The Framework on Social Determinants of Health: 
Applying the 2016 IOM Report to Teaching Health Promotion Professionals

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These are notes on what I think is important from my presentation. This is better than the slides. Here I give you what I think you would need if you want to use the information from the presentation in your own practice or classroom. And, I leave out the clip art. VLB.

Abstract

This year the Institute of Medicine issued a report (National Academies of Sciences, Engineering, and Medicine, 2016) urging health professional educators to incorporate the social determinants of health into training our workforce at every level, including clinicians, administrators, educators, researchers, and policy makers. Using the social determinants of health will improve our practice individually and also help us achieve health equity at a population level.

This session helps educators of health promotion professionals answer that call. We will review the evidence for the importance of social determinants of health, at both individual- and population-based health promotion. And, we will learn about, apply, and discuss educational tools and resources for teaching health promotion that takes the social determinants of health into account. Educators of basic and continuing education can all find these tools useful.

1. Importance of IOM Call

  A. Social Determinants of Health Key to Health Equity
  B. All Health Professionals should take SDH into account
     i. Clinicians
     ii. Policy makers
     iii. Educators
     iv. Administrators
     v. Researchers
     vi. Public health workers
  C. Educators lack needed characteristics to teach this
     i. Training
     ii. Diversity
     iii. Partners
     iv. A unifying framework
     v. Evidence
  D. Key to Health Promotion (point of this presentation)

Reference
2. Health Equity

One reason to care about social determinants of health is that health care, including health care focused on health promotion, is inadequate to address health disparities or to achieve health equity. Or, for that matter, to promote health on a community level. And, that point is made in the report. But, health disparities are defined as "disparity in the overall rate of disease incidence, prevalence, morbidity, mortality, or survival rates in the population as compared to the health status of the general population" (106th Congress, 2000) So, they are about population health.

This model from the Prevention Institute shows it to us graphically. The social determinants of health are in all parts of it.

![Trajectory of Health Inequities](image)

(Prevention Institute, 2009)

A. When we care for individuals, we see health inequities as our outcomes, at the end, the results. Where do they come from?

B. If we take a couple of steps back, we see that the care of medical conditions have disparities. We have enormous bodies of evidence for this. We know that women don't get the same care for heart disease as men, and rural and poor populations have harder times getting to primary care providers, etc. And, if you are providing clinical health promotion, this is where you are. Actually, the care we give is a social determinant of health. But, we usually think of this in a systems level, in terms of access to care.

C. If you take a couple more steps back, you see more disparities that lead to health inequities in outcomes, in terms of exposures and behaviors. So, if you are American Indian you are more likely to smoke, and lower paying jobs tend to have more occupational hazards. But, these social determinants of health are set before people come into our offices. We can't change them, right? And, they are prevalences in populations, not necessarily present in the individual in front of us.

D. If you take a couple more steps back, you get to environmental exposures that have disparities. For example, poor neighborhoods are more like to be unsafe or have toxic waste. These are even more out of our control as health professionals, right?

E. So, if you are promoting community health, then definitely, you are looking at the social determinants of health. But, if you are promoting health on the individual level, as a clinician, how do they apply to your work? How do the social determinants of health apply to what you do? Any ideas? [Get ideas.]
How this applies today

A. When you counsel and advise, you need to take them into account.
   a. You need to know the constraints.
   b. You need to know your resources.
B. You need to work with your community to make things better.
C. When you teach, you need to teach your student that health means far more than just clinical care. This is particularly important when it comes to health promotion.

Exercise
- Walking trails
- Rec centers
- Safety

Diet
- Food available on WIC and Food Stamps
- Food desserts
- Corn subsidies and cost of soda pop

Tobacco
- Stress
- Advertisements
- Role models

Occupational Health
- Sick Leave
- Injuries

Evidence that Health Equity is the premier health issue of our careers. I’m not going to take time on that today, but in case you have any doubts, I have provided references.

- Disparities in health status. The evidence that there are differences goes back to the turn of the last century. The overwhelming evidence goes back to a landmark report from the Secretary’s Task Force on Black and Minority Health that brought together data on excess mortality for minority Americans from a range of diseases. A plethora of studies of health disparities followed. These are in terms of racial and ethnic disparities, but there are similar data for other populations, such as rural populations, or uninsured populations.

- Health care By 2003, the notable Institute of Medicine review of studies addressing disparities in the quality of care, Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care established that not only health status but health care has disparities, even when access is available. Follow up studies show this continues to date.

- Disparities in terms of social determinants of health. The evidence that these health disparities in health status are not genetic, not inherent to particular populations, but rather unjust, preventable differences, differences in social determinants of health, has mounted, particularly in the last 20 or 30 years.
References


3. Social Determinants of Health

I am not going to go over all this evidence, evidence of health disparities and how the social determinants of health contribute to them. But, I am going to go over some of the evidence that addressing the social determinants promotes health does work to promote health. When I do this with my students, the ones I mentioned, that are mostly coming to me from acute care settings, I use a model from public health that has been adapted to health promotion. The conceptualization of the model that you see here is one Dahlgren and Whitehead proposed of the social determinants of health in 1993, an ecological view of health used by public health. This is an updated version (Dalgren & Whitehead, 2006). This model and others that bring the social determinants of the health into focus have been used to explain both how health disparities arise and how to achieve health equity (e.g. Kaplan, Everson & Lynch, 2000).
Dahlgren and Whitehead proposed this conceptualization of the social determinants of health in 1993, an ecological view of health used by public health, shown here in an updated version (Dalgren & Whitehead, 2006b). This model and others that bring the social determinants of the health into focus have been used to explain both how health disparities arise and how to achieve health equity (e.g., Kaplan, Everson & Lynch, 2000).

You can see that this model starts with the individual and unmodifiable characteristics, age, sex, race, family history, etc. The next shell is also addresses individual characteristics, but modifiable factors. Then it moves out to social and community networks, like family, friends, and church. These are social determinants of health, but those closer to the individual and more in their control. The outer shell has general socioeconomic, cultural and environmental conditions, more social determinants of health, and those farther outside of an individual's control.

Today, I'm using this framework to summarize evidence for how addressing social determinants of health can promote health, using two examples, tobacco and infant mortality. Clinical providers tend to live in the first two shells, age, sex, and constitutional factors and individual lifestyle factors. Sometimes, when we're really good, we venture into support networks. We rarely consider the overarching general socioeconomic, cultural, and environmental conditions in which our clients live.

But, the truth seems to be that our clinical care, even health promotion clinical care, has little to do with the health of our clients. Data coming out for the last 60 years has consistently indicated that environmental factors (the outer shells) account for about 50% of health outcomes and lifestyle factors account for about 20%. The non-modifiable individual factors at the center account for about 20%, and clinical services account for about 10% (e.g., Surgeon General, 1979).
The report says we need to do better at educating health professionals to understand, influence, and work with social determinants of health.

References


4. Evidence for reducing Tobacco Use by Addressing SDH

The WHO has sponsored the Framework Convention on Tobacco Control, the first treaty negotiated by the WHO. It started in 2005 with 40 countries. Now has been ratified by 180. The provisions contain evidence based policies that the countries adopt to reduce tobacco dependence. “Interventions were defined as cost effective if the cost per disability adjusted life years (DALY) averted was less than three times the country’s gross domestic product per capita and very cost effective if each DALY could be averted at a cost less than the gross domestic product per capita.” That means they calculated how much death and disability they could prevent with an intervention and how much it would cost. That’s pretty effective.
All of these interventions met that criterion. They are in the treaty. And the treaty itself has worked, now with 180 countries signed on and with yearly increasing numbers of people across the globe in places with these measures in place.

These all change social determinants of health, resulting in changes in individual decisions about tobacco use.

- Regulation of the contents of tobacco products; (constitutional factors, but based on political decision)
- Protection from exposure to tobacco smoke; (general socioeconomic, cultural, and environmental conditions) (41% reduction of heart attacks in Pueblo)
- Regulation of tobacco product disclosures; (general socioeconomic, cultural, and environmental conditions)
- Packaging and labelling of tobacco products; (general socioeconomic, cultural, and environmental conditions)
- Price and tax measures to reduce the demand for tobacco (general socioeconomic, cultural, and environmental conditions)
- Education, communication, training and public awareness; (general socioeconomic, cultural, and environmental conditions)
- Tobacco advertising, promotion and sponsorship; and, (general socioeconomic, cultural, and environmental conditions)
- Illicit trade in tobacco products; (general socioeconomic, cultural, and environmental conditions)
- Sales to and by minors; and, (general socioeconomic, cultural, and environmental conditions)
- Provision of support for economically viable alternative activities (general socioeconomic, cultural, and environmental conditions)

How do you use this knowledge in clinical care? [Ask for ideas.]

- Go into the support networks shell. This is often invisible to our clients. Help make it visible to them.
- Know the resources in your community, so that your clients can capitalize on them.
- Use the framework I’m going to show you today with your students and in your own practice.

Regardless of how you use the social determinants of health in practice, and wherever you practice, you should understand them. Without understanding this context, you are working in the dark.

This example of social determinants of health is very focused. Not what most people are thinking of when they talk about social determinants of health. But, I used it because tobacco use is a behavior that’s thought of as eminently individual, but really very environmentally influenced, and I knew this audience would understand that. And, we have lots of data about that. This examples of social determinants of health is very focused. Not what most people are thinking of when they talk about social determinants of health. But, I used it because tobacco use is a behavior that’s thought of as eminently individual, but really very environmentally influenced, and I knew this audience would understand that. And, we have lots of data about that. We also know that people smoke more when
they live in stressful conditions. I don’t know of any data about addressing the more general social
determinants of health to reduce smoking, but I’d sure like to see some.

It came up at a conference I went to on health disparities, years ago. This message isn’t new to this
audience. This is a health promotion audience. What’s interesting to me is that this is from a
presentation at a health equity conference, in a talk entitled “Race, chronic stress, poor health
behaviors, and physical and mental disorder disparities: Exploring the intersections.” He was talking
about the social determinants of health.

Because the fact is that when we intervene with individuals—for substance abuse, for obesity,
for everything else—the first thing we say to people is, “You have to stop that because it is bad
for you.” That’s the first thing the counselor says. In the first five seconds the counselor loses
the person. And the reason why they lose that person is that “When I’m under stress, I know
that if I drink a martini I feel better… If I’m under stress and I eat a Twinkie, I feel better. If I’m
under stress and I eat some Popeye’s chicken, I feel better.”…There’s a functional relationship
between these particular behaviors and why you’re doing it. What we need to get you to do is
to have behaviors and so on which are healthier for you, but which have the same
effect.” That’s a very different message. (Jackson, 2006)

References

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5. Evidence for Reducing Health Disparities in Infant Mortality using SDH

Tobacco provides an example of how interventions changing the social determinants of health promote health by targeting a specific health behavior. It is pretty direct, looking at environmental factors directly related to tobacco. But, the World Health Organization, the IOM report, and many others also make the argument that more general social determinants of health also must be addressed to promote health generally, and health equity specifically. Health disparities in infant mortality rates provides an excellent example. Like tobacco, we are changing the risk factors in hopes of affecting the health outcome.

Here are the US infant mortality rates over the last 20 years. The gap between the races have changed very little over that time. As one author put it, each death is a “shame,” but the gaps in the rates are “shameful” (Wise, 2003).

Source: CDC/NHCS National Vital Statistics System.
You might think that infant mortality is primarily driven by genetics. But, that theory has been discarded. This study was one of several that served to show that social determinants of health are far more important in determining infant mortality. Low birth weight is the biggest risk factor linked to infant mortality rates. This study of birth weights over from 1980 to 1995 in Illinois showed that birthweights of U.S.-born Blacks consistently averaged lower than those of U.S.-born Whites, while those of African-born Blacks were similar to U.S.-born Whites. This data removed support from a hypothesized genetic tendency of Blacks toward a normal range of smaller birth weights. Conversely, the data supported the Weathering Hypothesis (Geronomus, 2002), that the experience of stress over a lifetime contributes to poor birth outcomes among U.S.-born Blacks.

Landmark Study of Birth Weight Lent Support to Weathering Hypothesis (David & Collins, 1997)

This study of birth weights over from 1980 to 1995 in Illinois showed that birthweights of U.S.-born Blacks consistently averaged lower than those of U.S.-born Whites, while those of African-born Blacks were similar to U.S.-born Whites. This data removed support from a hypothesized genetic tendency of Blacks toward a normal range of smaller birth weights. Conversely, the data supported the Weathering Hypothesis (Geronomus, 2002), that the experience of racism over a lifetime contributes to poor birth outcomes among U.S.-born Blacks.
Infant mortality rates provide an example of how this model may be used to explain racial health disparities, using each level in the model. We have evidence at every shell of social determinants of health contributing to racial disparities in US infant mortality rates.

Age, Sex, and Constitutional Factors
- Infants born to mothers older than 40 or to teen mothers are more likely to die in infancy (Mathews, MacDorman, Thoma, & Division of Vital Statistics 2015).
- Infant mortality varies enormously by race and ethnicity, with Black babies dying at double the rate of White babies nationally and American Indian babies at rates 50% higher than Whites (Mathews, MacDorman, Thoma, & Division of Vital Statistics, 2015). And, these disparities have widened over the last decade, as rates overall have dropped (Mathews, MacDorman, Thoma, & Division of Vital Statistics, 2015).

Individual Lifestyle Factors
- Maternal smoking, alcohol, and illegal drugs all contribute higher rates of infant mortality (Collins & David, 2009)

Social and Community Networks
- Babies born to single mothers are 73% more likely to die in their first year than those born to married mothers (Mathews, MacDorman, Thoma, & Division of Vital Statistics 2015), possibly a reflection of the social networks linked to families with two parents.

Living and Working Conditions
- Lower maternal education levels are linked to higher rates of infant mortality (United States Department of Health and Human Services (US DHHS), Centers of Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS), Division of Vital Statistics (DVS), 2016, Collins & David, 2009)
- Later start to prenatal care and lack of insurance is linked to higher rates of preterm birth (Anum, Retchin, Garland & Strauss, 2010), which is tightly linked to infant mortality (Anum, Retchin, Garland & Strauss, 2010, Collins & David, 2009, Mathews, MacDorman, Thoma, & Division of Vital Statistics 2015).
- Lifelong residence in a poor, urban community contributes to low birth weight, also linked tightly to infant mortality (reviewed in Collins & David, 2009).

General Socioeconomic, Cultural, and Environmental Conditions
- Low birth weight (LBW) and preterm delivery are the leading risk factors for infant mortality. LBW babies suffer infant mortality rates 25 times higher than other babies (Mathews, MacDorman, Thoma, & Division of Vital Statistics 2015), LBW is implicated in two thirds of all infant deaths (Krands & Davis 2012), and PTD in one third (Callaghan, MacDorman, Rasmussen, Qin & Lackritz, 2006). Racism has been implicated in maternal stress leading to LBW and PTD by the preeminent scholars in these fields (Kramer & Hogue, 2009, Love, David, Rankin & Collins 2010, Witt, et. al. 2014, Spong, Iams, Goldenburg, Hauck, Willinger 2011)
- Low socioeconomic status contributes to a higher rate of infant mortality (reviewed in Collins & David, 2009).

The model also helps us to develop interventions to achieve health equity. Here we need to develop evidence. Can we improve outcomes here as we have in tobacco? Lots of money has gone into studying the tobacco problem, and we have an immediate outcome, tobacco use to study. In this example, both the social determinants and the outcome are longer term and harder to study.
But, there are examples to study. Families Forward Resource Center in Denver, Colorado, provides a community based example of a program that addresses reducing Black infant mortality and disparities in infant mortality using a many-pronged approach (Families Forward Resource Center, n. d.). Blacks infants in Colorado die at 2.7 times the rate of White babies in 2014 (Colorado Department of Public Health and Environment, 2016), higher than the national disparity of 2.2 as of 2013 (Mathews, MacDorman, Thoma & Division of Vital Statistics, 2015). Families Forward addresses the Black infant mortality rate in terms of social determinants of health, at all levels of the multilevel model.

Age, Sex, and Constitutional Factors
• The Resource Center offers services to African American families, those at highest risk for infant mortality.

Individual Lifestyle Factors
• Courses are offered on parenting, couples communication, fathering, financial literacy, nutrition, and exercise.

Social and Community Networks
• The youth development work includes the Youth Leadership Squad, where small groups of youth learn to work together on community projects.

Living and Working Conditions
• The Resource Center helps identify resources for families, including food, housing, utilities, crisis intervention, access to care, and other public and private benefits.

General Socioeconomic, Cultural, and Environmental Conditions
• The Resource Center participates in the Community Action Network of organizations and individuals working to address institutional level interventions to reduce infant mortality, including addressing racism and increasing community support networks and systems of advocacy.

References


6. Framework from IOM Report for Teaching SDH

So, today we will be working with the framework from the IOM report, applying it to our work as health promotors and teachers of health promotors.

- New providers
- CEUs
- Clinicians, public health, policy, administration

We’re going to use these tools:

- Frameworks
- Specific learning activities and outcomes
- Resources

We’re going to use these tools:

- Frameworks
- Specific learning activities and outcomes
Here’s the framework

Education at the top because the framework is about education. Has 4 components

- **Experiential learning**
  - Applied learning
  - Community engagement
  - Performance assessment
- **Collaborative learning**
  - Problem/project-based learning
  - Student engagement
  - Critical thinking
- **Integrated curriculum**
  - Interprofessional
  - Cross-sectoral
  - Longitudinally organized
- **Continuing professional development**
  - Faculty development
  - Interprofessional workplace learning

Community has 3 components

- **Reciprocal commitment**
  - Community assets
  - Willingness to engage
  - Networks
  - Resources
- **Community priorities**
  - Evaluation of health impacts toward equity and well-being
- **Community engagement**
  - Workforce diversity
  - Recruitment, retention

Organization is about setting up an infrastructure

- **Vision for and commitment to education in the social determinants of health**
  - Policies, strategies, and program reviews
  - Resources
  - Infrastructure
  - Promotion/career pathways
- **Supportive organizational environment**
  - Transformative learning
  - Dissemination of pedagogical research
  - Faculty development/continuing professional development

In the report, they also put their framework and recommendations within a context of social determinants of health. I’m not going to go into that, just show it to you. You can read the report for more detail.
Agencies in England and Canada, US scholars, and World Health Organization have issued calls for more holistic education of health professionals for today’s world, health professionals who understand the social determinants of health. This is a US comparable official call for that.

The report recommend that we use the framework to:

1. Educators should use it to create lifelong learners.
2. Communities should it to increase diversity.
3. Providers should use it to guide work and missions.
4. Researchers should use it to guide the development of evidence base.

They also ask for education that includes:

- interprofessional education,
- community-engaged learning,
- experiential education, and
- health outcomes research.

Chapter 2 of the report gives examples of how to incorporate social determinants of health into coursework. That is the focus of today.

Chapter 3 of the report focuses on conceptual frameworks supporting this educational shift, some like the one I showed you earlier. The report framework is describes now the education works, the pedagogy. These other frameworks describe how social determinants of health work, the content. We’re not addressing that today. Chapter 3 “shifts from individual examples of education, networks, and partnerships to the broader concept of frameworks within which curricula and programs can be tailored to meet situational requirements.” (p. 28)
Like most health professional educational research, we don’t have lots of evidence about using this approach. Mostly learner self report, nothing on outcomes farther down the line, nothing on community based or health outcomes. (pg. 380-9)

Reference


*Example Activities from the Session*

**SDH Individual Assessment**

A social determinants of health individual assessment is administered in order to identify potential barriers to student success. A debrief is held afterward to address any potential distress caused by the sensitive nature of the questions. Based on the HEA Scholars’ responses, a Prescription for Success is created.

SOURCE: Based on a presentation by Brigit M. Carter, Ph.D., R.N., CCRN, Duke University School of Nursing, at the committee’s open session on September 15, 2015. (National Academies of Sciences, Engineering, and Medicine, 2016. pp.44-5).

The tool is provided in a separate file, courtesy of Dr. Carte at Duke University School of Nursing.

**Interprofessional Home Visits in Partnership with Community Agencies**

Help families address social determinants of health by collaborative student team home visits. Families recruited by community agencies.

**Herbert Wertheim College of Medicine**

**Curriculum on Social Determinants of Health**

Florida International University’s (FIU’s) Herbert Wertheim College of Medicine (HWCOM) is an innovative twenty-first-century medical school founded in 2006. Its unique doctor of medicine degree curriculum emphasizes the social determinants of health—both in the traditional classroom setting and in the community classroom—through team-based, household-centered care. The college’s Green Family Foundation Neighborhood Health Education Learning Program (NeighborhoodHELP™) provides students with longitudinal, interprofessional, service-learning experiences that allow students to translate classroom learning into practical application throughout the curriculum. The program addresses health disparities through reflection on social determinants of health in urban underserved households. A strong university–community partnership is at the core of this novel approach.

HWCOM faculty and staff develop relationships with local community agencies, forging partnerships to influence policy and improve population health. These community partners identify underserved households and refer them to NeighborhoodHELP™. Outreach teams visit each referred household to assess members’ needs and eligibility for services. Engaging communities through this structure has resulted in a sustained flow of households participating in the program, a comprehensive network of local resources, trusted relationships that inform development of the curriculum, and continuity of household-centered care for participants who previously relied solely on emergency departments or America’s “safety net” for health care services.
The HWCOM curriculum is built on study in five major strands: human biology; disease, illness, and injury; clinical medicine; professional development; and medicine and society. Within the medicine and society strand, a series of Community-Engaged Physician courses is horizontally and vertically integrated across all periods and incorporates the Healthy People 2020 social determinants of health framework and leading health indicators. Related curricula include ethics, cultural humility, social and cultural influences on health, interprofessional communication and teamwork, household-centered care, and population health. In addition to situated learning during household visits, educational modalities include active learning sessions, small-group activities, student presentations, classroom discussions, didactic or panel presentations, role play, concept mapping, and reflective writing.

Interprofessional teams of FIU faculty with expertise in primary care (including family medicine, internal medicine, and pediatrics), psychiatry, public health, ethics, anthropology, law, social work, nursing, and education supervise student teams generally comprising medical, nursing, and social work students. Students enrolled in the college’s new physician assistant studies program will begin participating in 2016. Students conduct biopsychosocial assessments; provide educational, primary care, social, and behavioral services; and assist household members in navigating and managing health and social services. HWCOM’s focus on addressing social determinants of health aims to reduce health disparities, foster community engagement, and transform the health of patients and communities.

SOURCE: Based on a presentation by Onelia G. Lage, M.D., FAAP, Florida International University, at the committee’s open session on September 15, 2015.

**Multilevel Model of Social Determinants of Health Framework as a Behavior Change Theory in a Case Study**

Students read journal entries about a behavior change. They answer multiple choice questions that use behavior change theories (Multilevel Model, Health Belief Model, Social Cognitive Theory, Theory of Planned Behavior, and Social Support Types) to explain what happened in the entry and draw implications for practice.

**Example multiple choice question using the Multilevel Model of SDH:**

Consider this journal entry. How does the Multilevel Model best explain the particular experiences related in there?

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**Accomplishments:** I completed a 30 minute cardio workout at the gym on the elliptical machine.

**Barriers:** Thinking about all the other things I needed to get done on my day off from work such as grocery shopping, laundry and house cleaning. Living outside of town presents barriers because the gym I use is 25 minutes away from my house and it is the closest one. So, if I am going to the gym for exercise I really have to plan it into my day because I either have to take things with me to shower there or have enough time to return home to shower. My daughter’s school is also in town, therefore, I try to plan my activities for the day so that I am not going back and forth wasting gas and time.

- In this entry, the client demonstrated that the Age, Sex, and Constitutional Factors shell of the Multilevel Model helped explain success in making this behavior change.
- The Age, Sex, and Constitutional Factors shell addresses the impact of physical processes on adopting behavior changes.
In this entry, the client demonstrated that the Living and Working Conditions shell of the Multilevel Model helped explain barriers in making this behavior change.

The Living and Working Conditions addresses the impact of physical processes on adopting behavior changes.

In this entry, the client demonstrated that the Living and Working Conditions shell of the Multilevel Model helped explain barriers to making this behavior change.

The Living and Working Conditions shell addresses how local resources like recreational facilities, retail outlets, and safety net agencies affect adopting behavior changes.

In this entry, the client demonstrated that the Living and Working Conditions shell of the Multilevel Model helped explain barriers in making this behavior change.

The Living and Working Conditions addresses how the personal genetic and family heritage of a person affects adopting behavior changes.

**Community Assessment / Windshield Survey**

Ask you students to go out in the neighborhood where their clients live and do a survey, either walking or driving. See what they can learn from seeing the community. Getting outside of the office can surprise us.