This talk is about a project I’ve been involved in – working with health and planning sectors to start building an evidence base for healthy built environment interventions
Outline

- Healthy Built Environment Linkages: A Toolkit for Design * Planning * Health
- Building the evidence base
- Evidence highlights
- Draft Linkages Toolkit
- Learning from the process & moving forward
• HBEA (formed 2008) is a group of professionals from health, planning, research, and local government sectors working together to better understand impacts of the built environment on human health ... and to translate that information to relevant stakeholders.

• Recognition that planners can impact health. And that health sector can assist planners and others in using evidence in practice.

• Facilitate conversations between sectors and assisting in applying health evidence.  
• Inform decision-making processes around the built environment. 
• Be a navigational tool, directing people to further information and linking to a “virtual binder” of resources which will be developed over time.

• Toolkit could be used to:  
  • Make the case for interventions to a municipal council – why it is good (e.g., preserving park space from development)  
  • Advocate for policy support – evidence of health impacts (e.g., school food policies)  
  • Especially for interventions that cross jurisdictional boundaries (e.g., transportation or agriculture and health)
Started in 2011 with formation of Linkages Working Group:
• Working group members from RHAs, PHSA, local governments, UBCM, PIBC, BCCDC
• To identify high-level guiding principles; not prescriptive.

• Initial evidence reviews by Mary Formby and Victoria Barr (MPH students at UVic) with input from Linkages Working Group.
• Identified 5 Key physical features

• LEES + Associates – graphics and design
1. Ad hoc working group (summer 2013) to develop tools for gathering and assessing evidence – to be consistent across reviewers and over time:
   • Search strategies
   • Quality appraisal
   • Data extraction – Excel template
   • Evidence synthesis – grading system (based on The Community Guide methods) and Excel template

2. Advisory groups formed for each of 5 physical features
   • from health and planning
   • 2 contractors did evidence review, supervised by Lisa Mu and me
     • Started with review articles only
   • Advisory groups guided literature search, refinement of search strategy, inclusion/exclusion, priority topics

3. Worked with LEES + Associates to develop toolkit pages and graphics
   • Based on evidence synthesis ➔
   • Guided by 5 advisory groups and HBEA feedback

The Guide to Community Preventive Services, US CDC
http://www.thecommunityguide.org/index.html
http://www.thecommunityguide.org/about/strengthofevidence%20assessment.pdf
<table>
<thead>
<tr>
<th>Independent variable</th>
<th>Dependent variable</th>
<th>Summary of evidence</th>
<th>Synthesis</th>
<th>Strength of evidence</th>
<th>Contextual considerations</th>
<th>Research types</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community gardens</td>
<td>Food security</td>
<td>Increased engagement with personal resources and skills, health behaviours, community involvement.</td>
<td>Positive</td>
<td>Strong</td>
<td>Most research focuses on low income groups and/or immigrant groups. Community kitchen characteristics vary widely.</td>
<td>Objective measures. Consistent findings from high quality evidence in a meta-analysis.</td>
<td>1 high quality review with consistent findings, but at least one study in the general population.</td>
</tr>
<tr>
<td>Community gardens</td>
<td>Food security</td>
<td>Improved skills among participants.</td>
<td>Positive</td>
<td>Moderate</td>
<td>Most research focuses on low income groups and/or immigrant groups. Community kitchen characteristics vary widely.</td>
<td>More study needed. Consistent findings from high quality reviews.</td>
<td>2 high quality reviews with consistent findings.</td>
</tr>
<tr>
<td>Community gardens</td>
<td>Food security</td>
<td>Impact on food resources and health.</td>
<td>Full</td>
<td>Prior area of study</td>
<td>More research needed with larger samples sizes. Consistent findings from high quality reviews.</td>
<td>More study needed. Consistent findings from high quality reviews.</td>
<td>1 moderate quality review with inconsistent findings.</td>
</tr>
<tr>
<td>Community gardens</td>
<td>Food security</td>
<td>Increased food knowledge and confidence to cook healthy.</td>
<td>Positive</td>
<td>Prior area of study</td>
<td>More study needed. Consistent findings from high quality reviews.</td>
<td>More study needed. Consistent findings from high quality reviews.</td>
<td>2 high quality reviews with consistent findings.</td>
</tr>
<tr>
<td>Access to healthy food</td>
<td>Diet quality</td>
<td>Associated with healthy eating.</td>
<td>Positive</td>
<td>Moderate</td>
<td>Metrics of diet quality vary, but usually relate to fruit and vegetable consumption, whole grains, and/or healthy eating.</td>
<td>Assessment of metrics inconsistent. More study needed to understand relationship.</td>
<td>1 high quality review with consistent findings.</td>
</tr>
<tr>
<td>Access to healthy food</td>
<td>Diet-related health</td>
<td>Associated with lower rates of diet-related health restrictions such as diabetes, BMI, and/or related health outcomes.</td>
<td>Positive</td>
<td>Moderate</td>
<td>Consistent findings from high quality reviews.</td>
<td>More study needed to understand relationship.</td>
<td>1 high quality review with consistent findings.</td>
</tr>
</tbody>
</table>

Took these.....
....and created these.
Illustrate some of the challenges using an example from the food systems evidence review.
Food retail and services

- **Availability:**
  - Healthy: Unhealthy
  - Density per capita
  - Geographical density
  - Census tract
  - Proximity – buffer, activity space, street distance
  - Relative price
Food retail and services

- Healthiness:
  - Purchases
  - Home pantry
  - Food frequency
  - Shelf space
  - Store type
  - Price index
Food retail and services

- Scale:
  - Home neighbourhood
  - Work neighbourhood
  - Daily travels
  - State-level
  - Postal code or census tract
Now I will very briefly share some of the highlights emerging from the evidence
– very broad overview of the topics and links we are seeing.

Most evidence related to....

Associated with improvements in....

Potential consequences to consider....
Healthy Transportation Networks

- Support for active transportation, public transit, safe streets, mobility for all, and attractive transportation networks
- Physical activity, road safety, injury prevention, aesthetic quality
- Possible improvements to mental health and air quality

Most evidence related to....

Associated with improvements in....
Most evidence related to....

Associated with improvements in....
Most evidence related to....

Associated with improvements in....
**Local and regional agriculture capacity** seen as particularly important for future research and review
Most evidence related to....

Evidence review last to be completed and I haven’t seen it yet.
Now I will walk you through some sample pages of the Toolkit. I will also hand around some print versions so you can see it in complete form. We are happy to have feedback, so please pass any comments along to me after.

Increasing complexity and detail from front to back. Different users can choose which level of detail serves their purpose.

Cover page:
• Project overview
User guide:
• How to use
• Caveats and limitations of the evidence
• Jurisdictional issues – who can influence what
• Contextual considerations – e.g., location and equity
Key messages:
• Defines each of the 5 features of a healthy built environment
• Simple visual graphic for introducing idea and promoting healthy built environments
Planning Principles:

- **Audience**: Planners, local government – One-pager summary of kinds of things to be done.
- Provides general overview of main guiding principles for each of the 5 physical aspects of the built environment.
- Evidence-based, but evidence not presented here.
Then we move into sections that are specific to each of the 5 physical features.

Synthesis (1 for each of 5 physical features – this example is food systems):
• **Audience** – planners, local governments, health professionals
• **First introduction to evidence** base – very generalized, high-level overview
• Shows broad relationships
• **Highlights major findings** from evidence
Fact Sheets (for each physical feature – this example is transportation):

**Audience**: Ministries, MHOs, etc.

- Provides more **nuanced information** about each planning principle
- Defines terms
- Brief **details of major studies**
- Includes **caveats** about the evidence
- **Gaps and research needs**
- Other considerations, e.g., context, equity, etc.
- Non-health co-benefits, e.g., sustainability
- **Reference list**
Diagrams (for each physical feature – this example is natural environments):

**Audience:** health and research

• Shows **links and relationships** – More detailed – intended mostly for health/research audience.

• **Lines** illustrate strength of evidence

• **Arrows and null symbols** show direction of effect (association but not causation)

• Highlights where more research is needed

• **Includes principles not yet researched** – but supported by expert opinion

• Very challenging to show relationships without over-stating level of evidence. Difficult to make strong statements.
Cross-sector collaboration particularly valuable for built environment – involves many sectors beyond health
• Involved very early on in process
• Valuable input from different perspectives – re language, terminology, who influences what, priorities
• Shaped direction and outcomes of whole project – hopefully more rounded and useful to target audiences

Emerging area – Difficult to make strong conclusions based on current evidence
• Mostly we used reviews, and many studies have not yet been reviewed because too recent.
• Lack of longitudinal, health outcome studies. Lots of cross-sectional or ecological designs.

Types of evidence:
• Reviews focus on a certain methodology and type of quantitative evidence. This leaves out expert knowledge and case studies that can be valuable evidence, particularly for considerations of context, equity, etc. Much research from non-health fields does not easily fit this model.

Different sectors require different levels of evidence for decision making.
• Health evidence tends to value very systematic approach.
• Planners and local governments want to know what works, what seems reasonable, what is practical, what’s been done before, and how to do it.

One product, multiple user groups – e.g., one-pager to hand to city councillor or policy brief for an MHO:
• Needed simple, visually appealing products that show key messages
• Needed to show evidence base without getting bogged down in details
• Thus, we use different levels – increasing complexity as you move through the Toolkit. Excel summaries of evidence review will be available on request.
• Linkages next steps:
  • Develop Introductory text and finalize details for each physical feature
  • Approval by HBEA
  • **Launch late February – Freely available** through distribution lists, post on PlanH website, webinars, conference presentations, etc.

• Co-benefits:
  • Working with Ministry of Environment to clarify co-benefits between health, built environment, and sustainability

• Future research and evidence review to be added to evidence base
  • **Toolkit updated periodically**

• Other resources:
  • TBD
  • **PlanH offers more practical implementation advice (how), while Toolkit provides health evidence to back it up (why)**

• Feedback welcome!
I joined this project midway – many people involved over the last few years.

Especially Lisa Mu, Nas and Michelle, Advisory group members
Thank you!

karen.rideout@bccdc.ca