Citizen Science for Healthy Lifestyle

Johan de Jong

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Agenda

1. Citizen Science (intro)
2. Citizen Science voor Healthy Lifestyle
3. Pilot
4. Toepassing eigen praktijk
Citizen Science

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Citizen Science

‘The general public engagement in scientific research activities when citizens actively contribute to science either with their intellectual effort or surrounding knowledge or with their tools and resources’

(Socientize Consortium 2013).
Citizen Science overview (video)

https://youtu.be/FcDkIFjYOY

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Increased research capacity:
Meer data tegen low/no costs

Better knowledge:
Toevoegen kennis/knowhow/context lokaal voegt kennis toe aan wetenschappelijke kennis → doet meer recht aan complexe maatschappelijke uitdagingen
Leidt soms tot nieuwe ‘methoden’

Citizen benefits:
Wetenschappelijke literacy +
Community development/empowerment/change of attitudes/values/norms, action to improve, engagement policy making

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Tien voordelen van Citizen Science:

1. Praktijkgericht onderzoek wordt versterkt en deelname aan onderzoek neemt toe;
2. Maakt onderzoek op grote schaal mogelijk door extra handen;
3. Aanboren van nieuwe informatiebronnen, kennis en perspectieven;
4. Grotere betrokkenheid van burgers bij wetenschappelijk onderzoek en sterkere band tussen burgers en wetenschappers;
5. Nieuwe methoden ontwikkelen met onder andere gebruikmaking van technologie, bijv. quantified self tools;
6. Grotere openheid en betrouwbaarheid van onderzoek;
7. Groter begrip en betrokkenheid voor wetenschappelijk onderzoek bij burgers;
8. Groter begrip en betrokkenheid voor maatschappelijk vraagstukken bij wetenschappers en kennisinstellingen;
9. Onderzoek op relevante onderwerpen en prioriteiten van burgers;
10. Burgers versterken van hun eigen kennis over begrip van wetenschap.
Need for change

Physical Activity 3

Evidence-based intervention in physical activity: lessons from around the world

Gregory W Heath, Diana C Perry, Olga L Sarmiento, Lens Be Andersen, Neville Owen, Shilpika Goenka, Felipe Monteiro, Ross C Browner, for the Lancet Physical Activity Series Working Group*

Promotion of physical activity is a priority for health agencies. We searched for reviews of physical activity interventions, published between 2000 and 2011, and identified effective, promising, or emerging interventions from around the world. The informational approaches of community-wide and mass media campaigns, and short physical activity messages targeting key community sites are recommended. Behavioural and social approaches are effective, introducing social support for physical activity within communities and workplaces, and school-based strategies that encompass physical education, classroom activities, after-school sports, and active transport. Recommended environmental and policy approaches include creation and improvement of access to places for physical activity with informative environmental cues, community-scale and street-level urban design and land use, active transport policy and practices, and community-wide policies and planning. Thus, many approaches lead to acceptable increases in physical activity among people of various ages, and from different social groups, countries, and communities.

Importance of physical activity promotion

Scientific guidelines issued by various international bodies, national centres and institutes, and professional organisations have documented that regular physical activity protects against coronary heart disease, type 2 diabetes, some cancers, hypertension, obesity, clinical depression, and other chronic disorders. These findings have been reiterated in Lee and colleagues' systematic review of the evidence. Therefore, the substantial potential benefits of promotion of physical activity for whole populations and at-risk individuals have become a well-accepted agenda for public health agencies and all types of health-care delivery systems worldwide.

Historically, the primary roles for public health agencies and non-governmental organisations at the international, national, and state levels have been to monitor, promote, and protect the public health. These functions have been intended to complement contributions of health-care delivery systems and other community sectors to establish effective prevention, control, and management of diseases and chronic disorders. In the past three decades, the focus of public health has expanded to include initiatives to introduce interventions for injury prevention and control, chronic disease prevention and management, health-promoting public policies, environmental supports for behavioural change, and broad-scale interventions through health communication and media. Interventions to increase physical activity in whole populations are now prominent in initiatives, with community-based informational, behavioural, social, policy, and environmental approaches.

Physical activity behaviours are affected by factors operating at several levels, which are broadly perceived as personal (such as biological and psychological attributes), social (family, affiliation group, and work factors), and environmental (contexts for different types of physical activity and policy factors that could determine availability of relevant settings and opportunities). Thus, intersectoral approaches that operate at various levels seem to be the most successful ways to increase physical activity.

Community-based health promotion—in, encourage-ment of physical activity at national, state or regional, and local levels—can be successful and has greater reach only through intersectoral collaboration. To plan, promote, and coordinate efforts to increase physical activity, communities need to identify common objectives and develop strategies to meet them. This, however, is not an easy task. The findings here have identified the need for further investigation and research into the most effective strategies to promote physical activity and active living.

Key messages

- Initiatives to promote physical activity can have increased effectiveness when health agencies form partnerships and coordinate efforts with several other organisations: schools, businesses, policy, advocacy, nutrition, recreation, planning, and transport agencies; and health-care organisations.
- Effective public communication and informational approaches promoting physical activity include community-wide campaigns, mass media campaigns, and decision prompts encouraging the use of stairs versus lifts and escalators.
- Initiatives to increase social support for physical activity within communities, specific neighbourhoods, and workplaces can effectively promote physical activity.
- Comprehensive school-based strategies encompassing physical education, classroom activities, after-school sports, and active transport can increase physical activity in young people.
- Environmental and policy approaches can create or enhance access to places for physical activity with outreach activities, infrastructural initiatives through urban design of land use and planning at community and street scales, and active transport policy and practices are effective.
- To properly support initiatives for the promotion of physical activity, workforce needs to be trained in physical activity and health, core public health disciplines, and methods of intersectoral collaboration.
- Although individuals need to be informed and motivated to adopt physical activity, the public health priority should be to ensure that environments are safe and supportive of health and wellbeing.

Panel: Community tasks that lead to successful interventions

- Set aside sufficient resources to effectively inform, educate, and empower their residents to achieve recommended levels of physical activity where they live, work, and learn
- Mobilise intersectoral partnerships to develop effective strategies through informational, social, and behavioural, and policy and environmental approaches to physical activity promotion
- Develop policies and plans for policy implementation and assessment that support individual and community efforts to promote physical activity and active living
- Use evidence-based and promising practice methods for planning and implementation of community-based physical activity interventions and communication of physical activity messages
- Implement innovative new interventions and ensure they are assessed to add to the evidence base
- Understand and promote active living principles through national, regional or state, and community partnerships to organise and support active transport, active sport, and active recreation
- Understand and apply key components of evidence-based approaches to assessment of physical activity promotion
- Form partnerships with public health agencies to undertake routine surveillance of physical activity and inactivity behaviours in community-specific residents, such as specific health, environmental, and policy correlates
- Provide training and capacity building in partnership with other community organisations in use and adaptation of evidence-based physical activity interventions
Regular physical activity is proven to help prevent and treat noncommunicable diseases (NCDs) such as heart disease, stroke, diabetes and breast and colon cancer. It also helps prevent hypertension, overweight and obesity and can improve mental health, quality of life and well-being. Yet, much of the world is becoming less active.

WHO has developed a new global action plan to help countries scale up policy actions to promote physical activity. It responds to the requests by countries for updated guidance, and a framework of effective and feasible policy actions to increase physical activity at all levels.

The plan sets out four objectives and recommends 20 policy actions that are applicable to all countries and address the cultural, environmental and individual determinants of inactivity.

A key feature of this new plan is its call for a “systems-based” approach where effective implementation will require bold leadership combined with cross-government and multisectoral partnerships at all levels to achieve a coordinated, whole-of-system response.

Working in partnerships, WHO will support countries to implement a whole-of-community approach to increase levels of physical activity in people of all ages and abilities. Global, regional and national coordination and capacity will be strengthened to respond to needs for technical support, innovation and guidance.
SO...

- Current approaches **NOT** effective on population scale
- Implementation is the **KEY**
- Cross bordering: collaboration between sectors
Future direction

• Socio-ecological approaches

• Multi-level

• Multi-sectoral

• Human centred

• Community-based intervention/approach (CBI)
Citizen Science voor Healthy Lifestyle

1. CoE HA:
   • \textit{(complex) system approach (multi level & meerdere sectoren)}
   • \textit{Brede definitie gezondheid}
   • \textit{Praktijkgericht onderzoek, (sociale)impact}

2. Combi Onderwijs & Onderzoek

3. Community based lifestyle interventions

4. Communities of Practice for Healthy Lifestyle (COP4HL) & Living Lab Beweegvriendelijk Vinkhuizen

5. Betrekken eindgebruikers

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Pilots

- Binnen Erasmus+/KA COP4HL/Europapark
- Living Lab Oldambt
- IWP Man made blue zone

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Pilot

- Living Lab Sport en Bewegen, ZonMw: sociale innovatie & betrekken eindgebruikers. Doel: innoveren orgware
Pilot

Uitnodiging en eerste bijeenkomst COP LLBV (vertegenwoordigers wijkbewoners, publieke en private partijen, overheid en kennisinstanties uit diverse sectoren (o.a. sport, gezondheid, welzijn, RO).

Doel van de COP is rondom een gezamenlijke ambitie van elkaar te leren. Werving van “citizen scientists” in de wijk. Tijdens de eerste sessie wordt op basis van de input van gebruikers de vraag nader gespecificeerd. Vervolgens worden ze getraind in gebruik van de Discovery Tool.

Twee weken data verzamelen
Pilot

Tijdens workshops wordt de informatie besproken, worden ideeën gegenereerd en prototypes gemaakt ter bevordering van beweeggedrag in de bestaande openbare ruimte.
Verschillende prototypes worden uitgetest en ervaringen besproken. Plannen voor implementatie worden gemaakt en afgerond.
Pilot

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The Citizen Scientist Experience

- **MEET**
  - Present to community members
  - Engage them in thinking about how Our Voice can meet group objectives

- **REGISTER**
  - Register and consent community members as “citizen scientists”
  - Administer a brief pre-project survey

- **DISCOVER**
  - Plan and facilitate community walks
  - Train group to use the Discovery Tool for community data collection
  - Enter walk data into OV Dashboard

- **DISCUSS**
  - Process and prepare Discovery Tool data
  - Plan and facilitate community meeting(s) to review and analyze DT data and develop action plans
  - Enter meeting notes into OV Dashboard

- **CHANGE**
  - Support group in pursuing data-driven change
  - Use the OV Dashboard to track and document activities and outcomes
  - Administer brief post-project survey
  - Celebrate successes!
Gradatie

1. *Crowdsourcing*: verkrijgen van gegevens via middelen die onder beheer van vrijwilligers vallen

2. *Distributed intelligence*: vrijwilligers verzamelen informatie c.q. interpreteren onderzoekgegevens;

3. *Participatory science*: vrijwilligers denken mee over het onderzoeksobject en de onderzoeksmethode en doen mee aan de uitvoering;

Discovery tool experiment

Download discovery tool (playstore, app store)
Thank you for your interest in the Discovery Tool!

The Discovery Tool is only available for use in approved projects.

For more information please visit http://ourvoice.stanford.edu

setup project on this device

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DJOHAN 2019
Discovery tool experiment

Discovery Tool

v. 3.0.11
© Stanford University 2019

Project ID: Johan de Jong Demo
Language: English

Start
Change project
View/upload data

PUSH op start!

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Discovery tool experiment

Safety tips

- Walk with another person, if possible
- Pay attention and avoid dangerous situations
- Do not take photos of people’s faces
- Ask for help if you need it

Start

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Protocol

Brengen beweegvriendelijkheid omgeving in kaart (goed-slecht; facilitators & Barriers)

20 min wandelen in 2 tallen

Maak foto’s-voice records-beoordeel

Terugkoppeling-ervaringen

How to use?
Our Voice

Promoting Safe Routes to School through Citizen Science

http://med.stanford.edu/ourvoice.html

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Toepassing eigen context-situatie

Bespreek hoe Citizen Science plaats zou kunnen vinden jouw onderzoek-innovatie?

Hoe toepassen?

Welke gradatie?

Bespreek voorbeelden

Wat zouden de voordelen zijn?

Waar liggen uitdagingen/issues?
Toepassing eigen context-situatie

Dank voor je aandacht!

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