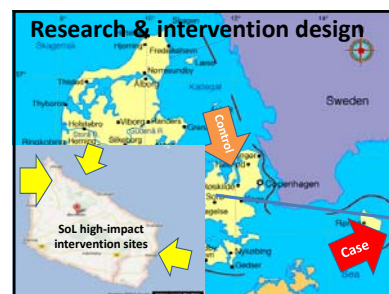


The Sol program fact sheet in brief

- Target:** Eating and sedentary behavior in families with children aged 3-8 years-old. 220 families in 3 neighbourhoods: Hasle, Allinge og Nekst
- Context:** The intervention site is the Baltic isle of Bornholm with 3 neighborhoods selected for high intensity treatment.
- Project duration:** 18 months
- Concept:** Works through synchronized multi-level interventions in supermarkets, media, school/kindergarten settings.
- Interventions:** Multi-Level Multi- Component (ML-MC)
- Implementation:** Participatory partnership where representatives from civil society, community-based associations, businesses and the public administration are assigned influence in designing the program along with the researchers.



More Levels - More components

Media – School - Retailing

School Kinderzarten Groceries

Beck, P., Toft, U., Mikkelsen, M., Christensen, L., Mikkelsen, M., Poulsen, A. & Jensen, BB (2014). Reinforcing the existing approach - Requirements for sustainable impact in community health promotion. Published in 107 Journal of Behavioral Nutrition and Physical Activity (page 15)

Results 1: substituting candy with carrots increase sale

Sales in intervention relative to reference Estimates from regression models

| Stores | Period | Sugar confectionery estimate(CI) | Fresh fruit estimate(CI) | Fruit bars estimate(CI) | Carrot snack pack estimate(CI) |
|----------------------|--|----------------------------------|--------------------------|-------------------------|--------------------------------|
| Intervention stores* | Intervention period relative to 4 weeks before | 0.99(0.89-1.04) | 0.94(0.89-1.12) | 1.10(0.76-2.20) | 1.45(0.73-3.30) |
| Intervention stores* | Intervention period relative to 7 weeks after | 0.96(0.84-1.11) | 0.92(0.78-1.09) | 1.37(0.82-2.35) | 1.18(0.82-2.16) |
| Control 1† | Intervention period relative to 4 weeks before | 0.99(0.87-1.04) | 0.91(0.83-1.00) | 1.09(0.75-1.42) | 0.98(0.64-1.50) |
| Control 2† | Intervention period relative to 4 weeks before | 0.99(0.88-1.04) | 0.93(0.85-1.00) | 0.89(0.62-1.27) | 0.79(0.67-0.90)* |

SMMC: Public Health. *Intervention stores: All four intervention stores in Bornholm. †Control 1: 2 control group supermarkets. †Control 2: 2 control group supermarkets. *p < 0.05.

Results 2: relocating and price reducing increase FV sale with 20 %

- Index number for sales of fresh vegetables increased by 22.2% (P=0.001) in the 'space + price' intervention supermarket compared with the control supermarkets.
- Index number for the sale of organic fresh fruit and vegetables increased by 12.1% (P=0.04)
- The sale of the total amount of fruit and vegetables (fresh, frozen, dried and canned) increased by 15.3% (P=0.01) compared with the control supermarkets.
- In the 'space only' intervention supermarket no significant increase in the sale of fruit and vegetables was found.
- No unhealthy substitution effects were found.

From: Mikkelsen, M., Toft, U., Christensen, L., Jensen, B.B., Poulsen, A., Beck, P., & Mikkelsen, M. (2014). Displacement of fruit and vegetables combined with a space management intervention increased sales in supermarkets. BMC Public Health, 14, 1-10.

Summary of results

- Price reduction (20%) on F&V → significantly increase in sale
- Sales of fresh vegetables increased by 22% compared with the control supermarkets.
- The consumption wholemeal increased by 25 %.
- No reduction for waist measures and BMI among children
- Consumption of SBB among children decreased at 1st follow up
- Children spend 35 minutes more outside follow up than at baseline
- Sale of Carrot snack pack increased significantly

Beck, P., Toft, U., Mikkelsen, M., Christensen, L., Mikkelsen, M., Poulsen, A., & Jensen, BB (2014). Effects of a multi-component community-based health promotion intervention on eating behavior in 3-year-old children. The Danish Health and Local Community (MLC) project. Submitted to BMC Public Health.

Summary of outcomes

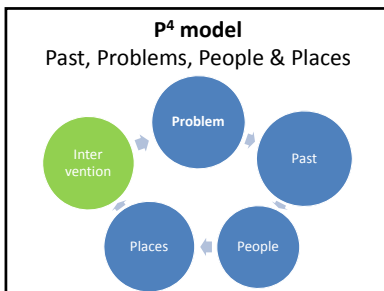
- Create a "health brand"
- Starting a movement
- Integrate ML-MC in municipal health policies
- Demonstrate the potentials of local action groups
- Engage groceries community wide
- Integrate media actors strategically
- Create an ML-MC "industry standard"

2 levels of evidence

| Impacts | Outcomes |
|------------------|----------------------|
| Counting | Observing |
| Outcome measures | Difficult to measure |

The lab & the social experiment

| The Real Lab | The Living Lab |
|--|---|
| <ul style="list-style-type: none"> Control Short time Little noise Working only under experiment You are the boss | <ul style="list-style-type: none"> Little control Long time Lot of noise Working 24/7 Someone else is the boss |



| | Step | Remarks |
|----------------------------------|--------------|---|
| 4 th Analytics | Problem | What are problems that needs to be addressed |
| | Past | What are local history, social constitutions of the community, what's already there |
| | People | Which stakeholders are ready to take action – both opinion leaders, municipal professionals and citizens |
| | Places | Which places have "affordances" – "hot spots", "action points" and action opportunities etc |
| Choosing intervention components | Intervention | These are likely to be the components that researchers & citizens (people) can agree on in important places and that matches problems the social constitution of the |

Places

Problem

| Variable | Characteristic | Unit | Bornholm | Odsherred | Capital Region |
|-------------------------------|---|-----------------|----------|-----------|----------------|
| Geophysics | Population | 1000 | 41 | 32 | 1.754 |
| | Area. Square km | km ² | 588 | 355 | 2568 |
| Health status | Overweight, BMI >25 | % | 50 | 53 | 41 |
| | Diabetes | % | 6,5 | 5,7 | 4,5 |
| | High blood pressure | % | 16 | 23 | 22 |
| Health behavior | Citizens with very unhealthy diet behaviors | % | 14 | 16 | 10 |
| | Citizens with < 30 min/day MVPA behavior | % | 36 | 41 | 31 |
| | Citizens with self perceived poor health | % | 18 | 21 | 15 |
| Socio Economic Position (SEP) | Without occupational affiliation | % | 26 | 28 | 19 |
| | Without higher education (only primary + sec. school) | % | 19,1 | 18 | 7,6 |

People

| Stakeholder | Power | Urgency | Legitimacy |
|---------------------------|-------|---------|------------|
| Municipality | | | |
| School Head teacher | | | |
| Local Media | | | |
| Shoop keepers association | | | |
| Local NGO's | | | |

Please assign a rating 1-5

| Low | Low-medium | Medium | Medium-high | High |
|-----|------------|--------|-------------|------|
| 1 | 2 | 3 | 4 | 5 |

Capacity building

Training at more levels

- Scientific level. The researchers that design and evaluate. For instance PhD courses
- Professional level. Municipal and corporate level. Local nurses, shopkeepers, media people, community leaders. Extension services
- Network level. Maintenance through the Healthy Cities network

- ### Conclusion
1. Sustainability planning of interventions is important
 2. Alignment of interest between stakeholders is crucial
 3. Using the places favoured by people can contribute to create ownership
 4. Planning and negotiation of what to do is essential
 5. Correct assessment of the history and readiness of the communities to collaborate as well as their readiness to change is essential.
 6. We suggests a participatory and multi-disciplinary approach to the design of community programs
 7. It uses problems, past, places and people (P⁴)
 8. P⁴ is a guide to help identify where to intervene and how.


Want to stay tuned?

Sign in on Linked In to the

Multi Level Multi Component Community Interventions


Thanks for your attention

- bemi@dcn.aau.dk, 25 38 43 66
- Personal web site: <http://personprofil.aau.dk/1195907/ane/en>
- LinkedIn: <http://uk.linkedin.com/pub/bent-egberg-mikkelsen/77213/13b>
- ResearchGate: http://www.researchgate.net/profile/Bent_Mikkelsen
- Instagram: [@bentegberg](https://www.instagram.com/bentegberg/)
- Web: [capfoods.aau.dk](http://www.capfoods.aau.dk)
- Publons: <https://publons.com/author/559299/bent-egberg-mikkelsen/profile>



<http://www.capfoods.aau.dk/lccas17>

Thanks to my co-workers



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Mikkelsen, M.E., Scriver, J. & Christensen, L. Multi-level, multi-component approaches to community-based interventions for healthy living in a free care community. Submitted for international scientific conference on Research and Public Health.

Mikkelsen, M.E., Scriver, J., Christensen, L., Hansen, B.B., Reinbach, H.C., Buch-Andersen, T., Løgaard Jensen, A., Toft, U. & Glümer, C. The SOL program - a community-based, multi-level health promotion intervention to enhance dietary habits and physical activity among Danish Danes with young children. *Int J Environ Res Public Health*. Submitted for International Scientific Conference...