INFORMAS: A new framework for monitoring and benchmarking food environments and policies globally

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## WHO's Global NCD Monitoring Framework

### 25 Indicators

<table>
<thead>
<tr>
<th>Mortality &amp; Morbidity</th>
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<tbody>
<tr>
<td>Unconditional probability of dying between ages 30 and 70 years from cardiovascular diseases, cancer, diabetes or chronic respiratory diseases</td>
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<td>Cancer incidence by type of cancer per 100,000 population</td>
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### Risk Factors

- Harmful use of Alcohol (3)
- Fruits and Vegetables
- Physical Inactivity (2)
- Salt
- Saturated Fat
- Tobacco use (2)
- Blood glucose/diabetes
- Blood Pressure
- Overweight and Obesity (2)
- Total Cholesterol

### National Systems Response

- Cervical cancer Screening
- Drug therapy and counseling
- Essential NCD Medicines
- Hepatitis B Vaccine
- HPV Vaccine
- Marketing to children
- Access to palliative care
- Policies to limit SFA and virtual elimination of PHVO

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Very little on monitoring food environments and policies.
INFORMAS

• International NNetwork for FFood and OObesity/NCDs RResearch, MMonitoring and AAction SSupport

• INFORMAS is a global network of public-interest organisations and researchers that aims to monitor, benchmark and support public and private sector policies and actions to create healthy food environments and reduce obesity, NCDs and their related inequalities

“Benchmarking food environments”
Food environments

- **Food industry**: Products (1), Placement (1), Price (2), Promotion (1,4)
- **Government**: Regulations and laws (1,3), fiscal policies (2), health promotion (4)
- **Society**: Traditional cuisines (1,4), cultural & religious values and practices (3,4)

**Food environments**

1. Physical (availability, quality, promotion)
2. Economic (costs)
3. Policy (rules)
4. Socio-cultural (norms, beliefs)

**Diets**

Objectives INFORMAS

1. **Develop a global network** of public-interest and research groups to monitor, benchmark and support policies and actions to create healthy food environments and reduce obesity, diet-related NCDs and their related inequalities

2. **Collect, collate and analyse data** on public and private sector policies and actions, food environments, population diets, obesity, diet-related NCDs and their related inequalities

3. **Compare and communicate** the progress on improving the healthiness of food environments and policies against international best practice benchmarks, between countries and within countries over time

4. **Use the results to strengthen public health efforts**, particularly by supporting the translation of relevant evidence into public and private sector policies and actions
## INFORMAS monitoring framework

<table>
<thead>
<tr>
<th>Organisations</th>
<th>Processes</th>
<th>Food environments</th>
<th>Impacts</th>
<th>Populations</th>
<th>Outcomes</th>
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</thead>
<tbody>
<tr>
<td>Public sector policies and actions</td>
<td>How much progress have (international, national, state and local) governments made towards good practice in improving food environments and implementing obesity/NCDs prevention policies and actions?</td>
<td>Food composition</td>
<td>What is the nutrient composition (particularly fat, saturated fat, sugar and salt content) of common packaged foods? <em>(The George Institute)</em></td>
<td>Population diet</td>
<td>What is the quality and quantity of (different population’s) diet? <em>(University of Sao Paulo)</em></td>
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<tr>
<td>Private sector policies and actions</td>
<td>How are private sector organisations affecting food environments and influencing obesity/NCDs prevention efforts?</td>
<td>Food labelling</td>
<td>What labelling (including nutrition info &amp; claims) is present on packaged foods and on menus in quick-service restaurants? <em>(University of Oxford)</em></td>
<td>Physiological &amp; metabolic risk factors</td>
<td>What are obesity and other risk factor burdens? <em>(WHO)</em></td>
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<td>Food marketing</td>
<td>What is the level of exposure (of different population groups) to the marketing of unhealthy foods and beverages? <em>(University of Wollongong)</em></td>
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<td>Food provision</td>
<td>What foods are provided in different settings (e.g., schools, hospitals, workplaces)? <em>(University of Auckland)</em></td>
<td>Health outcomes</td>
<td>What are NCD morbidity and mortality burdens? <em>(WHO)</em></td>
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<td>Food retail</td>
<td>What foods are available in different settings (e.g., supermarkets, communities)? <em>(Queensland University of Technology &amp; University of Auckland)</em></td>
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<td>Food prices</td>
<td>What is the relative price and affordability of ‘current’ vs ‘healthy’ diets, meals &amp; foods? <em>(Australian National University)</em></td>
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<td>Food trade &amp; investment</td>
<td>What are the risks and benefits to healthy food environments and diets from trade agreements? <em>(Australian National University)</em></td>
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Key principles

- **Standardised protocols** for each module
- Pragmatic approach with **flexibility** at the **local** level
- **Stepped approach** (minimal, expanded, optimal) for survey designs, methods and indicators
- Regular, **repeated** data collection
- **Low-cost sustainable** monitoring framework
- **Open-access**: data shared online as a public good
## INFORMAS governance and management structure

### INFORMAS Council
(Secretariat, country reps, module leaders, KE reps)
- Governance & strategic directions
- Policy & budget decisions

### WOF Scientific Advisory Council
- Strategic advice
- Peer review
- Linkages & support

### INFORMAS Secretariat
(University of Auckland)
- Overall coordination & database management
- Funding & agreements management
- Training programs (data collection, report writing)

### Country team (NGOs, research groups)
- Data collection
  - Securing funding
  - In-country data collection
  - Data entry
  - Writing reports etc
  - Advocacy for action from govt and private sector

### Module team (leaders & networks)
- Data management
  - Design & protocol development
  - Support & expertise related to data collection & analysis
  - Input into training programs

### Knowledge Exchange team (global NGOs)
- Knowledge exchange
  - Dissemination and knowledge exchange
  - Support for policies & action (global)
  - Training programs (evidence to action)
  - Support country teams’ advocacy

### End users
- Govts
- Private sector
- Country team
- Int agencies
- NGOs
- Academia
- Public
INFORMAS supplement

Special Issue: INFORMAS (International Network for Food and Obesity/non-communicable diseases, Research, Monitoring and Action Support): rationale, framework and approach

October 2013
Obesity reviews
Volume 14, Issue Supplement S1
Pages 1–164
Open access
Government Healthy Food Environment Policy Index (Food-EPI)

~50 policy responsive good practice indicators developed, international benchmarks needed for each
Process for Food-EPI

1. Analyse context
2. Collect relevant information
3. Evidence-ground the policies and actions
4. Validate evidence with government officials
5. Rate government policies and actions
6. Weight, sum and calculate Food-EPI scores
7. Qualify, comment & recommend
8. Translate results for government & stakeholders

Process driven by existing or formed ‘national coalition’ of informed public health non-government organisations and researchers

Done in NZ, started in Fiji and Thailand
2 FOOD LABELLING

There is a regulatory system implemented by the government for consumer-oriented labelling on food packaging and menu boards in restaurants to enable consumers to easily make informed food choices and to prevent misleading claims.

Q3 LABEL1 Ingredient lists and nutrient declarations
Q4 LABEL2 Regulatory systems for approving/reviewing claims on foods
Q5 LABEL3 Front-of-pack supplementary nutrition information system
Q6 LABEL4 System of labelling the menu boards
2 FOOD LABELLING: evidence NZ

Q5 label3 A single, consistent, interpretive, evidence-informed front-of-pack supplementary nutrition information system, which readily allows consumers to assess a product’s healthiness, is applied to all packaged foods.

- Currently no mandatory or voluntary evidence-informed, interpretive front-of-pack labelling system in place in NZ
- “Labelling logic” report, commissioned by the NZ government, recommended the introduction of a multiple traffic lights front-of-pack labelling system
- Under leadership of the Ministry for Primary Industries an expert advisory group (including industry members) is working on development of a voluntary approach to front-of-pack labelling for NZ. NZ wants to align with Health Star Rating system approved in Australia, traffic light labelling is not considered an option.
2 FOOD LABELLING: benchmarks

Q5 LABEL3 A single, consistent, interpretive, evidence-informed front-of-pack supplementary nutrition information system, which readily allows consumers to assess a product’s healthiness, is applied to all packaged foods.

1. Voluntary multiple 'traffic light' labelling in the UK

2. Law on mandatory multiple ‘traffic light’ labelling in Ecuador approved, not yet implemented

3. Health Star Rating system Australia
10 MONITORING AND INTELLIGENCE

The government’s monitoring and intelligence systems (surveillance, evaluation, research and reporting) are comprehensive and regular enough to assess the status of food environments, population nutrition and diet-related NCDs and their inequalities, and to measure progress on achieving the goals of nutrition and health plans.

Q30 MONIT1 Regular monitoring of food environments
Q31 MONIT2 Regular monitoring of adult and childhood nutrition status and food consumption
Q32 MONIT3 Regular monitoring of adult and childhood overweight and obesity
Q33 MONIT4 Regular monitoring of the prevalence of NCDs and their risk factors
Q34 MONIT5 Sufficient evaluation of major programs and policies
Q35 MONIT6 Monitoring of progress towards reducing health inequalities
10 MONITORING AND INTELLIGENCE: evidence NZ

Q32 MONIT3 There is regular monitoring of adult and childhood overweight and obesity prevalence using anthropometric measurements

• Latest NZ health survey 2011-2012 including children and adults (also in 1996/97, 2002/03, 2006/07): weight and height and waist circumference measured
• Now annual health surveys (results 2013 available) including measured weight and height for adults and children
• Also included in nutrition surveys: measured weight and height and waist circumference
• B4 school check program: weight and height measured (n=52144 preschool children)
10 MONITORING AND INTELLIGENCE: benchmarks

**Q32 MONIT3** There is regular monitoring of adult and childhood **overweight and obesity** prevalence using anthropometric measurements

1. England’s National Child Measurement Programme was established in 2006 and measures weight and height of all children in England in the first (4-5 years) and last (10-11 years) years of primary school. In 2011-2012, 565,662 children 4-5 years and 491,118 children 10-11 years were measured
Pilot test NZ Food-EPI November 2013

- 39 public health experts and academics (50%) and NGO representatives (50%) participated
- Rating the extent of government policy implementation against best practice, evaluating difficulty to rate and completeness/accuracy of evidence
- Inter-rater reliability was 0.85 (95%CI=0.81-0.88)
- Most difficult to rate: governance, funding and workforce
- Major changes to the Food-EPI include: deletion of the workforce development domain, strengthening the leadership domain, a stronger focus on equity, and adding community-based programs and government funding for research on obesity and NCD prevention
- Collection of more benchmarks for the baseline study (including from WCRF NOURISHING framework)
Baseline study NZ Food-EPI May 2014

- 53 public health experts, academics and NGO representatives participated
- Inter-rater reliability was 0.78 (95%CI=0.76-0.79)
- Highest mean % implementation (>75%) for label1, label2, monit4, gover3, gover4
- Lowest mean % implementation (<25%) for promo1, prices1, prices2, retail1, trade2
- Concrete actions proposed for most of the statements
- Prioritization (importance/achievability) of actions with 120 public health experts and report for government in process
- **Under development**: weighting approach for domains and good practice statements, impact assessment, public rating, multi-country comparisons
Private sector actions and practices

Access to Nutrition Index

www.accesstonutrition.org

+ Ground truth claims and commitments and capture the undermining practices (expanded and optimal approach)
Collect monitoring data related to each ‘organisation of interest’

**Step 1** ‘Minimal’ data collection
- Collate all of the organisation’s publically-available policies and commitments regarding:
  - food composition
  - food marketing
  - nutrition information
  - other relevant policies and commitments
- Sourced from organisation websites, reports and the media, or from the organisation directly

**Step 2** ‘Expanded’ data collection
- Nutrition composition of the organisation’s products (including package and portion sizes)
- Extent and nature of their promotion to children
- Nutrition labelling practices
- Availability and affordability of their products
  (ideally, but not essentially, weighted by sales volumes)

**Step 3** ‘Optimal’ data collection
- Additional commercial activities by the organisation (as well as by associated peak bodies or ‘front groups’) that influence food environments, including:
  - content of submissions to public consultations
  - extent and nature of their political lobbying
  - extent and nature of their political donations
  - funds allocated to research and academic groups
  - corporate philanthropy
  - misleading practices, such as in advertising or product labelling

Prioritise food industry sectors and organisations of interest
- Focus on the organisations that most influence food environments and public health nutrition in the country
- Include organisations from a range of industry segments, such as food and beverage manufacturers, quick-service restaurants, and food retailers
- Potentially include a mix of transnational companies, national companies, and small-to-medium enterprises

Private sector actions and practices
Food composition

- Global Food Monitoring Group: 31 countries already involved in some way (2/3 are LMICs)
- Data collection increasingly using crowdsourcing: *FoodSwitch* smartphone app (AU, NZ, UK)
- Large, brand-specific database (composition, labels, photos)
- Database: Approx. 209,755+ food products across 9 countries
- Compare information by:
  - Food product and/or brand
  - Food category
  - manufacturer
  - country
  - over time
Food labelling

Current focus on packaged foods in-store
Standardised taxonomy for health-related food labelling
Food promotion

- Multiple media
  TV, radio, internet, social media, magazines, sport sponsorship, outdoor advertising, point-of-sale, food packaging
- Exposure and power dimensions
- Readership, net rating, audience measurement data from market research companies if available and affordable
- Some multi-country protocols (TV) have been developed and used
- Others are being developed and tested
- Monitoring advertising through social media: difficulties in capturing exposure estimates/trends (no commercial data available, content is individually tailored to users)
Food provision

- Paucity of standards and evaluating foods versus standards, many programs but lack of evaluation
- Schools as the priority setting, approaches can be used for other public sector settings
- **COMPONENT 1** Policies, programs and associated nutrition standards or guidelines in place
- **COMPONENT 2** Implementation of policies and programs and nutritional quality of foods provided and sold relative to nutrition standards or guidelines
- Minimal approach: food policy and environment questionnaire to be posted to schools
- Optimal approach: direct observation of foods provided and sold and policy implementation to validate the minimal approach
Food retail

- **Community** retail food environment
  - (Relative) density of F&V and fast food chain outlets, proximity of food outlets to schools
    - Compilation of lists of food outlets
    - Classification of food outlets (type/healthiness)
    - Validation of compiled list
    - Formatting food outlet addresses
    - Geocoding

- **Consumer** retail food environment
  - Shelf-space ratios and placement (check-outs/end-of-aisle) of F&V vs. selected unhealthy food categories
Food prices

- Prices (incl. tax component) of healthy vs. less healthy foods and meals
- Price and affordability of healthy vs. current, less healthy diets
  - “Current”, less healthy diets from HBS or FCS
  - Healthy diets from national dietary guidelines; development of global/regional foundation diet
  - Menu plans for 2 weeks for reference household → shopping baskets
  - Issues: availability of dietary data, defining affordability, healthy diet, reference household...
- Methods and protocol under development by PhD student
Food in Trade & Investment

- **Focus**: Direct impacts of trade policy-making processes and trade agreement provisions on the production, processing, distribution, and retail of foods, and subsequently on food availability, nutritional quality, price, and promotion at the national level

- **Risk assessment approach**
  - Retrospective risk analysis in existing agreements
  - Prospective risk assessment processes

- **4 domains**: *trade in goods, trade in services and FDI, domestic protections and support, policy space and governance*

- Methods under development
Nation-wide study on food environments & policies: NZ protocol

- **Sampling of areas**
  1) Stratified (North Island/South Island) probability-proportionate-to-size sampling
  2) Representative sample of territorial authorities (TAs): 22 out of 66 selected
  3) Systematic sampling to include both urban and rural areas
  4) In-depth case study on food environments in TA with high Maori populations

- **Classification of foods as healthy/unhealthy**
  1) **NUTRIENT-BASED**: The Food Standards Australia New Zealand (FSANZ) nutrient profiling system
  2) **FOOD-BASED**: New Zealand food and beverage classification system Fuelled4Life
  3) International nutrient-based and food-based best practice exemplars

- **Measures of inequalities**
  1) School deciles (low SES deciles 1-3)
  2) New Zealand Deprivation Index NZDep2013 (least deprived NZDep 1-3)
  3) Tertiles of proportion of Maori and Pacific residents
Nation-wide study on food environments & policies: NZ protocol

A package of 11 sub-studies:

1) **PROCESS:** The Government Healthy Food Environment Policy Index (Food-EPI)
2) **PROCESS:** Private sector actions and practices on food environments
3) **IMPACT:** Food composition, labelling and promotion via food packages
4) **IMPACT:** Food prices, shelf space and placement of foods in supermarkets (mainly)
5) **IMPACT:** Food provision in schools/early childhood education (ECE) services and outdoor food promotion around schools/ECE services
6) **IMPACT:** Density of and proximity to food outlets in communities
7) **IMPACT:** Food promotion via TV
8) **IMPACT:** Food promotion via magazines
9) **IMPACT:** Food promotion via sport club sponsorships
10) **IMPACT:** Food promotion via internet and social media
11) **IMPACT:** Impact of trade agreements on food environments

- Equity indicators within public sector module (Food-EPI)
- For four key modules (food prices, provision, promotion and retail), ‘environmental equity’ indicators
# Equity and ‘environmental equity’ indicators

| PUBLIC SECTOR | • Reducing health inequalities is a government priority  
|              | • Progress towards reducing health inequalities and societal and economic determinants of health are regularly monitored |
| FOOD PROVISION | • Quality of nutrition policies implemented, % of schools and % of foods meeting Fuelled4Life guidelines, % of foods meeting FSANZ nutrient profiling criteria, in high (8-10) vs. low (1-3) decile schools |
| FOOD RETAIL | • Frequency of ‘food deserts’ and ‘food swamps’ in least (NZDep 1-3), average (NZDep 4-7), most deprived (NZDep 8-10) areas and areas with high versus low % of Maori and Pacific residents  
| | • Relative density of unhealthy food outlets in a buffer zone around high (8-10), mid (4-7) and low (1-3) decile schools  
| | • Ratio of shelf space devoted to healthy versus unhealthy foods by NZDep2013 tertile (based on location supermarkets)  
| | • Percentage of junk-food free check-outs by NZDep2013 tertile (based on location supermarkets) |
| FOOD PRICES | • Price differentials (and affordability) between ‘healthy’ foods and meals and ‘less healthy’ foods and meals by NZDep2013 tertiles (based on location of supermarkets or other types of outlets)  
| | • Price differentials and affordability of healthy versus current diets for Maori, Pacific and NZ European adults (from national nutrition survey data) |
| FOOD PROMOTION | • The number of outdoor advertisements for unhealthy foods in a buffer zone of 500m around low (1-3), mid (4-7) and high (8-10) decile schools |
INFORMAS at a local level

Proposed approach:

• Can valid **crowdsourcing approaches** work at the local level to collect data for the relevant INFORMAS modules: school food environments; local food marketing to children (e.g. sport club sponsorships, outdoor food advertising near schools); retail food environments?

• Is the **public rating of government implementation of policies** for healthier food environments comparable to the national expert rating?

• Can **constructive feedback of the local data** to local decision-makers, schools and retailers (e.g. including interactive maps, ranking systems) influence actions for healthier food environments?

• Are the processes above: **valuable** for participants; **effective** in increasing public advocacy for healthy environments; **likely to stimulate action** from local decision-makers?
INFORMAS Progress to date

Phase 1 Set up: completed
- Create global network, Bellagio meeting, 14 foundation papers in *Obesity Reviews* Suppl.

Phase 2 Pilot testing and protocols for modules
- Convert frameworks to protocols, background work on some modules, pilot testing, infrastructure
- Modules in different stages of development
- Underway with some funding for NZ, Australia, Fiji, Thailand and applications in for Latin America

Phase 3 Roll out
- NZ nation-wide study on food environments and policies, embed in NCD observatory e.g. Pacific MANA; Multi-country set up, philanthropic funding etc.
Monitoring alliance for NCD action

- Seed funding to develop a 10y (5y funded) NCD Observatory in the Pacific region
- Monitoring Alliance for NCD Action (MANA)
- INFORMAS incorporated into monitoring structure

A strong regional coordinated network of expertise and data systems will operate to support capacity building and knowledge exchange to monitor NCD action.

A regional platform will stimulate action and innovation for reducing NCDs in the Pacific, and mutual accountability for progress towards NCD reduction targets.
INFORMAS & DEDIPAC

- **Thematic area 1**: Standardised protocols (with flexibility) for assessment of food environments and policies
- **Thematic area 2**: Environmental and political determinants of population diets
- **Thematic area 3**: Measurement of:
  - Impact of government policies and private sector actions on food environments: product reformulation, nutrition labelling, food marketing to children, food availability in communities and in-store, food in schools, food prices,…
  - Impact of changes in food environments on population diets
  - Assessment of food environments and policies against international benchmarks, between countries and over time
- **INFORMAS not yet active in Europe**
- **PA not captured by INFORMAS, but other groups working on similar tools (e.g. PA policy audit tool)**
Conclusions

- Accountability systems and upstream indicators and monitoring systems needed
- INFORMAS = Strategic Science, Action-oriented and solution-oriented research
- INFORMAS has potential to:
  - Fill some important monitoring gaps for food
  - Define international benchmarks for policies & environments
  - Measure impacts of national policies on food environments and population diets
  - Assess determinants of obesity and diet-related NCDs
  - Catalyse public and private sector action
  - Lift the engagement of researchers, NGOs, public
  - Be the global burden of disease solution equivalent
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