Engaging the health care setting at the systems level to support healthy eating and active living and prevent obesity can help address the problem of obesity. A number of key attributes of the clinical realm impacts population-level obesity prevention. Health care facilities serve large groups of people, including patients seen at the medical facility, the family and friends who accompany them for visits, as well as the large number of employees who provide care and service the facilities. Thus, system-level improvements to the health care setting have great potential for large reach and impact. In 2011 there were more than 5,700 hospitals registered with the American Hospital Association, with more than 36 million inpatient admissions in the U.S.\(^1\) Even more medical facilities are included in the reach of clinics and other places providing care. These facilities also have the potential to influence the health of the surrounding community by serving as promoters and models of healthy eating and active living, which may influence good health practices.\(^2\) A health care facility services communities by integrative work in both the primary care and public health domains.

The Weight of the Nation (WON) health care track brought together policymakers, public health practitioners, health providers, and other partners that are working towards increasing understanding and sharing of best practices in the medical setting, and facilitating cross-setting partnerships to more effectively prevent obesity. This track was organized around 3 objectives:

1) Creating a hospital environment that supports healthier choices by using strategies described in the Creating & Sustaining Healthy Hospital Environments and the Breastfeeding & Beyond sessions;

2) Using the obesity chronic care model (OCCM) to promote self-management with strategies such as those in the Enhancing the OCCM and Leadership & Stepping up to Change sessions; and

3) Bridging primary care and public health, as described in the Integrating Primary Care & Public Health and the Partnering Across Sectors to Engage in Community-Based Action sessions, as well as the Breaking Down Silos: Partnering Across Sectors to Engage in Community-Based Action for Obesity Prevention training.

Key factors and opportunities in the medical setting which were addressed by panelists included: (1) the populations that are served or benefit by obesity prevention healthcare policies, systems, and environmental supports; (2) the domains of primary care and public health that can be bridged to collaborate across

Jennifer L. Foltz, Brook Belay, and George L. Blackburn
sectors; and (3) the supporting strategies within these populations and across these domains upon which obesity prevention efforts can be centered. The objectives of the track are reflective of these strategies. Figure 1 depicts these key factors and opportunities and the focus of the track. Subsequent tables highlight key opportunities for obesity prevention action in the medical setting that were discussed by the panelists. This paper summarizes the medical track conference proceedings and outlines key actions discussed by panelists through the lens of the Institute of Medicine’s (IOM) Accelerating Progress in Obesity Prevention: Solving the Weight of the Nation. Summaries of the presentations are organized by the subtitles of the corresponding session, forum or training in which they were given.

Supportive Medical Setting Environments for Wellness

As employers, hospitals and health care systems are natural leaders for worksite wellness because of their influence and reach; in 2011 hospitals employed more than 6.3 million individuals. As organizations with a mission to improve health, hospitals can influence community norms and engage in community-wide health promotion. In 2010 the CDC convened an expert panel to identify strategies to improve hospital environments to promote healthier behaviors for obesity prevention. Examples of the strategies identified include supporting healthy food and beverage choices, using signage at stairwells to promote physical activity and providing lactation and breastfeeding support for hospital employees, visitors and patrons.

Session: Creating & Sustaining Healthy Hospital Environments

This session highlighted the importance of system-level improvements in hospitals to foster a culture of healthy eating and active living, as well as the value of public-private partnerships and leadership engagement. Enhancements to the food and beverage environments require the development of systems improvements that directly affect the way food and beverage items are procured, prepared, promoted and placed. These improvements can be implemented in a variety of medical care facilities and can be targeted

Figure 1

This figure depicts the importance of the medical setting including the populations served (e.g., health care employees, inpatients and outpatients, visitors including friends and families, residents of the surrounding communities), domains affected (e.g., primary care, public health) which can be bridged for integration across settings, and the supporting constructs or strategies upon which efforts can be centered.
to cafeterias, vending machine, snack shops, and company-sponsored events and catering. For instance, hospitals can introduce changes to their menu — available food choices and placement of healthier foods on menus — to promote healthier choices.

The CDC National Institute for Occupational Safety and Health Total Worker Health program, one highlighted federal level initiative to improve health care environments, seeks to integrate worker protection and health promotion interventions to advance the health of workers on and off the job. A series of successful case examples highlighted improvements to the health care food environment for employees and patients through food policy, procurement, promotion and changes in the environment. Interventions aim to influence food choices and consumption patterns not only during the health care setting visit but also in the post-discharge, aftercare setting.

The New York City Department of Health and Mental Hygiene (DOHMH), helped coordinate a multi-sectoral effort to promote healthier food choices by implementing policies including the New York City Food Standards. As part of this effort, the “Healthy Hospital Food Initiative” utilized placement, menu labeling and pricing strategies, amongst others, to promote healthier food and beverage choices at more than 30 hospitals citywide. As a result, there was greater availability of healthier options for employees, visitors and patients of the city’s hospitals.

The power of public-private collaborations to improve the hospital environment was highlighted by the American Heart Association (AHA), who used grass-roots efforts in helping hospitals unite in promoting healthier options for employees, visitors and patients of the city’s hospitals.

Table 1

<table>
<thead>
<tr>
<th>Ten Steps to Successful Breastfeeding</th>
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<tbody>
<tr>
<td>(Adapted from Reference 8 by the Presenter for the U.S. Audience)</td>
</tr>
<tr>
<td>1. Have a written breastfeeding policy that is communicated to staff</td>
</tr>
<tr>
<td>2. Train staff to implement the policy</td>
</tr>
<tr>
<td>3. Inform pregnant women about the benefits of breastfeeding</td>
</tr>
<tr>
<td>4. Help mothers initiate breastfeeding within an hour of birth</td>
</tr>
<tr>
<td>5. Teach mothers how to breastfeed and maintain lactation</td>
</tr>
<tr>
<td>6. Limit supplementation of breastfeeding infants</td>
</tr>
<tr>
<td>7. Allow mothers and infants to room-in together</td>
</tr>
<tr>
<td>8. Teach mothers breastfeeding cues</td>
</tr>
<tr>
<td>9. Limit use of pacifiers or artificial nipples</td>
</tr>
<tr>
<td>10. Establish support groups and networks for post-discharge support</td>
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</tbody>
</table>

provided the coalitions with technical assistance, expertise and capacity to help them achieve health improvements in their facilities.

Finally, the University Health Systems of Eastern Carolina hospital leaders used information from employee health risk assessment to help support their decisions about how to change the food environment. The changes included using pricing and labeling strategies to promote healthier food and beverage choices. The efforts were widely supported and the changes to the cafeteria were maintained.

Session: Breastfeeding & Beyond

This session highlighted the importance of system-level factors in supporting breastfeeding and lactation for new mothers, and highlighted the importance of collaboration between hospitals and other stakeholders. A panelist from the Carolina Global Breastfeeding Institute’s Breastfeeding-Friendly Healthcare Project, which helps hospitals achieve system-level improvements in breastfeeding/lactation support by using the “10 Steps to Successful Breastfeeding” (see Table 1) as a framework, presented survey results on misconceptions among hospital leadership around how to implement the 10 Steps, and described outreach and educational efforts to successfully address such misconceptions.

A panelist from the Miami-Dade County Baby Steps Quality Improvement Project outlined how they promote collaboration between hospitals and public health agencies to engage in quality improvement efforts. This collaboration allowed hospitals to receive tailored feedback and technical assistance to promote breastfeeding, which helped them achieve improvements in the initiation and support of breastfeeding.

Similarly, a panelist from New Jersey Cooper University Hospital described how her organization collaborated with multiple partners as part of the Teaching Up to Shape New Jersey project. This project included 10 hospitals in a state-wide coalition using a model for improvement in an intervention pathway to become Breastfeeding-Friendly. The pathway included an educational program called Educating Practices In their Communities (EPIC). By working in concert with evaluation and quality improvement efforts the 4D pathway (Discovery, Development, Dissemination, Designation) helped each hospital address individual issues to achieve higher overall and exclusive breastfeeding rates, as well as other indicators of breastfeeding success.

Finally, a presenter from the Santa Clara County Public Health Department in California discussed how the department is addressing feeding practices in the...
first year of life by engaging primary care providers as part of a multi-stakeholder educational intervention that included public health, early care and education centers as well as infant and mother support groups. The focus of these collaborations is to support and guide parents in developing healthy feeding practices in the first year of life as infants transition from breast or bottle feeding to solid foods. An evaluation of the intervention demonstrated that providers were more confident of their counseling, and parents reported receiving feeding advice and implementing positive feeding behavior changes.

**Key Actions**
Key actions for promoting healthier environments in hospitals are presented in Table 2. These key actions are taken from the examples provided by the panelists. Physical activity as well as additional food and breastfeeding actions have been noted elsewhere and may also be considered as obesity prevention supports in the health care environment.19

<table>
<thead>
<tr>
<th>Table 2</th>
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<tbody>
<tr>
<td><strong>WON Key Actions: Improve environments in the health care facility to promote healthier choices.</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>• Increase and promote access to healthy food and beverage options in clinics, cafeterias and vending machines and at meetings.15</td>
</tr>
<tr>
<td>• Promote affordable healthy food and beverage options by leveraging marketing and pricing strategies in clinics, meetings, work stations, cafeterias, vending.16</td>
</tr>
<tr>
<td>• Provide electric breast pumps.17</td>
</tr>
<tr>
<td>• Provide lactation consultants and support groups.18</td>
</tr>
<tr>
<td>• Promote baby-friendly maternity care practices for breastfeeding and lactation support for new mothers.</td>
</tr>
</tbody>
</table>

**Strategies and Supports That Utilize the Obesity Chronic Care Model**
The Obesity Chronic Care Model (OCCM) is centered on the empowered patient and family who engage in self management.20 The effectiveness of the model depends on both community environments and an integrated health system that can support the patient and family. The health system components should include information and care delivery systems that support self management.

**Session: Systems Change- Enhancing the OCCM**
Panelists in this session explored how efforts within the health care system can enhance the OCCM to improve delivery of care and patient self-management.21 Supports within the medical system with the goal of improved patient outcomes include decision prompts to help clinicians use evidence-based strategies to assess and manage obesity, and self-management supports that allow providers to help patients solve problems and provide access to resources.22

Presenters from the American College of Sports Medicine and Kaiser Permanente showcasing “Exercise is Medicine” (EIM) and “Exercise as a Vital Sign” (EVS) efforts provided examples of how systems level changes can be incorporated into a health visit. Both EIM and EVS include questioning and recording about physical activity at each patient visit as a vital sign, in addition to body mass index (BMI). In EIM individualized counseling, goal setting and a prescription for exercise (e.g., to local parks, or with partnerships to the YMCA) are incorporated into electronic records. Efforts in improved health care performance as measured using counseling indicators. Similarly, in EVS, fully incorporating electronic health records and systems changes to establish these practices was associated with more consistent questioning and counseling to promote 150 minutes of moderate to vigorous physical activity per week.

A panelist for the Pittsburgh Healthy Kids Project Big 5 Tracker, described a scalable office obesity intervention that focuses assessment on evidenced-based factors that contribute to weight control including: limiting fast food and sweetened drinks, eating meals as a family, limiting screen time and being more active. Care and follow up is provided using medical home model. Preliminary results indicated that the intervention was affordable and was associated with improved weight-related measures over the course of one year.

**Session: Health Forum — Leadership and Stepping Up to Change**
For this session, presenters focused on value of multi-sector engagement and leadership to advance obesity prevention efforts. Presenters concluded that creating systems that work across health care, insurers, non-traditional partners and the community are essential to address obesity.23 The American Medical Association began the Weigh What Matters project. This project intervenes with physicians to address the barriers to physician engagement including lack of training, time and resources by providing tools and skills. The pilot of this program indicated (a) the importance of providing health care providers with tools to address obesity and connect with community resources and (b) that the intervention helped increase rates of counseling around obesity, referrals to community resources and development of self-management goals.
Forming and strengthening connections between primary care and public health represents an opportunity to make a broad and effective impact on the burdens of obesity and unhealthy behaviors in people of all ages across the United States.

The American Academy of Pediatrics, in partnership with insurers and large employers across the country, has developed the Healthier Generation Benefit: a set of basic covered services in an insurance plan that include 4 visits with a provider and 4 visits with a dietician to promote healthy behavior change. The benefit is being provided around the country and includes 56,000 providers to expand access, improve care coordination and align incentives. Future efforts will include an evaluation to determine awareness, usefulness and uptake of the benefit and quality improvement processes for care coordination.

Nemours is an additional health system that has been integrating obesity prevention and treatment with public health approaches. In addition to the core clinic-based medical interventions, a key featured element of the Nemours model was learning collaboratives that identified and promoted successful strategies among those who care for children where they live, learn and play. An example of such a strategy was the development of linkages between the medical setting and early care and education and schools. The critical role of staff who are dedicated to integrating the efforts of the health system’s partners as well as the needs of the population served was stressed.

Finally, the Prevention Institute has re-envisioned health care and developed a set of elements for health care institutions to implement a comprehensive approach to patient health that integrates community and clinical prevention. In addition to improving the health of individual patients, health care systems are encouraged to be community-centered health homes that take an active role in strengthening their community and systems change. Pioneering community health centers were able to increase access to healthier options and create linkages between sectors. For example, community health centers have successfully implemented healthy food prescriptions which provide patients and families with awareness of and access to healthier food options. A toolkit, the Spectrum of Prevention that outlines the community-centered health home, has been developed as a result of these efforts.

### Key Actions

Key actions for using the OCCM as a means of improving care delivery and supporting self-management are presented in Table 2. These key actions are taken from the examples provided by the panelists.

#### Table 3

**WON Key Actions: Improve health care delivery systems and supporting self-management.**

- Use electronic health records that provide BMI, and BMI percentile for youth, and depict BMI changes.24
- Integrate prompts (electronic or paper) into the clinic visit to support best practices for provider obesity prevention counseling (e.g., counseling on physical activity).25
- For further care when indicated (e.g., laboratory testing, medications, follow up schedule).26
- Supply patient education materials (e.g. handouts/brochures about healthy eating and active living).27
- Integrate lists or prompts for referrals to clinic-based obesity prevention personnel (e.g. nutritionist, physical trainer) and to community-based programs or resources (e.g., parks).28
- Link patients with additional support staff for case management (e.g., community health workers, case managers, social workers).29

### Expanding and Strengthening the Bridge between Primary Care and Public Health

Forming and strengthening connections between primary care and public health represents an opportunity to make a broad and effective impact on the burdens of obesity and unhealthy behaviors in people of all ages across the United States. Primary care and public health linkages represent opportunities where coordination of care with the people, resources, systems and environments that support obesity prevention behaviors can be extended beyond the walls of the health center into the community. As such, empow-
ered patients and families have the choice to act on the education and goals set during the clinic visit.

Session: Integrating Primary Care and Public Health
In this session, presenters for the Collaborate for a Healthy Weight Project, the Minneapolis Health Care Workgroup, and the Springfield Collaborative for Active Child Health all discussed integrative efforts to link primary care and public health efforts to address obesity and highlighted the importance of a shared process where all stakeholders provide input and learn from each other. The Collaborate for Healthy Weight project, a joint effort of the National Initiative for Children’s Healthcare Quality and the Health Resources Services Administration, was launched in September 2010 to promote positive and concerted primary care, public health, and community change to reverse the obesity epidemic and promote health equity. This initiative launched a 49-state healthy-weight learning collaborative that uses quality improvement techniques to identify, share, and spread evidence-based clinical and community interventions that improve obesity prevention and treatment. The lessons and insights of these collaboratives are made available through an interactive public-facing website.

The Minneapolis Health Care Workgroup is an alliance between public health and primary care that works to coordinate efforts, improve patient outcomes and create healthier communities. Using provider surveys, the workgroup found two major roadblocks to care delivery and access to community resources: a lack of standardized billing codes and confusion about reimbursement for weight management services. Then an expert panel, which included public health, identified areas for collaboration and broader involvement of state health officials. As a result, local public health coordinators were able to provide clarity on reimbursement and preventive practices and help health care clinics adjust their systems and practices to deliver nutrition and physical activity services, including counseling and referrals, more consistently.

Finally, the Springfield Collaborative for Active Child Health is an academic-community partnership with members from Southern Illinois University School of Medicine (i.e., faculty, medical students), Illinois Department of Public Health the Springfield Public School District 186, and the Springfield Urban League Head Start, Generous funding from Blue Cross Blue Shield of Illinois has helped to support this program. This collaborative works to implement curricula on healthy nutrition and physical activity habits to Springfield area children and families by facilitating the CATCH program. As a result, medical students and teaching staff from around Springfield have reported increased knowledge and awareness of healthy behaviors. They also reported greater confidence in their own abilities to support healthy behaviors in others.

Training: Breaking Down Silos: Partnering across Sectors to Engage in Community-Based Action for Obesity Prevention
Members of the National Initiative for Children’s Healthcare Quality and partners provided training on forming health care and public health linkages and on best strategies for community-based action. The goal is for stakeholders to work across traditional “silos” and engage in coalitions to support environmental systems and policy changes that promote healthy weight in their communities. Clinicians may reach outside their clinic walls and work with the community, public health professionals may work more closely with clinicians, and community members and policymakers may collaborate with health care professionals. Steps to partnering across sectors included: (1) defining best practices for community-based action through prevention-oriented approaches; (2) listing partners from other sectors of the obesity prevention movement who can be engaged as collaborators; (3) identifying one potential partner and one next step to creating a plan of action to prevent childhood obesity that spans across sectors; and (4) finding additional online resources.

Key Actions
Key actions for strengthening the bridge between primary care and public health are shown in Table 3. These key actions are taken from the examples provided by the panelists.

Table 4

WON Key Actions: Link primary care and public health efforts and strategies across settings and sectors. Health care providers may engage their communities through obesity prevention activities to support healthy eating and active living:

- Lead or participate in obesity prevention activities in community-based settings (e.g., school, Head Start, worksite).
- Share best practices, coordinate efforts, or otherwise work with the private sector (e.g., insurance companies).
- Work through a professional group or association on community obesity efforts.
- Participate in a community coalition or other collaborative group that integrates efforts across settings or sectors.
Conclusions
The WON health care track described how improving (1) environments to promote healthier choices, (2) systems to support self-management, and (3) the links and coordination between primary care and public health have been successfully used as strategies to promote obesity prevention. By focusing on environmental and systems level changes and coordinating across sectors, the health care setting can be an important partner in obesity prevention.

The approaches and key actions outlined by the WON proceedings and panelists parallel those listed in the IOM’s Accelerating Progress in Obesity Prevention: Solving the Weight of the Nation. For example, the key actions relating to healthier environments are paralleled by the IOM; the IOM indicates that health care providers and institutions can role model healthy behaviors for their patients and communities and provide work environments that support healthier choices (Strategies 4-1 and 4-3) and that businesses, the private sector and non-governmental organizations adopt policies in to reduce unhealthy beverage consumption, and use strong standards to ensure that healthier food and beverage options are available (Strategies 2-1 and 2-3). Regarding breastfeeding and lactation support, the IOM recommends that health care providers encourage breastfeeding and promote environments that support breastfeeding (Strategy 4-4). In regards to the supporting self-management key actions, the IOM charges health care providers to follow standards of practice for routine screening of body mass index, counseling, and behavioral interventions (Strategies 4-1 and 4-2). This counseling could specifically cover the importance of conceiving at a healthy BMI for those who provide services to women of childbearing age (Strategy 4-4). Finally, improving the links between primary care and public health is noted by the IOM’s strategies that recommend providing evidence-based, standardized care for the prevention, screening, diagnosis and treatment of obesity while advocating for healthy community environments (Strategies 4-1 and 4-2).

Given the health consequences as well as the economic and societal costs of obesity, addressing the problem of obesity is important to the health of our nation. Coordination of strategies between health care and public health and across sectors can help improve hospital environments, support self-management through systems changes and promote healthier communities.

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Disclaimer
The findings and conclusions in this report are those of the authors and do not necessarily reflect the official position of the Centers for Disease Control and Prevention.

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5. See Shortell et al., supra note 2.
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9. Id.
10. Id.
11. Id.
12. Id.
15. See supra note 7.
16. Id.
17. See supra note 13.
18. Id.
19. See supra note 6.
22. See Dietz et al., supra note 20.
24. Id.; see also supra note 21.
25. See supra note 21.
26. Id.
27. Id.
28. Id.
29. See supra note 23.
33. See supra note 30.
34. Id.
35. Id.
36. Id.
37. See supra note 3.