a conceptual organization to one that transcends a cooperative relationship to one of true collaboration that is purposeful. Purposeful collaboration fosters interdependence amongst participants such as funders, providers and consumers who are actively engaged for a shared good.

The more the cycle of planning, doing and achieving occur on both a small scale and larger scale the more the level of trust and purposeful collaboration continue. The framework of Collective Impact ensures this along with the organizational structure. If the aligned activities are layered in the Social Ecological theory levels the more likely the wins start to add up and moves an initiative momentum forward collectively.

Planning for a healthy community is complex, work. Complex social issues cannot be solved with simple solutions. The solutions that will solve them need to be rooted in proven theoretical models with comprehensive framework like Collective Impact and driven by a vehicle like a Coalition. This work is a marathon, not a sprint, and is focused on changing policy, community, organizational practices and influencing families and individuals to healthier practices. It's about changing landscapes that are inequitable and removing barriers. It's about aligning more than communication and activities. It's about all of us owning the Health Issues in our community and developing comprehensive solutions and the key to all the work is partnership.

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Peggy Geisler is the Owner and Senior Consultant of PMG Consulting LLC, who works with not-for-profits and businesses on infrastructure, strategic planning and collective impact as well as conducts community-based planning in both Maryland and Delaware. She is a licensed Consultant for the Standards for Excellence Institute for Maryland Association of Nonprofits and Delaware Alliance for Nonprofit Advancement (DANA). She has 25 years of experience in the not-for-profit field and has received numerous awards for her community based work. Peggy holds BA in Clinical Psychology from University of Maryland and her MA in Clinical Psychology from Salisbury University.

Peggy oversees the project management of the Sussex County Health Coalition, a well-established nonprofit consisting of a 175-organization membership whose mission is to strategically improve the health and well-being of children, youth and families in Sussex County, Delaware.

Libations and Donations:

Guest Bartending Event

Thursday, May 17, 2018
BBC Tavern & Grill, Greenville, Delaware

Westside is hosting a guest bartending event on Thursday, May 17, 2018 at BBC Tavern and Grill featuring local celebrities pouring libations for a great cause.

All beverage gratuities generated in the bar area will be donated to Westside Family Healthcare. There will be two guest bartending events this year; the second event will be held in the fall.

LIBATIONS AND DONATIONS SPONSORSHIP OPPORTUNITIES INCLUDES BOTH EVENTS

Westside Family Healthcare

Growing a more Food Secure Wilmington

People's choices about what to eat are severely limited by the options available to them and what they can afford. Many communities in Wilmington are food deserts. According to the United States Department of Agriculture (USDA), a food desert is a low-income census tract where a substantial number of residents have low access to a supermarket or large grocery store. According to the State of Delaware Community Health Status Assessment (CHSA), almost half of children age 12-17 years in Delaware are clinically overweight or obese, and only 32 percent of adults in Delaware consume fruits two or more times a day,[1] with only 30 percent consuming vegetables three or more times a day. According to an analysis from the Delaware Health and Social Services, Wilmington's obesity rate is estimated at 32.6% – compared to 29% for suburban New Castle County.[2] As a result, these populations may be more likely to suffer from high rates of diabetes, cardiovascular disease, and obesity. Fortunately, for many neighborhoods in Wilmington, urban agriculture is on the rise. Three examples are described below.

Wilmington's Eastside Community: Duffy's Hope Youth Garden

Duffy's Hope, Inc. has established a Youth Garden in Wilmington's Eastside Community offering fresh fruits, vegetables, and cut flowers to youth, their families, and community residents. Students in the Duffy's Hope program are at risk youth ages 12 through 17. The garden site, located at 9th and North Church Streets, was made available through the City of Wilmington property disposition program in 2010. Overall, the project encourages youth to live healthier lives through gardening while learning how to work with peers to achieve a positive end-goal. Youth learn aspects of crop production, soil health, and use the tools of Integrated Pest Management (IPM) to grow crops and flowers.

Phase I, in 2010 and 2011, included the site acquisition, soil testing, site excavation, construction, and maintenance including the addition of white stone on top of the former asphalt parking lot location, equipment purchases, crop production, and harvesting supplies. Phase II, in 2012, initiated raised beds for vegetable and fruit crops, and a storage shed. Phase III, in 2013, established a raised bed flower garden.

The garden mobilizes at least 25 youth for spring, summer, and fall programming. Hands-on interactive curriculum's reinforce the principles of engagement, leadership, and empowerment through the gardening process. The project has brought science, technology, engineering, and mathematic (STEM) concepts to youth in a fun manner allowing students of all ages to explore and unlock new areas of interest. Additionally, Duffy's Hope Leadership encourages youth to work as teams which develops socialization skills and encourages healthy communication while in the garden setting. The yearly schedule includes planting spring, summer and fall crops, nurturing soil health through use of compost materials, plant supplements containing soil microbes and mychorizzae, and IPM practices.

Conscious Connections

Conscious Connections (CC) is working to transform vacant lots in Wilmington's Northeast community, into thriving community gardens, greenhouses, and a food distribution complex. The project is working to create a sustainable food and urban agriculture network though community youth programs that provide an outlet for

local youth to explore their interests and talents through art, agriculture, and achievement. The project includes:

- Seasonal community farm stand
- Community resource center with a community kitchen and seasonal café
- Hydroponic commercial greenhouse
- Pass through cold storage facility

Using agribusiness as the vehicle, the complex uses a community garden as a resource center to teach low-income and disadvantaged community members and youth the principles of healthy eating and active living. The program helps to lay a healthy foundation in order to reduce the incidence of lifestyle related chronic conditions such as heart disease, diabetes, obesity, and cancer.

Conscious Connections is also working with the Food Bank Delaware (FBD) to develop a Produce Enterprise Center that will create a food aggregation and distribution facility designed to service the specialty crop market in Delaware and the surrounding area by providing a linkage between commercial enterprises, institutions, consumers, and fresh fruit and vegetable growers of any scale.

The Produce Enterprise Center will be a revenue-generating extension of the Food Bank of Delaware which leverages its existing supply chain infrastructure to mitigate startup risks and overcome the market barriers to entry typically faced by an emerging food hub or distributor. The project will utilize dedicated staff and existing fleet and warehouse resources to conduct sales outreach and facilitate transactions between wholesale produce customers and specialty crop growers during Delaware's nine month productive season.

The Produce Enterprise Center will steer the local food system toward a more sustainable and socially responsible future by providing efficient and affordable distribution of locally grown fruits and vegetables to existing and emerging consumer access points in the Delaware area. The enterprise Center will include:

- Clean room for repacking bulk produce and value-added processing for greater marketability
- Multiple temperature- and climate-controlled produce refrigeration units
- Infrastructure (including employees, fleet vehicles, and a spacious new warehouse facility)
- Linkages to the FBD Culinary Enterprise Program for cross-functionality and revenue source

Partnerships to Improve Community Health

The Partnership to Improve Community Health (PICH) awards were part of a U.S. Department of Health and Human Services (HHS) initiative to improve the health of communities through collaborative efforts to create environments that support wellness and reduce chronic disease. Funding for the initiative was provided by the

Centers for Disease Control and Prevention (CDC) and brought approximately $1.7 million to Delaware, specifically the City of Wilmington and the surrounding area of New Castle County. Community organizations across the city worked together to implement strategies focused on increasing access to healthy foods and places for physical activity. These strategies included healthy corner stores, farm stands, and park revitalization.

One of these partners was the South Wilmington Planning Network (SWPN), a group of more than 20 organizations working to improve south Wilmington. In 2011, the SWPN founded the Southbridge Community Garden. The garden, formerly two vacant lots owned by the Neighborhood House community center, includes 12 raised beds, fruit trees, berries, and wildflowers. Residents rent space in the garden for a nominal fee and are provided with all the tools they need to successfully grow successfully including seeds, transplants, tools, and free workshops. In 2014, the SWPN founded a second garden focusing on youth. The Southbridge Youth Garden, an offshoot of the successful community garden, demonstrates through hands-on learning, that growing healthy and chemical free vegetables is easy, fun, inexpensive, and delicious. It also helps develop small business, money management, and entrepreneurial skills among local youth through cooking demonstrations, farm visits, a monthly youth-led farm stand and health fair, and weekly garden lessons.

Building on these two gardens, and with funding provided by the PICH award, the SWPN greatly increased the availability of fresh, healthy, and locally grown fruits and vegetables, and health education to the area's residents. Located near the Port of Wilmington, the low income and minority community of Southbridge enjoyed a monthly youth-led farmers market and health fair located at the local community center, a bi-weekly pop-up farm stand located at a community garden, a weekly farm stand located inside the local medical center, park revitalization, and the addition of healthy foods to a local gas station convenience store.

Community gardens and urban agriculture projects like these contribute to an overall healthy lifestyle and reduction of chronic diseases by offering more healthy choices for those who need it most. While urban agriculture alone will not solve the many health problems faced by Wilmington's residents, it can be an important part of solution.

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2 Delaware Division of Social Services, Division of Public Health. "The State of our Weight, 2015." http://www.dhss.delaware.gov/dhss/dph/dpc/files/obesityinde2015.pdf

Randi Novakoff has worked as the Outreach Manager for the Wilmington Area Planning Council (WILMAPCO) since 2008. In a volunteer capacity, Randi founded the Southbridge Community Garden, a youth garden, and a youth-led farmers market and health fair. In addition, she chaired the youth committee of the South Wilmington Planning Network, chaired the Health and Education Committee of Healthy Kids Delaware Network, and serves on the Steering Committee for the Delaware Urban Food and Farm Coalition.

Konrad Kmetz retired from DuPont Agricultural Products Business in 2007 after 31 years in various Research, Development and Manager roles. He currently is employed as a Business Development Director for Advanced BioNutrution Corp in Columbia, Md. He is actively involved in Wilmington Inner City ventures including the Wilmington Healthy Corner Stores Network, Seeds for Change working with returning citizens from prison systems and Duffy's Hope Inc as a Board Member.

Matthew Williams is the Founder and Executive Director of Conscious Connections Inc. (CCI). CCI is a natural extension of his professional experiences, which have included working with some of our nation's most vulnerable and under-served populations. Matthew started his career in social services where he worked with physically and mentally challenged adults and children. He then transitioned to education when he accepted a position, first teaching high school girls at a disciplinary school in Philadelphia, PA and later teaching special education at schools in Philadelphia and Wilmington, DE.
With a history of building programs, community values, and building partnerships among diverse groups of stakeholders, Matthew has made programs come to reality working with very tight budgets. Conscious Connections Inc. was founded to empower individuals through academic, cultural, social and health services that will influence, nurture, and develop environmental stewards with a solid foundation that contribute to the sustainability of their local and global environment.

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Delaware's Process for Planning and Approving New or Expanded Medical Facilities

Julia O'Hanlon, M.P.A.

Abstract

This article aims to inform public health professionals and planners about Delaware's Certificate of Public Review (CPR) program—the state's statutory process regulating the review and approval of eligible applications for new or expanded medical and skilled nursing facilities.

Delaware's CPR process is facilitated by an appointed Health Resources Board (HRB). The HRB's primary purpose is to promote continual "public scrutiny of certain healthcare developments [that] could negatively affect the quality of health care or threaten the ability of health care facilities to provide services to the medically indigent" (DHCC, 2017).

As the state's population increases, so will the demand for appropriate and accessible healthcare services. In particular, Delaware's most vulnerable populations, including its increasing older adult population, will continue to be primary drivers of the state's healthcare services. Delaware's Community Health Needs Assessment process identifies specific health indicators that also will impact the state's delivery of resources and services. Understanding the CPR process and the demands for new or expanded health resources is important in helping local healthcare providers, planners, and state and local officials make informed decisions about long-term infrastructure and built environment issues among the state's growing communities.

Introduction and Background

While evaluation and oversight of the state's proposed health facilities might not be a common consideration among professionals in the fields of public health or planning, Delaware's Certificate of Public Review (CPR) program is well-established and stems from a long history of government regulations aimed at monitoring healthcare costs and coordinating services based on the needs of local communities.

Initiated in the 1970's, the federal government's National Health Planning and Resources Development Act (NHPRDA) established a mandate requiring state-level

oversight—Certificate of Need (CON) programs—of any proposed new health facilities, services, and major capital expenditures. Arguably, the ultimate goal of the federal requirement was to minimize inflation associated with the primary drivers of healthcare costs during that time and to ensure that new or expanded services were being fairly distributed among disadvantaged populations (DHCC, 2017; NCSL, 2016).

Over time, and with much debate about the impact of state CON programs, the NHPRDA was repealed. Opposition of CON programs is often framed around concerns that reduced price competition among facilities actually encourages spending and that market (versus political) forces should drive the process. Conversely, advocates of the programs argue that healthcare should not be considered a "typical" economic commodity, and that CON programs limit unnecessary healthcare spending by promoting the distribution of services and resources to areas that might otherwise be overlooked. And, while opponents of the process question the consistency among CON program administration, supporters suggest that a structured evaluation process promotes public input and accountability (NCSL, 2016; Federal Trade Association and Department of Justice, 2004, AHPA Response, 2017).

Despite ongoing deliberations about and changes to these programs over the past three decades, many states retained their CON programs (NCSL, 2016). In the late 1990s, Delaware's program was replaced by the state's CPR program, which is facilitated through the Health Resources Board (HRB). The Board comprises a chair, vice chair, and 13 members, each appointed to three-year terms by the Governor. HRB members represent all three counties, the public at large, and industry designees.

The state's Health Care Commission currently staffs the HRB and provides important administrative resources to the board, such as information on new CPR applications, meeting materials, status of review subcommittees, and data to help guide the process.

Pursuant to Delaware code, the responsibilities of the HRB include the development of a Health Resources Management Plan (DHCC, 2017), which was first adopted in 1995. The HRMP includes guiding principles and establishes criteria for the committee to use in reviewing eligible CPR applications. In 2017, the HRMP was revised by the Delaware HCC and the HRB with the goal of promoting the state's overall health planning framework, including Delaware's Triple Aim Plus One and Health Care Innovation Plan, which emphasizes improved health outcomes, quality of care, lower healthcare costs, and enhanced provider satisfaction.

As indicated in the recently updated edition of the HRMP, Delaware's CPR process, "in tandem with community-based planning efforts, helps to protect the statewide healthcare infrastructure necessary to meet the expected and projected healthcare needs of all Delawareans." In doing so, the CPR process aims to improve geographic and economic access to healthcare for all Delaware residents.

HRMP updates are intended to address current activities and pave the way for a more efficient healthcare system in Delaware. The latest version, which was approved by Delaware Health and Social Services Secretary Kara Odom Walker on July 13, 2017, can be reviewed by visiting http://dhss.delaware.gov/dhss/dhcc/hrb/files/hrmpupdseptember2017.pdf.

Requirements, Review Considerations, and Guiding Principles of Delaware's CPR Program

In accordance with state law, Delaware's CPR process is applicable for any activities that include the construction, acquisition, or development of a healthcare facility, a capital expenditure in excess of $5.8 million, an increase in bed capacity, or the acquisition of major medical equipment. In reviewing CPR proposals, the Delaware HRB uses three primary evaluation sources:

1. Statutory criteria pursuant to Delaware code.
2. Guiding principles that represent the major ideas of the state's overall healthcare reform model.
3. Project specific mathematical need calculations.

Statutory criteria used to review applications include seven standards. Those most relevant to planning and the location of facilities include the need of the population for the proposed project, the availability of less costly and/or more effective alternatives, and the relationship of the proposal to the existing healthcare delivery system. Therefore, macro-level review and analysis of population projections from the U.S. Census Bureau and the Delaware Population Consortium, in addition to referral patterns in the proposed service area, provide important information for the Delaware HRB in considering CPR applications. The impact on costs, employment, diversity of providers and patient choice in the defined service area are also important elements to be included with application materials. Proposals should also describe plans for care of patients without private

insurance and those who are medically underserved within the area.

Guiding principles related to the statutory criteria are also used during the review process. These principles are stipulated by the HRMP and encourage projects that:

- Strive for balance among access, cost, and quality of care issues.
- Contribute to the care of the medically indigent.
- Support a managed, coordinated approach to serving the needs of the population.
- Account for the availability of out-of-state resources.
- Discourage incentives for overutilization (including self-referrals).
- Enhance meaningful markets.
- Promote prevention activities such as early detection and healthy lifestyles.

Statewide Trends Impacting the CPR Process

Since 2005, over 40 CPR applications have been reviewed by the state's HRB, which can be referenced through the Delaware HCC website. Delaware's population projections and health indicator trends continue to impact the applications considered through the CPR program.

Projections provided by the Delaware Population Consortium, and referenced in the most recent Delaware Nursing Home Utilization Statistics report, illustrate the expected increases among the state's older population cohorts over the next several decades. Between 2015 and 2050

Delaware's 65 and older (65+) population is expected to grow by more than 100 percent. The state's oldest population cohorts (70–79, 80–84, 85+) are projected to increase most rapidly.

The growing size and the changing demographics of Delaware's population are key to understanding of the distribution of nursing homes, the number of licensed nursing home beds, and their utilization. In 2016, 46 Delaware nursing homes operated a total of 4,876

Delaware Population Projections (2015-2050) Age 60+, by Age Cohort

Age Breakdowns								
Age	**2015**	**2020**	**2025**	**2030**	**2035**	**2040**	**2045**	**2050**
60–64	57,492	65,236	67,065	64,371	60,661	59,528	64,865	67,502
65–69	50,681	55,887	62,885	64,961	62,361	58,850	57,923	63,215
70–74	37,811	47,464	51,825	58,494	60,510	58,089	54,942	54,293
75–79	26,917	33,664	41,931	45,918	51,841	53,681	51,598	48,987
80–84	18,872	22,285	27,711	34,747	37,999	42,894	44,520	42,896
85+	19,378	23,467	27,578	33,873	42,493	49,426	56,270	60,755
Age Totals								
Total Age	**2015**	**2020**	**2025**	**2030**	**2035**	**2040**	**2045**	**2050**
60+	211,151	248,003	278,995	302,364	315,865	322,468	330,118	337,648
65+	153,659	182,767	211,930	237,993	255,204	262,940	265,253	270,146
75+	65,167	79,416	97,220	114,538	132,333	146,001	152,388	152,638
85+	19,378	23,467	27,578	33,873	42,493	49,426	56,270	60,755
Percent Change								
Age	**2015**	**2020**	**2025**	**2030**	**2035**	**2040**	**2045**	**2050**
60+	0.0%	17.5%	32.1%	43.2%	49.6%	52.7%	56.3%	59.9%
65+	0.0%	18.9%	37.9%	54.9%	66.1%	71.1%	72.6%	75.8%
75+	0.0%	21.9%	49.2%	75.8%	103.1%	124.0%	133.8%	134.2%
85+	0.0%	21.1%	42.3%	74.8%	119.3%	155.1%	190.4%	213.5%

Prepared by: Delaware Division of Services for Aging and Adults with Physical Disabilities
Source: Delaware Population Consortium Annual Population Projections, October 26, 2017, Version 2017.0

licensed beds. The majority of Delaware nursing homes were privately owned and operated in 2016. Since 2006, overall occupancy rates for private nursing home facilities in all three counties have remained near 90 percent (DHCC, 2017).

In addition to the aforementioned demographic trends and nursing home data, indicators listed below have been identified through the state's Community Health Needs Assessment process as problem areas in need of attention in Delaware (Delaware Health Tracker, 2017).

- Healthy eating and active living
- Cancer prevention and control
- Access to healthcare services
- Maternal and infant health
- Violence and public safety
- Social determinants of health

These indicators, in addition to other Delaware-specific information available through the Behavioral Risk Factor Surveillance System, connect current and projected healthcare issues with need for new or expanded facilities among the state's counties and local jurisdictions. Specific examples within these indicators include statewide chronic disease rates (cancer and heart disease incidence) as well as exercise, lifestyle, and substance abuse trends among all Delawareans (Delaware Health Tracker, 2017). As noted in the 2017 Report of State Planning Issues, Delaware has the 17th highest adult obesity rate in the country, and the 9th highest among high school students nationally (CCSP, 2017).

Conclusion

Delaware's CPR process continues to be a significant component of the state's evolving healthcare agenda. With demographic trends, medical needs, and technological advances driving the process, CPR applications will reflect the emerging needs of local communities. As described by the Cabinet Committee on State Planning Issues and Delaware Office of State Planning Coordination, a healthy community is one that includes a mixture of recreational and service options—including medical care and medical facilities (CCSP, 2017).

As public health professionals and planners continue to interact on health indicators and outcomes, data and information sharing about the CPR process and the trends impacting the program will be increasingly critical. In conjunction with demographic trends and health indicator data available, learning about the types of new or expanded medical facilities being proposed throughout the state can provide community members, local officials, planners, and public health professionals with additional information needed to appropriately plan for the infrastructure required to support these proposed projects.

While local government comprehensive plans often address an area's need for new or expanded healthcare facilities, municipalities do not have direct control of where medical facilities are located. Data and information sharing among local officials, planners, and HRB members could help bridge this gap while supporting broader, county- and statewide planning initiatives such as Plan4Health or other collaborative efforts. Furthermore, understanding the evolving medical needs of our communities can help local policy makers in promoting healthier lifestyles through the built environment.

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Acknowledgments

This article is written from a public-at-large perspective and does not represent the members of Delaware Health Resources Board.

Julia O'Hanlon, M.P.A., was appointed by Governor John Carney (2017) as a member of the Delaware Health Resources Board, representing the public at large. Ms. O'Hanlon's professional affiliation is with the University of Delaware as a Policy Scientist within the School of Public Policy and Administration's Institute for Public Administration (IPA). IPA is an applied research and public service center serving local and state agencies on a variety of public policy issues and needs.

PUBLIC HEALTH AND PLANNING LEXICON
OF TERMS

A

Advocate – Publicly recommend or support; a person who publicly supports or recommends a particular cause or policy

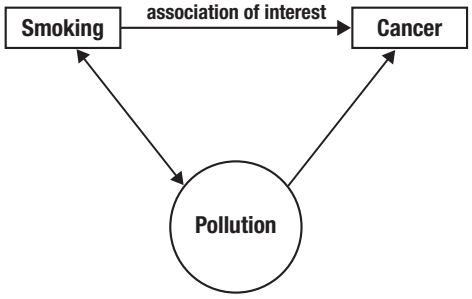
B

Built Environment – The human-made space in which people live, work, and recreate on a day-to-day basis.

C

Coalition – An alliance for combined action

Confounding – A variable that is related to both exposure and outcome, and accounts for some or all of the observed relationship between the two.



Smoking (exposure) is known to cause cancer (outcome). But air pollution can also account for some (or all) cancer diagnoses, so pollution is a confounder. Epidemiologists account for confounder's by stratifying their data.

D

Demographics – Statistical data relating to the population and particular groups within it (especially age, income, education, race, gender, etc.)

E

Endemic – A disease or condition regularly found among particular people or in a certain area

Epidemic – An increase – often sudden – in the number of new cases of a disease above what is normally expected in that population in that area

Epidemiology – The study and analysis of the distribution (who, when, where) and determinants of health and disease conditions in defined populations

Exposure – Any factor that may be associated with an outcome of interest (i.e. exposure to tobacco smoke, sunburns, radiation, etc)

F

Food Desert – An area (usually of low income) in which it is difficult to buy affordable, good-quality, nutritious, fresh food, either due to distance, expense, or supply

I

Implementation – The process of putting a decision or plan into effect; execution

Incidence – The proportion of new cases of disease that develop in a population during a period of time.

Infrastructure – The basic underlying physical and organizational structures, framework, and facilities (i.e. buildings, roads, power supplies) needed for the operation of a society (or other enterprise)

M

Macro – At or on a level that is large in scale or scope

Micro – At or on a level that is small in scale or scope

Morbidity – Having a disease; the rate of disease in a population

Mortality – Death, especially on a large scale

N

Needs Assessment – A systematic process for determining and addressing gaps between current conditions and desired conditions. The discrepancy between current and desired condition must be measured to appropriately identify the need.

P

Population – A particular section, group, or type of people (can be based on geography, age, disease condition, etc)

Population Health – The health outcomes of a group of individuals, including how those outcomes are distributed within that group.

Prevalence – The proportion of people found to be affected by a medical condition at a given time.

Public Health – The science of protecting and improving the health of people and their communities through education, policy making, and research for disease and injury prevention.

R

Risk Factor – A variable associated with an increased risk of disease or vulnerability to disease and/or injury. These factors can be behavioral (i.e. smoking, risky behavior), genetic, demographic (i.e. age, gender, ethnicity, geographic location, sexual orientation), or something else (i.e. social status, occupation, diet, stress level).

Rural – An area with fewer city/town aspects; countryside

S

Social Determinants of Health – "Life-enhancing resources, such as food supply, housing, economic and social relationships, transportation, education, and health care, whose distribution across populations effectively determines length and quality of life." (CDC)

Upstream Factors – Overarching factors that are largely outside the control of the individual, but have significant effects on other determinants of health (policy and programs, social inequities)

Downstream Factors – The outcomes of upstream factors and variables, which may be more easily mitigated or prevented by the individual (physical environment, behavior)

Stakeholder – A person or entity with an interest or concern in something (could be a policy, a building, a program, etc)

Steering Committee – A committee that decides on the priorities or order of business of an organization or plan, and manages the general course of its operations

Stratification – In epidemiology, the evaluation of statistical data within categories of a similar nature (i.e. breaking the data up into age groups) to control for any confounding. For example: a county with a high percentage of people over age 75 may have a higher rate of death than a country with a younger population, merely because the elderly are more likely to die. Using an age adjusted mortality rate allows fairer comparisons between groups with different age distributions.

Sustainability – The ability to be maintained at a certain rate or level

Synergistic – The interaction or cooperation of two or more organisms, substances, etc. to produce a combined effect greater than the sum of their separate effects

T

Task Force – A unit specially organized for a task; a group of people who deal with a specific problem

U

Urban – An area with more city/town aspects

Urban Sprawl – The uncontrolled expansion of urban areas

PUBLIC HEALTH AND PLANNING RESOURCES

State of Delaware	
Delaware General Assembly	http://www.legis.delaware.gov/
Delaware Clean Indoor Air Act	http://www.delcode.delaware.gov/title16/c029/
Healthy and Transit Friendly Development Act	http://www.bikede.org/wp-content/uploads/2016/04/Bikes-and-Transit.pdf
Delaware Plan4Health	http://www.deplan4health.org/wordpress/
Delaware Public Health Association	http://www.delamed.org/
Department of Natural Resources and Environmental Control	http://www.dnrec.delaware.gov
Parks & Recreation	http://www.dnrec.delaware.gov/parks/ http://www.destateparks.com/
Department of Transportation	https://www.deldot.gov/
Office of Highway Safety	https://www.ohs.delaware.gov/
Division of Public Health	http://www.dhss.delaware.gov/dhss/dph/index.html
Office of State Planning Coordination	https://www.stateplanning.delaware.gov/
Kent County	http://www.co.kent.de.us/planning-dept/planning.aspx
New Castle County	http://www.nccde.org/282/Development-Planning
Sussex County	https://www.sussexcountyde.gov/planning-zoning
Dover	https://www.cityofdover.com/planning-and-inspections
Lewes	http://www.ci.lewes.de.us/index.cfm?ref=30200&ref6=11
Newark	https://www.newarkde.gov/59/Planning-and-Development
Seaford	http://www.seafordde.com/index.cfm?ref=44100
Wilmington	https://www.wilmingtonde.gov/government/city-departments/department-of-planning-and-development/
Area Planning Councils	
Wilmington area	http://www.wilmapco.org/
Dover/Kent County MPO	https://www.doverkentmpo.delaware.gov/
Salisbury/Wicomico MPO	http://www.swmpo.org/
Other Programs	
American Planning Association	https://www.planning.org/
Delaware Chapter	https://www.delawareapa.wordpress.com/
Conscious Connections	https://www.consciousconnectionsinc.org/
Delaware Coalition for Healthy Eating and Active Living	http://www.deheal.org/
Duffy's Hope Program	http://www.duffyshopeinc.org/
Food Bank Delaware	https://www.fbd.org/
South Wilmington Planning Network	https://www.swpn.org/
HIGHER LEARNING	
Delaware State University	https://www.desu.edu/academics/college-education-health-public-policy

SAVE THE DATE

Fourth Biennual

Perinatal Palliative Care Syposium

"Ethical, Cultural, and Family Support"

John H. Ammon Medical Education Center
Christiana Hospital Campus
Newark, Delaware

Registration information coming soon.

CHRISTIANA CARE HEALTH SYSTEM

Friday, March 16, 2018 • 8 a.m. – 4:15 p.m.

Delaware Quality-of-Life Coalition

Educators, clergy, health professionals, caregivers, and community partners coming together

Annual Conference "Living with Grace and Dignity"

AND

18th Annual Excellence in Hospice & Palliative Care Awards Dinner

The Outlook at the Duncan Center, Dover Del.

April 18th, 2018

Conference: 2pm to 5pm

Dinner: 5:30pm to 8:30pm

Please RSVP to the following link:
RSVP: www.dqolc.org/register

Nominate: www.dqolc.org/nominate

Phone: 302-722-5413

E-mail: kmarkowitz@dqolc.org

Index of Advertisers

From the history and archives collection

Kate Lenart, M.A.

In the collection of the Delaware Academy of Medicine we have a book "Bacteriology and Sanitation," copyright 1909. Science was able to assess the presence of malaria infected mosquitos, and prescribe a course of action – proper paving and drainage – to remedy the spread of malaria. This is an excellent example of the preventive intersection of planning and public health, with a clear health benefit.

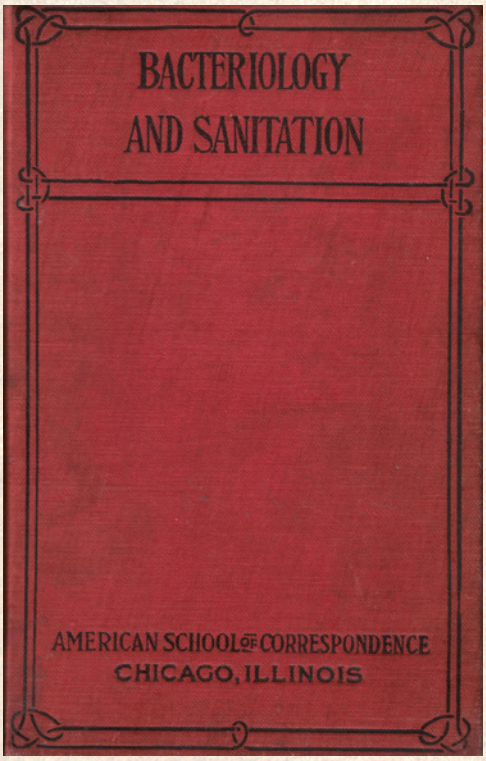


Fig 33. View of Bottle Alley, Colon, September, 1906. These standing pools are the breeding places for the malaria infected mosquito.

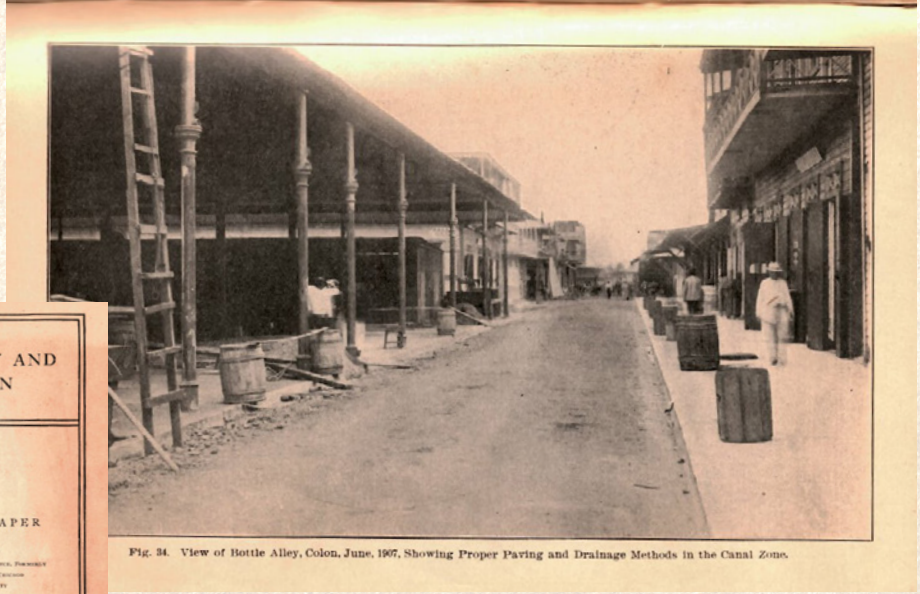
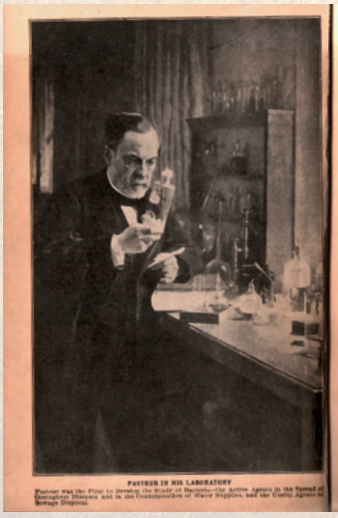


Fig. 34. View of Bottle Alley, Colon, June, 1907, Showing Proper Paving and Drainage Methods in the Canal Zone.



PASTEUR IN HIS LABORATORY