

A Geospatial Information Reference Framework for Public Health (GIRF)

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Background on the GIRF

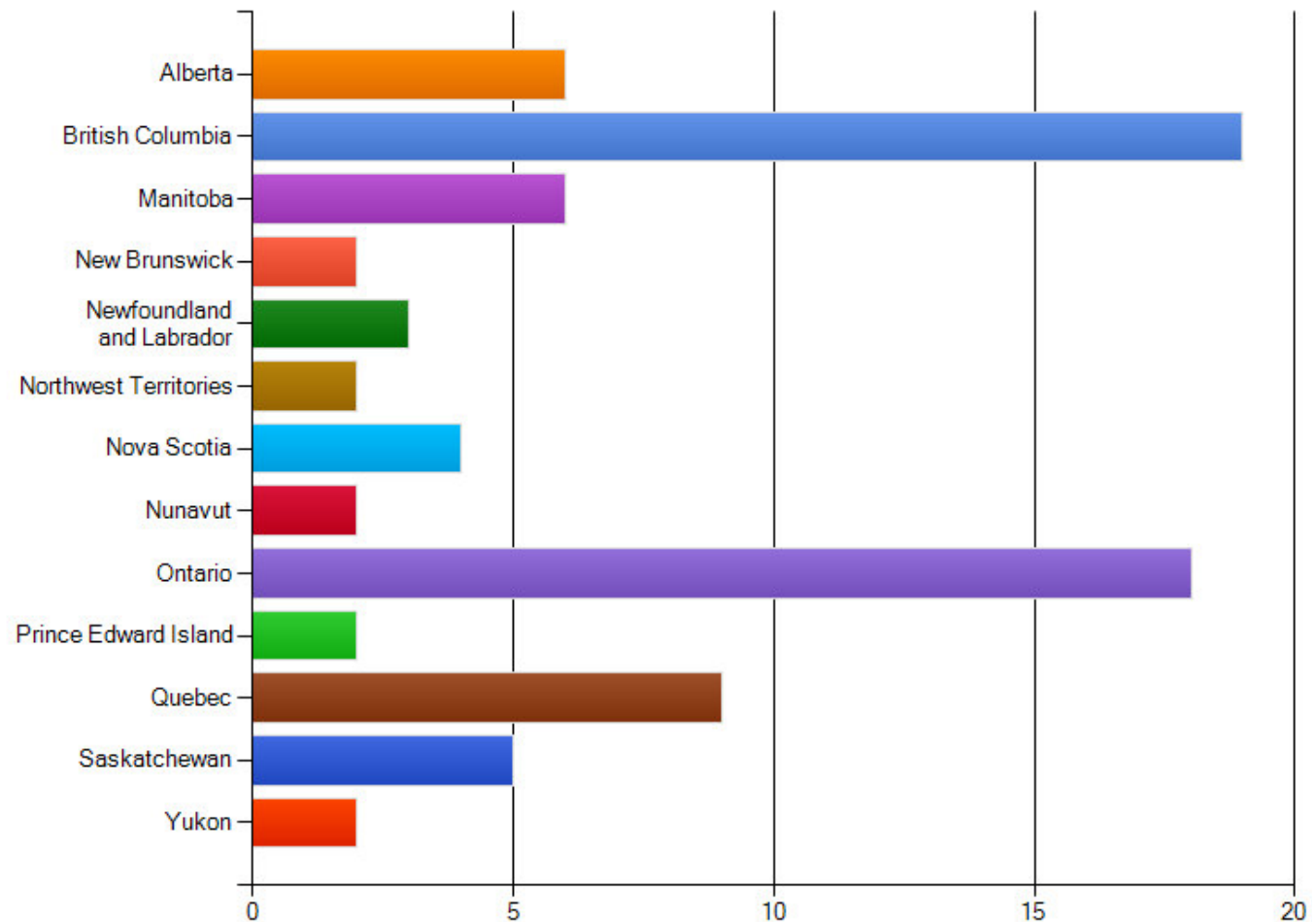
- Geoconnections project April 16 - September 30, 2009
 - Part of an initiative to lay a foundation for public health community to exploit geospatial information in decision-making.
- What is the GIRF?
 - Categorical scheme *tailored to the public health community*.
 - Inventory of data sources mapped to the categorical scheme.
- Objectives of the GIRF
 - Improve the ability to search for geospatial data.
 - Facilitate communication between data users and data providers via an intuitive structured terminology.
 - Facilitate browsing for semantically proximal information.

Development of the GIRF

- Development methodology
 - Drive out information requirements using a “strawman” categorical scheme.
 - Consult with public health community via questionnaire survey.
 - 123 stakeholders were invited to participate.
 - 52 stakeholders completed the questionnaire.
 - Extensive telephone/email follow-up.
 - Revise categorical scheme.
 - Adopt a “keyword” approach to incorporate existing terms & indices.
 - Locate data sources, map to categorical scheme.
 - Validate with stakeholders.
- Strong support from stakeholders for the completed categorical scheme.

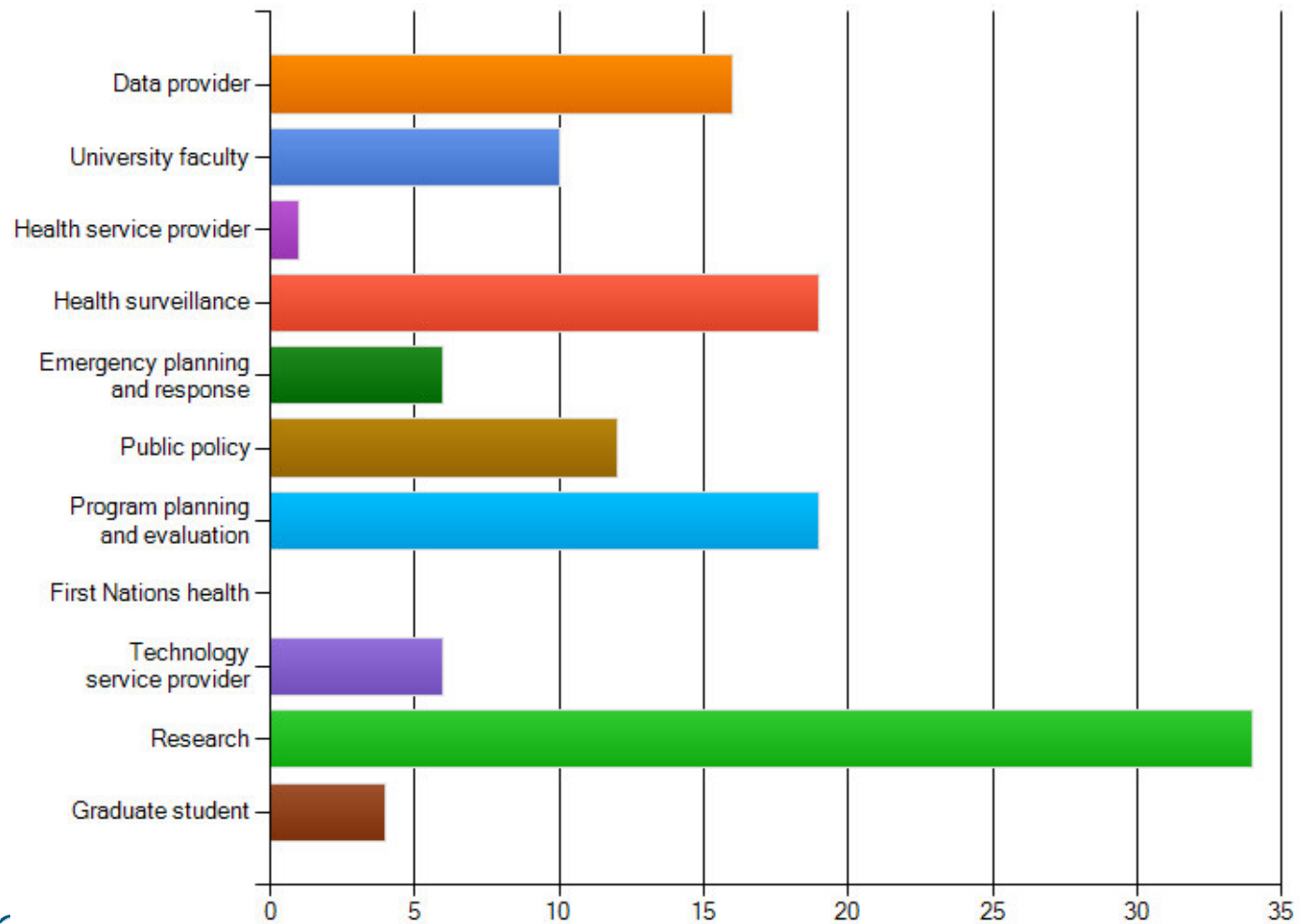
Stakeholder participation: areal distribution

If you work at a provincial or sub-provincial level, which province? (choose all that apply)



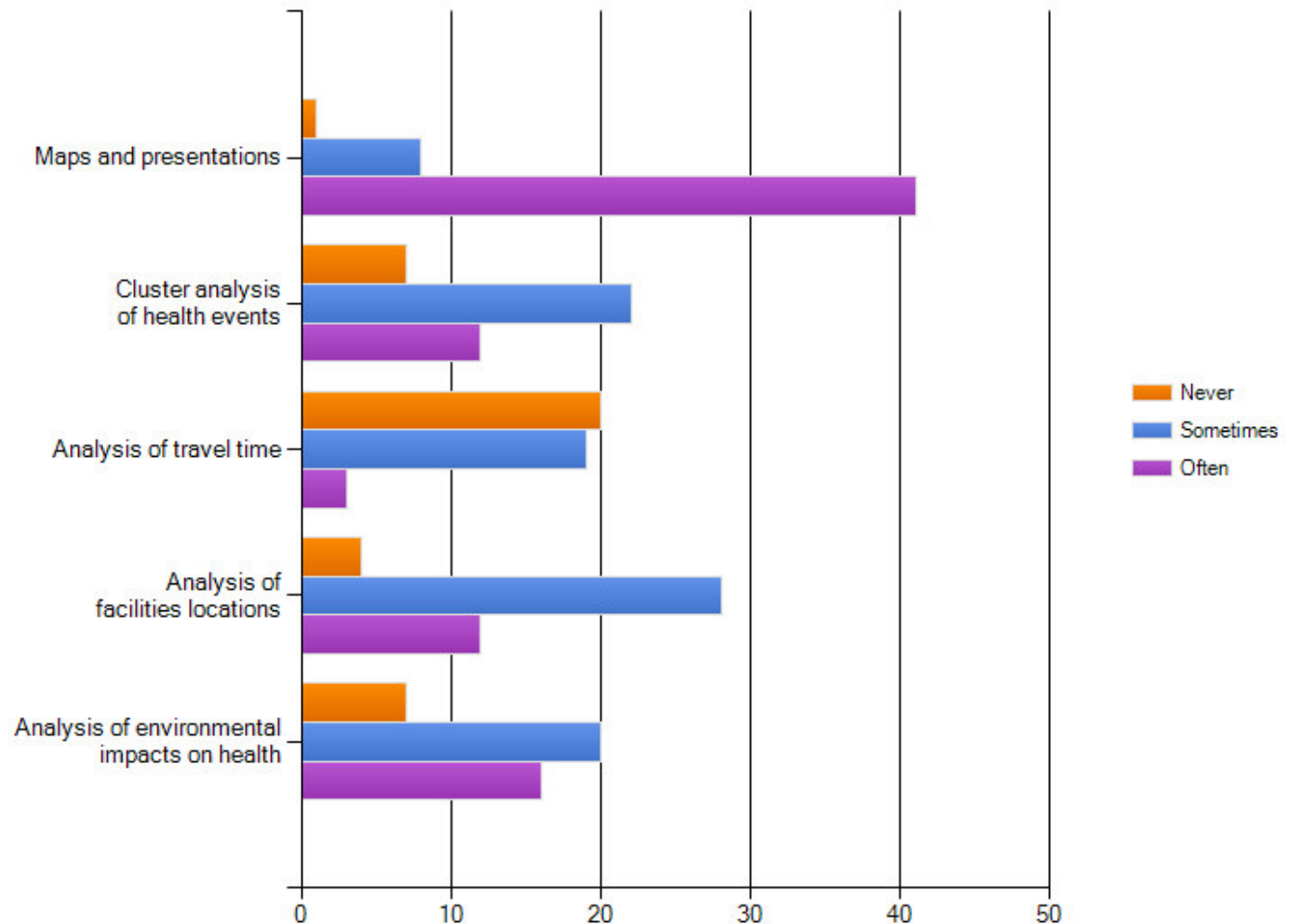
Stakeholder participation: type of job

What is the nature of your job? (choose all that apply)



Stakeholder participation: geospatial data usage

How do you use geospatial information in your job?



Nine classes in the GIRF

- Health Status
- Health Events
- Health Facilities and Services
- Health Hazard, Exposure, and Risk
- Population Demographics
- Natural Environment
- Built Environment
- Socio-economic Environment
- Geocoding Reference

Details of GIRF classes (page 1)

Class	Subclasses	Relevant frameworks & standards	National data sources
Health Status	Death, Health Condition, Injury, Human Function, Well-Being, Maternal and Child Health, Use of Health Care System, Use of Pharmaceuticals.	ICD-10, CIHI Health Indicators, APHEO core indicators, PHAC Inventory of Injury Surveillance Data Sources and Surveillance Activities, PHAC Infectious and Chronic Disease categories.	Discharge Abstract DB, National Trauma Registry, National Ambulatory Care Registry.
Health Events	Outbreak, Intervention, Notification, Observation.	Based on terminology used by WHO Global Alert and Response Network, US CDC, and throughout Canadian and International public health communities.	Integrated Public Health Information System, Real-time Outbreak and Disease Surveillance System, Provincial health surveillance centres.
Health Facilities & Services	Facility description, Service delivery perspective, Care level, Service details, Functional perspective, Mobile, temporary or periodic facilities or services, Funding source.	National Infrastructure Data Model.	Mostly provincial and municipal.
Health Hazard, Exposure, and Risk	Health behaviours, Occupational, Environmental, Infectious or contagious disease, Vector-borne disease.	CIHI's "Non-medical determinants of health", APHEO "Health Behaviours," PHAC infectious disease reporting, Briggs classification for WHO.	Generally need very large-scale data.
Population Demographics	Age, Gender, Marital status, Education, Income, Household members, Clients of social programs, Employment, Ethnicity, New Immigrants, Language skills, Household spending and saving, Body description and functions, Personal resources, Time activity pattern	StatCan 2006 Census, CIHI Health indicators, Quality of Life Reporting System, Socio-Economic Risk Indicators.	Statistics Canada

Details of GIRF classes (page 2)

Class	Subclasses	Relevant frameworks & standards	National data sources
Natural Environment	Land cover and land use, Geology, Soils, Hydrography, Climate and weather, Elevations and landforms.	WHO Health and Environmental Linkages, NRCan land cover legend.	NRCan Geobase, GeoGratis.
Built Environment	Transportation systems, Energy, Agriculture, Recreational water sites, Buildings, Industrial sites, Water supply, Food supply, Solid waste, Wastewater and sewage.		NRCan Geobase, GeoGratis.
Socio-economic Environment	Neighbourhood character, Living conditions, Working conditions, Traffic safety, Crime, Property values, Economic opportunities, Education opportunities, Childcare services, Retail services, Recreation and sports, Arts and culture, Civic engagement.	CIHI Health Indicators, Canadian Index of Well-Being, Quality of Life Reporting System, WHO Commission on Social Determinants of Health	Generally need very large-scale data.
Geocoding Reference	Core geocoding references, StatCan geographies, Health-related administrative areas, Other administrative areas, Other locational references.		StatCan Road Network File, Postal Code Conversion File, Statcan cross-references to Health Geographies.

Conclusions

- Details on the GIRF are available in a GeoConnections report.
- Holonics provided a set of recommendations to GeoConnections Advisory Committee
 - How to address gaps.
 - How to support the public health community in the GIRF context.