# WHO Collaborating Centre for research and training on complex systems and network science for NCD prevention and control

# Manual for Stakeholder.Net Toolkit

## Introduction to Stakeholder Network Analysis

## for the prevention and management of NCDs and NCDs risk factors

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## Preface

The high burden of noncommunicable diseases (NCDs) is a major public health issue, as they are responsible for high levels of morbidity, disability and mortality and count for substantial social and economic loses in the WHO European Region. The fight against NCDs is not just a health imperative but it is also an essential requirement for sustainable development, economic advancement, and social inclusion. The WHO Global Action Plan for the Prevention and Control of Noncommunicable Diseases 2013-2020 has been extended until 2030 to align with the Sustainable Development Goals (SDGs) agenda. This is to provide cohesive guidance and facilitate coordinated and coherent action among Member States and stakeholders at local, regional and global level.

In this context, the European Programme of Work (EPW) 2020–2025 aims to strengthen integrated approaches ("whole of government" and "whole society approach") and coordinated efforts to foster synergies and stronger partnerships. It involves identifying and converging stakeholders across the public and private sector, academia, NGOs, media, and civil society. The Special Initiative on Noncommunicable Diseases (NCDs) and Innovation (SNI) of the WHO Regional office for Europe plays a pivotal role in supporting this endeavour through a dual-track strategy to achieve both short- and long-term outcomes. The firs track, "Race to the finish" focuses on implementing 'quick buys' and effective evidence-based actions to achieve SDG 3.4 by 2030. Simultaneously, the second track, "Vision 2050" focuses on building a Region that is resilient to NCDs for the next generation by implementing longer-term multi country actions to shape a carbon neutral world that is prepared for health crises and shielded from harmful commercial influences. This dual track approach provides a platform for nurturing stakeholder networks, promote collaboration on quick wins and explore innovative approaches that have a significant impact in tackling NCDs. As well as to accelerate Member States' progress toward achieving the NCDs related targets within the SDGs and effectively implementing WHO's best buys for addressing NCDs.

Member States require tools to build effective partnerships and networks among stakeholders to achieve meaningful progress in NCD prevention and management. This Manual will provide guidance to national and local authorities, as well as stakeholders involved in programs and networks dedicated to the prevention and management of NCDs and NCD behavioral risk factors: unhealthy diets, physical inactivity, tobacco use, and alcohol consumption. It offers clear instructions on conducting stakeholder network analysis to inform their work and programmes. The manual explains how these programs can effectively shape, activate, and sustain stakeholder networks to support a comprehensive approach and address the economic, commercial, environmental, and social determinants of NCDs. Stakeholder networks hold the potential to promote healthier environments in both physical and digital spaces, improve access to and availability of healthy and sustainable diets and opportunities for physical activity, enhance transparency and mitigate conflicts of interest, especially within industries like food, tobacco, and alcohol, which often clash with NCD prevention goals, and identify and harness win-win opportunities for cross and multisectoral action throughout the Region.

Objectives of this manual:

- To introduce the concept of stakeholder network analysis and highlight the relevance for advancing the 2023-2030 NCD and SDG agenda;
- To understand how to design and conduct a stakeholders' network analysis to support Member States through relevant networks (COSI, Nutrition and EU PA Focal Points, HEPA network) to map, analyse and report on stakeholder networks of interest;
- To highlight tools, software and core texts in stakeholder network analysis.

## 1. Basic tenets of stakeholder network analysis

What is stakeholder network analysis (SNA)?

**Definition:** Exploration of the interactions between individuals or organisations or stakeholders. It provides a set of theories, techniques and tools useful for understanding a broad range of structural and relational aspects as stakeholders and organisations interact with others. Therefore, it is both a methodological tool and a theoretical paradigm (Luke and Harris, 2007).

Network paradigm has 4 important features:

1. Network analysis is a structural approach that focuses in part on patterns of linkages between actors (e.g., organisations);

2. It is grounded in empirical data;

3. It makes frequent use of mathematical and computational models;

4. It is highly graphical.

Basically, it is conducted by recording data on who is connected to whom. For example, in the context of the Health-Enhancing Physical Activity (HEPA) Europe network, this would include HEPA Europe affiliated organisations that collaborate with other HEPA Europe affiliated organisations. These relationships can be many and varied; and can be derived from survey information (e.g. who shares resources with whom) or archival traces such as email exchanges.

The data are used to derive individual network measures such as the number of links or relationships each individual or organisation has, and network level measures such as network density (a count of the number of links or relationships between HEPA Europe organisations present expressed as a proportion of all links or relationships possible).

Typically, the relationships are represented visually using network diagrams (see Figure 1).

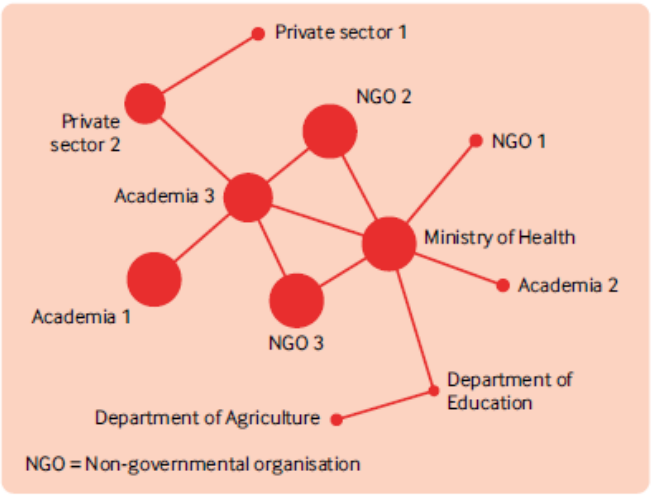



**Figure 1:** An example of a stakeholder network. The nodes represent organisations and the lines represent collaborations between organisations. The larger nodes represent the organisations with the most collaborators (Hunter et al, 2019).

Network Terminology

One difficulty with understanding SNA terminology is that many disciplines (e.g. mathematics, sociology) represent relationships with a network, leading to multiple terms for the same concept. Appendix A provides definitions of core terminology commonly used in SNA.

The Stakeholder

Stakeholders are loosely defined as basically those who have some degree of interest in the outcome of an intervention or project. For example, organisations or individuals within organisations who are affiliated members of the HEPA Europe network. However, in practice it is useful to add depth to this and differentiate between the range of groups/individuals involved and the roles they might have in achieving a successful outcome. Depending on the purpose or stated objectives of the stakeholder analysis, the approach for defining stakeholders can vary.

A common framework for defining or categorising stakeholders is by assigning them as primary, secondary, or key stakeholders. A Primary stakeholder is one that will be a contributor to and/or affected by a project's outcomes either positively (beneficiary) or negatively (e.g. those involuntarily displaced). Secondary stakeholders are the intermediaries in the delivery process of outcomes. Key stakeholders are those who will be *significantly* affected by the project and/or significantly contribute to the project. Assigning stakeholders categories like these is not normally done in isolation, but also by prioritising them, taking into consideration the degree of influence and degree of importance they may have.

An alternative framework for identifying the stakeholders in a study is the In/Out/Seeker/Provider (IOSP) framework (Varda et al, 2009), which is similar to a stakeholder matrix used in many existing toolkits, helping to identify the actors and their roles, at different stages of the intervention. The unique contribution of this framework is that it locates actors as either in- or out- of a geographic area of interest—initially presented as a way of locating stakeholders' within the catchment of a disaster setting. It can be used at different activity levels of interest: with individuals, groups, or individuals as the unit of analysis.

## 2. How to conduct a Stakeholder Network Analysis?

There are a number of different tools available to help support the conduct of SNA.

One particular tool that this manual is aligned with is the Stakeholder Net tool. This tool has been developed by Queen's University Belfast WHO Collaborating Centre for research and training on complex systems and network science for NCD prevention and control as part of a collaboration with the WHO Regional Office for Europe, Office for Prevention and Control of Non-communicable Diseases. It is web-based tool created to facilitate the design, data collection, and data analysis of stakeholder network surveys. The tool can be accessed at stakeholdernet.org

Other tools for the design, data collection, and data analysis of stakeholder network surveys exist, albeit not always free of charge or covering all these three steps. For instance, the PARTNER CPRM, developed by VisibleNetworkLabs (https://visiblenetworklabs.com/partner-cprm/), has all these functionalities but as part of a paid service. Network Canvas (https://www.networkcanvas.com/) is a free software that allows users to design and deploy network surveys for personal networks, but it is not web-based and requires interviewers

equipped with a tablet or laptop to carry out the surveys. Some free software exist to analyse network data, such as the igraph package (https://igraph.org/) for R and Python (free software for statistical computing) and Gephi (https://gephi.org/).

The following section provides a step-by-step guide on how to conduct a SNA.

Planning process

You will want to have a robust plan for your SNA. As with any other project, this will take an investment of time, which will vary according to the scope and scale of your study concept. The first steps you should consider when undertaking a SNA will be to define its purpose, establish the scope of existing data, identify potential users of the information, and outline how you intend to use the information you decide to collect. These steps can be supported using the stakeholdernet.org tool.

A worked example of a protocol for collection of stakeholder network data in the context of the Global Network for Age-friendly Cities and Communities (GNAFCC) is available in Appendix B.

A worked example of a survey questionnaire for the collection of stakeholder network data in the context of the GNAFCC is available in Appendix C.

Examples of some of the available question types that can be used in the survey tool are available in Appendix D.

***What is the purpose of your stakeholder network analysis?***

It is important to have a clear focus on what you want to understand about the stakeholder relationships in your field of interest. This will help establish the parameters of your study and clearly identify variables to be measured later in the process. As you move into thinking about how to conduct the study, clarifying your objectives will indicate the various steps that need to be taken in the methodology and establish the limits of your study. Having clarity around the purpose of your study is also beneficial from an ethical standpoint, as it will enable you to avoid collection of any data that is not strictly required.

Examples of how the stakeholdernet.org tool can be used include developing a protocol, providing input for other analyses, informing or updating action plans, providing information to challenge or support policy, or to guide participatory consensus-building processes.

To identify the purpose of your study we suggest that you consider the existing literature in your field of interest. This will help identify gaps in the current research base and/or your own professional knowledge. Additionally, it might be useful to reflect upon the issues you are attempting to address and map these out before progressing to the design stages of the stakeholdernet.org online tool. This can be as simple as creating a list of issues/interests/objectives/desired outcomes and prioritising them.

***Identify information users***

Depending on the purpose of your SNA, the user group for the stakeholdernet.org tool will vary. When defining a user group, we primarily mean those who will be involved in the collection of data and secondarily those who will directly benefit from the collection of the data. In some instances, (perhaps bigger or more complex studies) it may be useful to establish a ‘working group’ of these users, who can contribute to the study protocol, analyses, and

strategies for using the data. It is equally important to consider users of the information beyond this 'working group' and how they might access any data made available.

***Review existing information***

There may be existing data about the organisations and connections you intend to map using the stakeholdernet.org tool. It might be possible to use these data to supplement or support your stakeholder network analysis, or in some circumstances, render it unnecessary. We suggest checking local sources, and depending on your familiarity with potential participant organisations, contacting them about their own collection of data and its availability. Understanding what data is in circulation about your target group will also help you avoid collecting unnecessary or duplicate data.

***What information do I want to collect? How might I use this information?***

The quality of data, not necessarily the amount of data, will better support your objectives and enable you to affect necessary change more readily. Therefore, we strongly encourage that you carefully consider the information you intend to collect and how you plan to put this to use, prior to implementing the stakeholdernet.org tool. To do this, it is useful to come up with a research question or a range of sub-questions relating to your objectives.

***Develop a timeline***

A core tenet of the network concept is that they are dynamic, fluid and temporal – relationships, even organisational ones, are not static. Therefore, when implementing the stakeholdernet.org tool, we suggest that you consider the temporality of the project/network you intend on mapping. You should establish a timeline for the process that is realistic and achievable, including all the major steps for implementing the stakholdernet.org tool.

***Ethical requirements***

Stakeholdernet.org strongly encourage you to check with your organisation regarding ethical protocols and requirements. These may vary according to internal policy and the legal jurisdiction in which your organisation is located. Generally, any research involving human participants, particularly those characterised as 'vulnerable' (e.g., children, displaced people), should require robust ethical checks. This is particularly salient given the invasive nature of network analysis, in which participants are expected to nominate connections and provide data regarding these interactions or relationships. In some instances, this can deter participants from responding to questions. Therefore, having clearly articulated ethical procedures can reassure them and enhance response rates. It is important to consider implications for GDPR when managing data within the EU / EEA and exporting personal data outside these areas.

## Network Survey Development

***Core Survey Components***

From our experience of administering research projects involving SNA, there are a number of question categories that can be useful when trying to understand the effectiveness of partnerships involved in reaching the overall objectives of a given intervention or programme. As such, stakeholdernet.org surveys are developed using five subcategories of questions, with the intention of eliciting data that is relevant to your project or programme.

1. *Background information:* This component of the survey is designed to elicit data about a respondent's organisation, including items such as key sectors, organisational type, numbers of employees, and its organisational objectives etc.

2. *Participation:* It is important to understand the nature of the network or programme being examined. Therefore, we ask questions about the frequency, duration, and types of engagement that has taken place in this context, and the barriers and facilitators for participation or collaboration.

3. *Exchange of information:* This survey component examines the exchange of information and knowledge between stakeholders directly involved in the development and implementation of an intervention or programme. Stakeholdernet.org helps you to identify how information (knowledge) flows within a network or programme. Gaps in information can disrupt effective delivery and, as such, stakeholdernet.org helps identify ways the effectiveness of a partnership or network can be improved or remain resilient.

4. *Collaborations and interactions:* These questions focus on the types of engagements respondents have within a network or programme. This information is useful for identifying key sites of interaction within a network and for identifying individuals or stakeholders that may need improved support or attention. Questions in this component will also reveal the scope and scale of the stakeholder network underpinning a programme.

5. *Functioning of the stakeholder:* This section evaluates the functioning of those involved in the activity of the network or programme being examined. Stakeholdernet.org examines things like facilitation, recruitment, participation, and the opportunities that are involved for stakeholders during the implementation of a network or programme. By collecting these data, it is possible to identify leaders within the stakeholder network and those organisations/individuals with whom influence and power resides.

## 3. Analysing and interpreting the data

The data analysis is typically divided in three elements. Below we provide a worked example from a stakeholder network analysis conducted as part of the GNAFCC. This example is based on the Age Friendly Ireland (AFI) network.

First, we analyse the reasons for being part of the GNAFCC and AFI, and the main barriers to engage with other members of these networks.

Second, based on the collaborations nominated by the respondents, we generate a graph representing the network, with each node representing one AFI member, and each link representing a collaboration between two members. We also calculate a series of network-level statistics that describe the general structure of the network.

Useful network-level statistics to calculate include:

- Number of nodes: number of members of the network.
- Number and percentage of respondents: number and proportion of members of the network who responded the survey.
- Number of links: number of relationships between members of the network, based on the nominations made by the survey respondents.

- Number and percentage of links per purpose and level of engagement: number and proportion of relationships per purpose and level of engagement, based on the nominations made by the survey respondents.
- Number of components: number of portions of the network that are disconnected from each other. It indicates whether there are sub-networks that are not connected with other parts of the network.
- Density: number of relationships reported, divided by the number of all possible relationships in the network. It ranges from 0 (no connections at all) to 1 (all possible relationships were reported). The closer to 1, the denser the network is, meaning that a larger number of connections exist between its members.
- Global reciprocity: proportion of mutual connections between members of the network. A mutual connection happens when Respondent A nominates a connection with Respondent B, and Respondent B nominates a connection with Respondent A. It ranges from 0 (no mutual connections at all) to 1 (all connections are mutual, i.e., reported by the two parties involved).
- Global transitivity: number of triangles (i.e., three nodes all connected between themselves) divided by the number of triplets (i.e., three nodes connected, either closing a triangle or not – Figure 2 exemplifies these two types of triplets). It ranges from 0 (no triangles at all) to 1 (all triplets are triangles). The closer to 1, the more likely is that the collaborators nominated by one node will also collaborate among themselves, closing a "collaboration triangle".
- Number of cliques: number of portions of the network where all nodes are connected between themselves, forming a completely connected group (i.e., a clique). In this report, the minimum clique size is three.

**Figure 2.** Examples of triplets. The triplet on the right is also a triangle.

Lastly, we calculate node-level statistics that describe the number of connections and the role each member plays in the network structure. We report these statistics for each respondent and calculate the mean, standard deviation, maximum, minimum, and frequency for the entire set of respondents.

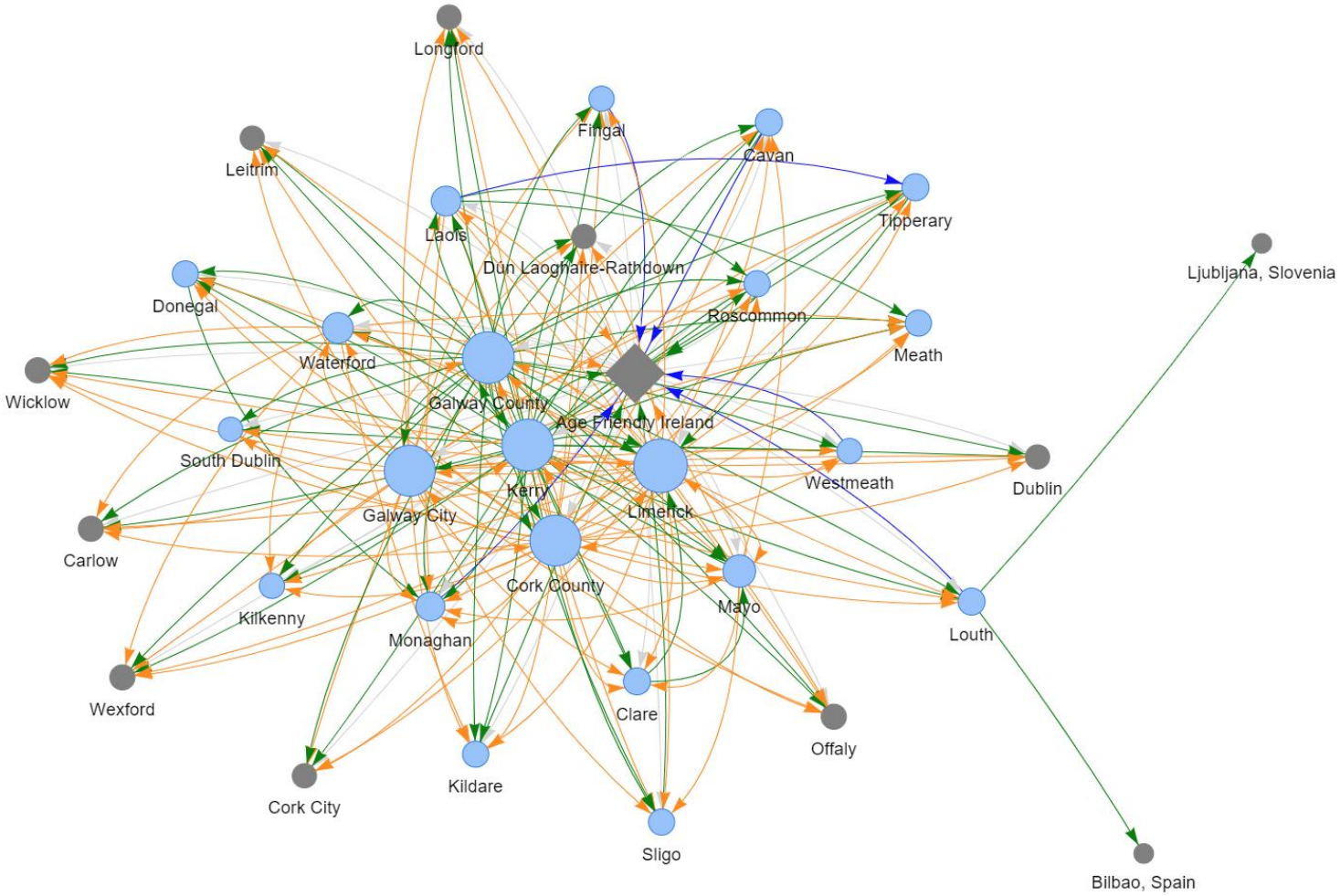
Useful node-level statistics to calculate include:

- Outdegree centrality: number of nominations made by a survey respondent. It indicates how many members of the networks the respondent has relationship with.

- Indegree centrality: number of nominations received by a network member. It indicates how many respondents have a relationship with the nominated node, or its “popularity”.
- Degree centrality: sum of indegree and outdegree centrality. It indicates the total number of relationships that a node has and manage.
- Number of links per purpose and level of engagement: number of relationships per purpose and level of engagement, based on the nominations made by the survey respondents.
- Betweenness centrality: it indicates how important a node is in connecting other pairs of nodes in the network who otherwise would be disconnected or have a longer path connecting them. It indicates how important a node is in playing the role of “bridge” between other nodes.
- Local reciprocity: proportion of mutual connections between the node of interest and the collaborators it nominates. A mutual connection happens when the node of interest nominates a connection with Collaborator A, and Collaborator A nominates a connection with the node of interest. It ranges from 0 (no mutual connections at all) to 1 (all connections are mutual, i.e., reported by the two parties involved).
- Local transitivity: number of triangles (i.e., three nodes all connected between themselves) divided by the number of triplets (i.e., three nodes connected, either closing a triangle or not – Figure 1 exemplifies these two types of triplets) involving the node of interest. It ranges from 0 (no triangles at all) to 1 (all triplets are triangles). The closer to 1, the more likely is that the collaborators nominated by the node of interest will also collaborate among themselves, closing a “collaboration triangle”.

Figure 3 presents a visualisation of the Age Friendly Ireland network.

**Figure 3.** Age Friendly Ireland network. Blue nodes: members that responded the survey. Grey nodes: members that did not respond the survey but were nominated by respondents. Diamond: Age Friendly Ireland Programme. Arrows: orange – communication only; blue – share resources; green – joint programming; light grey – joint programming (reported by Age Friendly Ireland Programme). Size of node scales with their degree.



## 4. Useful resources

### Introductory textbooks:

Hanneman, Robert A. and Mark Riddle. 2005. Introduction to social network methods. Riverside, CA: University of California, Riverside (http://faculty.ucr.edu/~hanneman/ )

Borgatti, S. P., Everett, M. G., & Johnson, J. C. (2013). *Analyzing social networks*. SAGE.

Thomas W. Valente. Social Networks and Health. Models, Methods, and Applications

http://networksciencebook.com/, free online book from Barabási.

### Societies:

INSNA: International Network for Social Network Analysis**:** http://www.insna.org/

EUSN: European Social Network: http://www.esn-eu.org/home/index.html

### Software:

UCINET: Borgatti, S.P., Everett, M.G. and Freeman, L.C. 2002. Ucinet for Windows: Software for Social Network Analysis. Harvard, MA: Analytic Technologies. **https://sites.google.com/site/ucinetsoftware/home?pli=1**

Gephi: https://gephi.org/

Pajek: Mrvar A and Batagelj V. Analysis and visualization of large networks with program package Pajek. Complex Adaptive Systems Modeling 2016; v4 (6). https://pajek.software.informer.com/

Igraph: https://igraph.org/

## References:

Hunter RF, Wickramasinghe K, Ergüder T, Bolat A, Arı HO, Yıldırım HH, Ursu P, Robinson G, Breda J, Mikkelsen B, Connolly P, Clarke M, Kee F. National action plans to tackle NCDs: role of stakeholder network analysis. BMJ 2019;365:l1871. doi: 10.1136/bmj.l1871.

Luke DA and Harris JK. Network Analysis in Public Health: History, Methods, and Applications. Annu. Rev. Public Health 2007. 28:69–93

Varda, D.M., Forgette, R., Banks, D. and Contractor, N., 2009. Social network methodology in the study of disasters: Issues and insights prompted by post-Katrina research. *Population Research and Policy Review*, *28*(1), pp.11-29.

## Appendix A – Terminology and theoretical development of SNA

The table below provides definitions of core terminology commonly used in SNA.

| | |
|---|---|
| **Basic definitions** | |
| Network: | Set of nodes AND set of ties representing entities and one or more relationships between them. |
| Node: | Representation of an entity, such as a person, organisation or stakeholder involved in AFCC programmes. Also called vertex or actor. |
| Tie: | Representation of a relationship between a pair of entities, such as collaborations or share resources between AFCC organisations. Also called edge, arc or link. |
| Directed / undirected: | The relationship may be one way (directed) or two way (undirected). For example, Kilkenny could consider Dublin a collaborator, even if Dublin doesn't consider Kilkenny a collaborator (directed). |
| **Node properties** | |
| Neighbours: | The set of nodes that have a tie with the given node. |
| Degree: | The number of ties attached to the given node. For example, the number of organisations that Kilkenny thinks of as collaborators. |
| Clustering coefficient: | The proportion of potential ties between a node's neighbours that are actual ties. For example, the proportion of pairs of Kilkenny's collaborators who are collaborators with each other. |
| Closeness: | The average distance (number of ties on shortest path) to each other node in the network. |
| Betweenness: | The number of shortest paths between pairs of nodes that pass through the given node. |
| **Other terminology** | |
| Geodesic: | Formal name for the shortest path between a pair of nodes. |
| Diameter: | The length of the longest of all the shortest paths in the network. Note that some authors use 'diameter' to refer to the average length of shortest paths. |
| Component: | A subset of nodes completely disconnected from the rest of the network. |
| Clique: | A subset of nodes where each node has ties with all other nodes. |
| Community: | A subset of nodes with relatively high tie density, so the nodes are mostly connected to other nodes in the community rather than the rest of the network. |

| | |
|---|---|
| Homophily: | Tendency to form relationship with nodes with a characteristic in common. |
| Reciprocity: | Tendency for ties to be paired in both directions. Only applies to directed networks. For example, if Kilkenny considers Dublin to be a collaborator, then it is relatively likely that Dublin considers Kilkenny to be a collaborator too. |
| Transitivity: | Tendency to 'close triangles'. For example, if Kilkenny collaborates with Dublin and Dublin collaborates with Mayo, then Kilkenny and Mayo are relatively likely to become collaborators. |

Theoretical Development of Stakeholder Network Analysis

One key development in the conceptualisation of stakeholder analysis, is the acknowledgement that stakeholder groups are temporaneous and many projects, by nature, are not static. For example, public health interventions have been described as 'dynamic systems with nested levels of interaction' (Varda et al, 2012) as such, an appropriate and robust set of measures to collect data on the dynamic nature of connections between these providers have been considered.

Specific to the field of public health, the growing practice of collaboration between different public health (and other) organisations to improve community outcomes has been recognised within the literature relevant to stakeholder analysis. The concept of interorganisational networks in healthcare provision is seen as advantageous for a number of reasons; lateral rather than vertical governance can be more effective, better coordination leading to less duplication of resources and increased cohesion, and improved adoption of interventions / programme implementation (Varda & Retrum, 2012). Varda and Retrum (2012) advocate a broader analysis of collaboratives to capture the complexity of interventions and public health strategies. It is claimed that the practice of collaboration is well documented, but the process and what constitutes effective collaboration remains an area in need of further research.

A further development of interest is the recognition by researchers that managing large projects was complex and that multiple concurrent interactions and activities presented challenges that required a unique response. Drawing on examples from the field of business, attention was given to network approaches, or the importance of understanding a 'delivery network', to manage complex tasks and projects (Kennon, Howden, & Hartley, 2009). They offer a number of stated advantageous to adopting a network perspective for stakeholder analysis, including effectiveness, efficiency, legitimacy, innovation, diffusion, and building collaborative infrastructure.

## Appendix B - Example of a protocol for collection of stakeholder network data in the context of the GNAFCC

### Objectives:

Mapping and social network analysis of:

1) the Global Network for Age-Friendly Cities and Communities.
2) two National Affiliate Programmes affiliated to the Global Network for Age-Friendly Cities and Communities.
3) one member of each selected National Affiliate Programme.

### Steps of data collection:

1) Definition of network survey questions, and whether and which data will be collected by other means.
2) Email members and affiliates to update on focal points.
3) Build the network survey on Stakeholder. Net (https://stakeholdernet.org/).
4) Prepare email invitation, participant information material, and consent form.
5) Identify National Programmes to be mapped.
6) Identify one member (e.g., city) of each National Programme to be mapped (see required conditions below).
7) Deploy network survey.

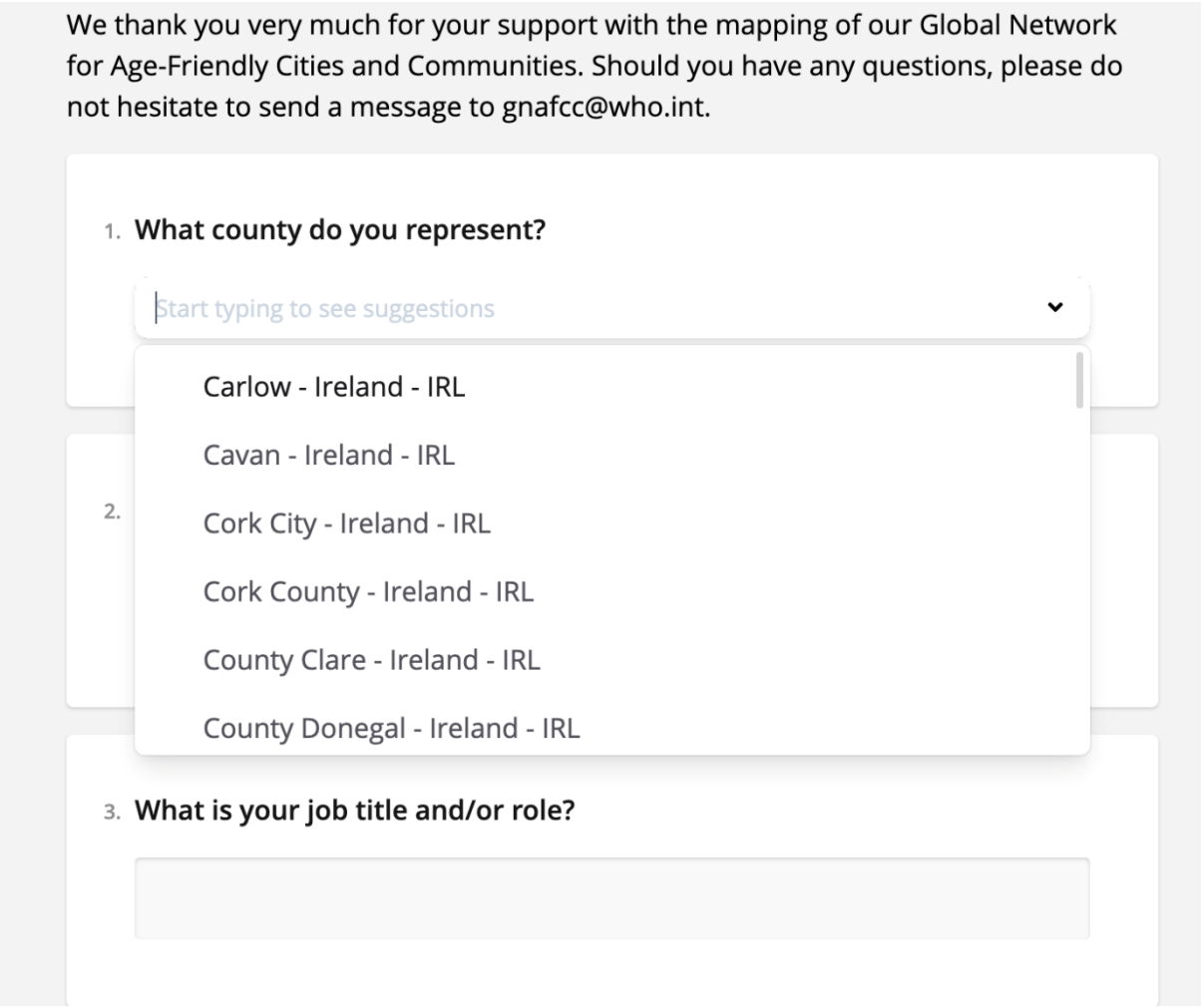
### Actors' attributes of interest:

1) Members and affiliates to the Network
    a. General attributes: name of the member; name, job title, and email address of respondent
        i. Some information on members and affiliates are available in the GNAFCC Network database
    b. Perception about the Network (based on the Network's missions):
        i. Inspire change
        ii. Connect to exchange of information, knowledge, and experience
        iii. Support to find appropriate innovative and evidence-based solutions
2) Actors who are not part of the network, but who were nominated by Network members
    a. General attributes: name of the member; name, job title, and email address of respondent; sector (e.g., public, private business, voluntary or community organisation); jurisdiction (e.g., city, regional, national); actor type (e.g., government, research and academia, NGO)

### Links' attributes of interest:

1) Nomination of actors the respondent is linked to that help it delivers its age-friendly actions.
    a. 12-month time frame
2) Types of relationship (based on the Network's missions):
    a. Inspire change
    b. Connect to exchange of information, knowledge, and experience
    c. Support to find appropriate innovative and evidence-based solutions
3) Strength of relationship with nominated actor (e.g., looking for info without communication, communicate with, share resources, joint work)

**Network survey questions:**



7. **The list below contains all the cities, communities, and organizations that are members of Age Friendly Ireland and/or WHO Global Network for Age-Friendly Cities and Communities, plus the WHO headquarters and regional offices. To the best of your knowledge, with which of these members did you engage in the last 12 months? (you will be able to add more collaborators after)**

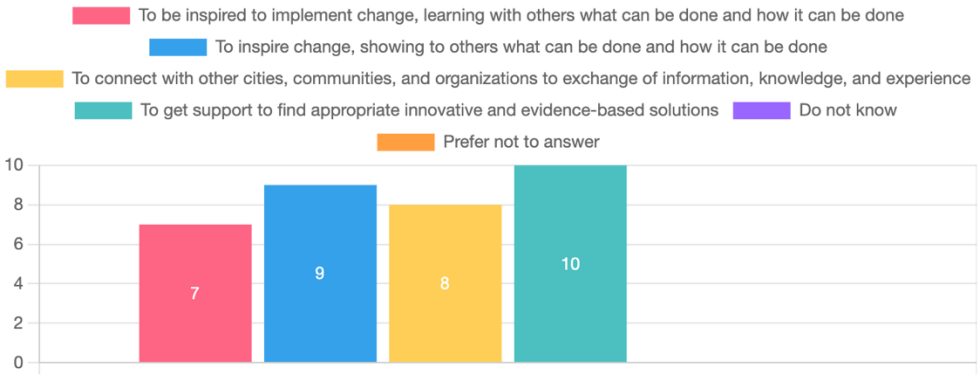
**Collaborator**

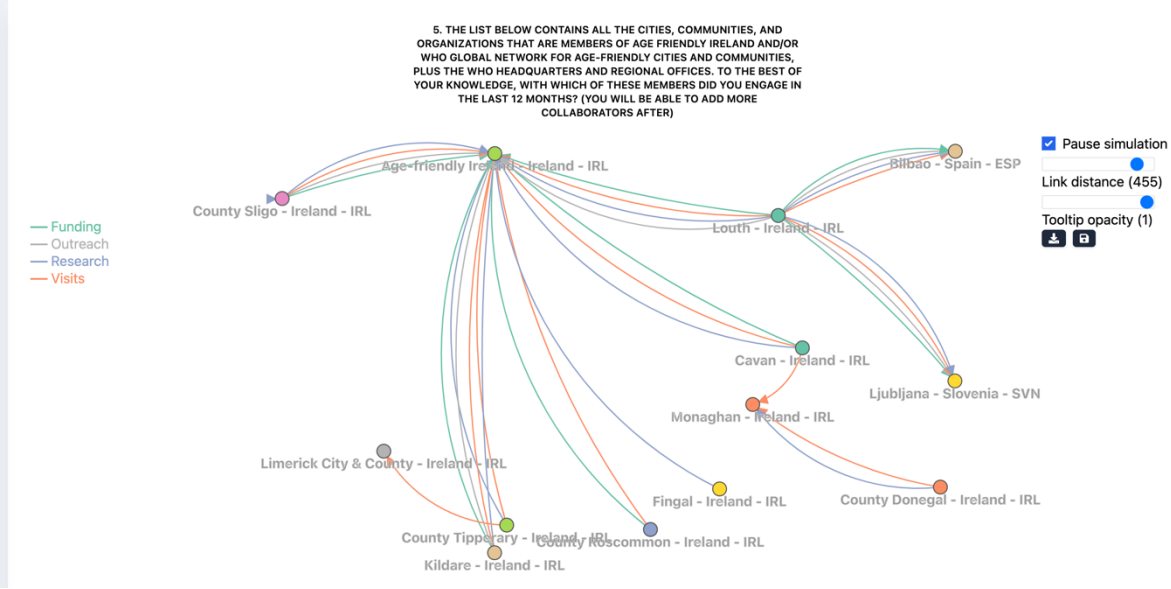
Start typing to see suggestions

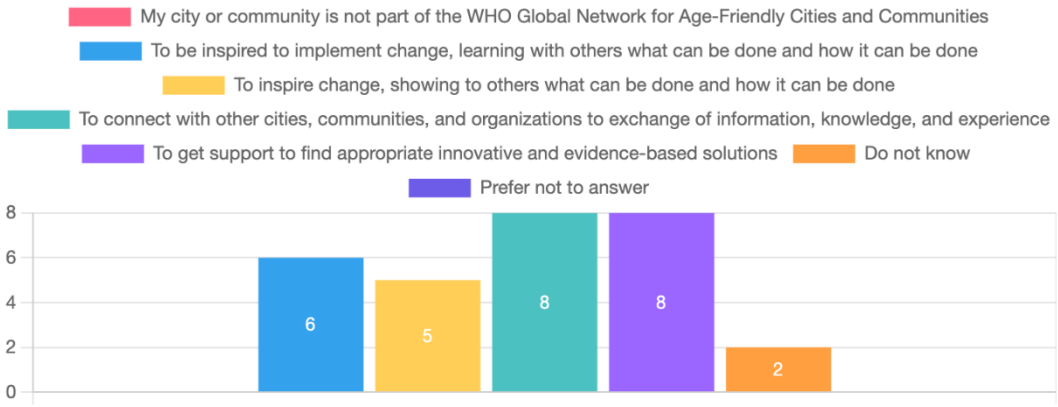
- AARP Network of Age-friendly Communities - United States of A...
- Abadino - Spain - ESP
- Abadiño - Spain - ESP
- Abanto Zierbena - Spain - ESP
- Acton - United States of America - USA
- Acushnet - United States of America - USA

☐ To get support and resources to implement appropriate innovative and evidence-based solutions

**1. WHAT ARE THE REASONS FOR BEING PART OF AGE FRIENDLY IRELAND FOR THE COUNTY THAT YOU REPRESENT? (SELECT ALL THAT APPLY)**






## Deploy network survey

1) For the global network, only Network members and affiliates will be invited to participate, and nominations only between them will be allowed.
    a. This survey will be deployed to all members and affiliates except those from the National Affiliate Programme, who will answer these questions in the national network survey.
2) For the national network, all network members of the country will be invited to participate, and nomination will not be restricted to network members.
    a. For the national network, only actors within the country of interest can be nominated.
        i. Actors who are not Network members but were nominated by Network members **will not** be invited to take part in the survey.
    b. As part of the global network mapping, Network members and affiliates will also be asked about relationships with other Network members and affiliates globally.
3) For the member network, seed actors will be invited to participate in the survey. The actors they nominate will be invited to participate too, as well as any new actors nominated by this second group.

a. Only actors within the geographical boundaries of the network can be nominated.

## Appendix C – Survey questionnaire from a worked example of a stakeholder network analysis conducted with the GNAFCC using the Stakeholder.Net (https://stakeholdernet.org/) tool

Q1. What county do you represent?
*Drop-down menu with all members of Age Friendly Ireland*

Q2. What is your name?
*Open field*

Q3. What is your job title and/or role?
*Open field*

Q4. What is your professional email address?
*Open field*

Q5. What are the reasons for being part of **Age Friendly Ireland** for the county that you represent? (select all that apply)
☐ To be inspired to implement change, learning with others what can be done and how it can be done
☐ To inspire change, showing to others what can be done and how it can be done
☐ To connect with other cities, communities, and organizations to exchange of information, knowledge, and experience
☐ To get support to find appropriate innovative and evidence-based solutions
☐ Do not know
☐ Prefer not to answer
☐ Other: *Open field*

Q6. What are the reasons for being part of the **WHO Global Network for Age-Friendly Cities and Communities** for the county that you represent? (select all that apply)
☐ To be inspired to implement change, learning with others what can be done and how it can be done
☐ To inspire change, showing to others what can be done and how it can be done
☐ To connect with other cities, communities, and organizations to exchange of information, knowledge, and experience
☐ To get support to find appropriate innovative and evidence-based solutions
☐ Do not know
☐ Prefer not to answer
☐ Other: *Open field*

Q7. The list below contains all the cities, communities, and organizations **that are members of Age Friendly Ireland** and/or **WHO Global Network for Age-Friendly Cities and Communities**, plus the **WHO headquarters and regional offices**. To the best of your knowledge, which of these members did you engage with in the last 12 months?
*Drop-down menu including all AFI members + GNAFCC Members and Affiliates beyond AFI + World Health Organization Headquarters and Regional Offices*

Q7.1. What were the **purposes** of each of these connections? (select all that apply in the last 12 months) *[asked individually for each collaboration reported in Q7]*

☐ To be inspired to implement change, learning with others what can be done and how it can be done

☐ To inspire change, showing to others what can be done and how it can be done

☐ To connect with other cities, communities, and organizations to exchange of information, knowledge, and experience

☐ To get support to find appropriate innovative and evidence-based solutions

☐ Do not know

☐ Prefer not to answer

☐ Other: *Open field*

Q7.2. What was the **level of engagement** with each of these connections? (select the highest level achieved in the last 12 months) *[asked individually for each collaboration reported in Q7]*

☐ Communication only (shared information but no other resources)

☐ Shared resources (e.g., infrastructure, staff, capacity building)

☐ Joint programming (worked closely together towards common goals)

☐ Do not know

☐ Prefer not to answer

Q8. Now, to the best of your knowledge, please list any other collaborators whom the Member you represent engaged with in the last 12 months. These could be any group, organization, city, or community within or outside your country/region. You will not need to detail the type and level of engagement of the relationships with the collaborators you list here.

*Open field*

Q9. What are the **main barriers to engage** with other cities, communities, and organizations **in Age Friendly Ireland**? (select all that apply)

☐ Lack of time

☐ Lack of human resources or technical capacity

☐ Lack of funding

☐ Leadership or governance structure that is not conducive to networking

☐ Failure to identify or engage with other members of the Network

☐ Lack of engagement or involvement of all parties

☐ Conflicting objectives

☐ Negative past experiences

☐ Do not know

☐ Prefer not to answer

☐ Other: *open field*

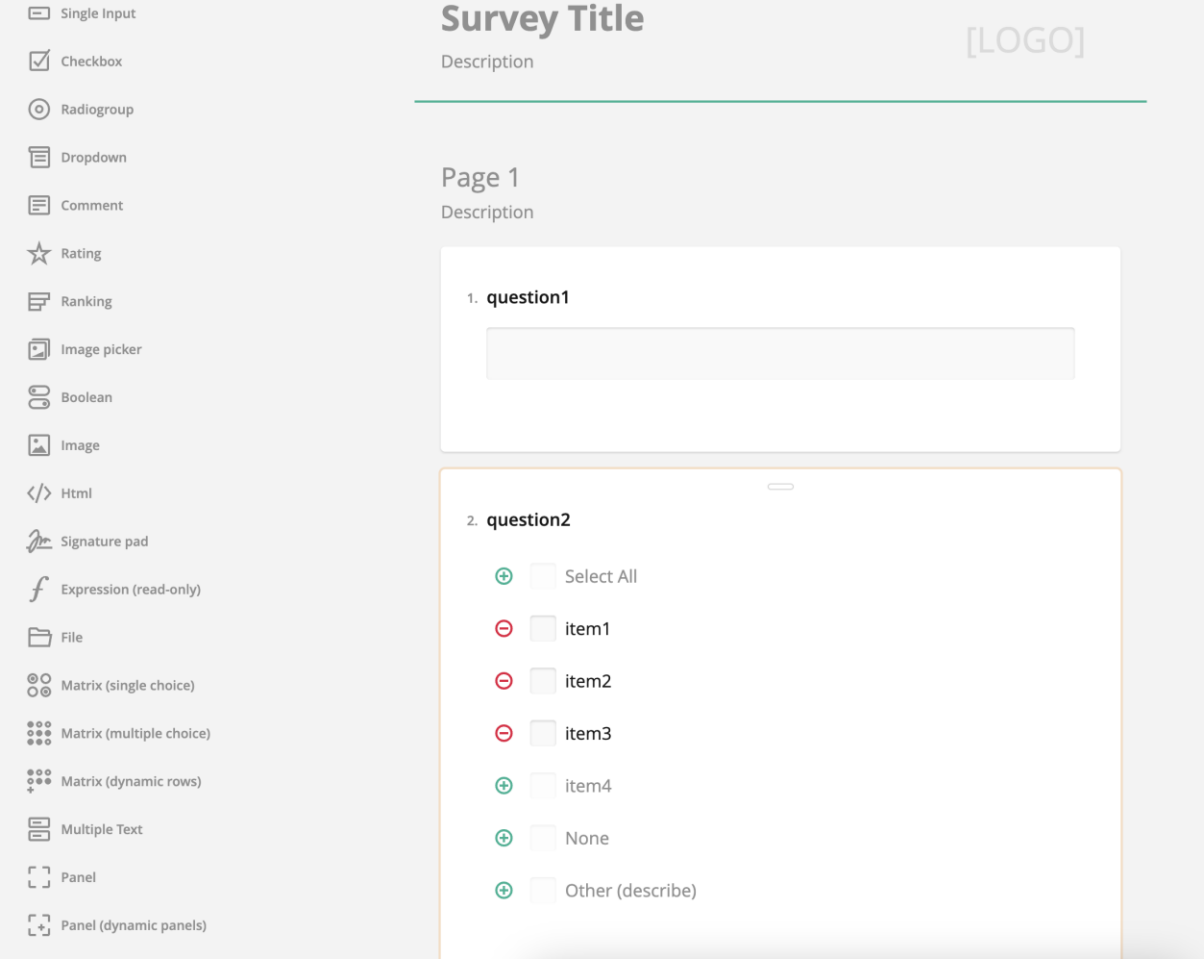
Q10. What are the **main barriers to engage** with other cities, communities, and organizations that are part of the **WHO Global Network for Age-Friendly Cities and Communities**? (select all that apply)

☐ Lack of time

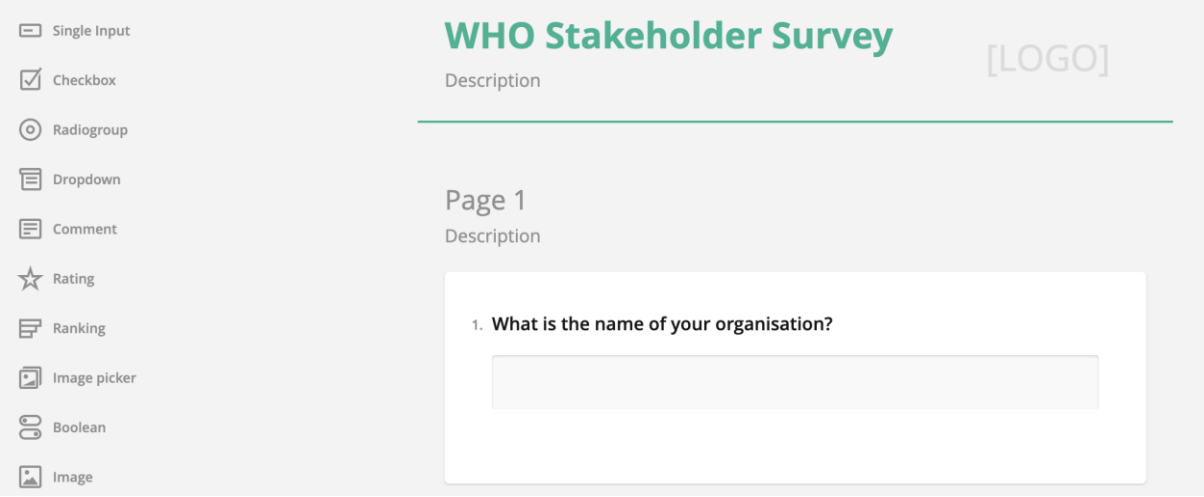
☐ Lack of human resources or technical capacity
☐ Lack of funding
☐ Leadership or governance structure that is not conducive to networking
☐ Failure to identify or engage with other members of the Network
☐ Lack of engagement or involvement of all parties
☐ Conflicting objectives
☐ Negative past experiences
☐ Do not know
☐ Prefer not to answer
☐ Other: *open field*

## Appendix D – Screenshots showing examples of building questions into a survey using the Stakeholder.Net (https://stakeholdernet.org/) tool

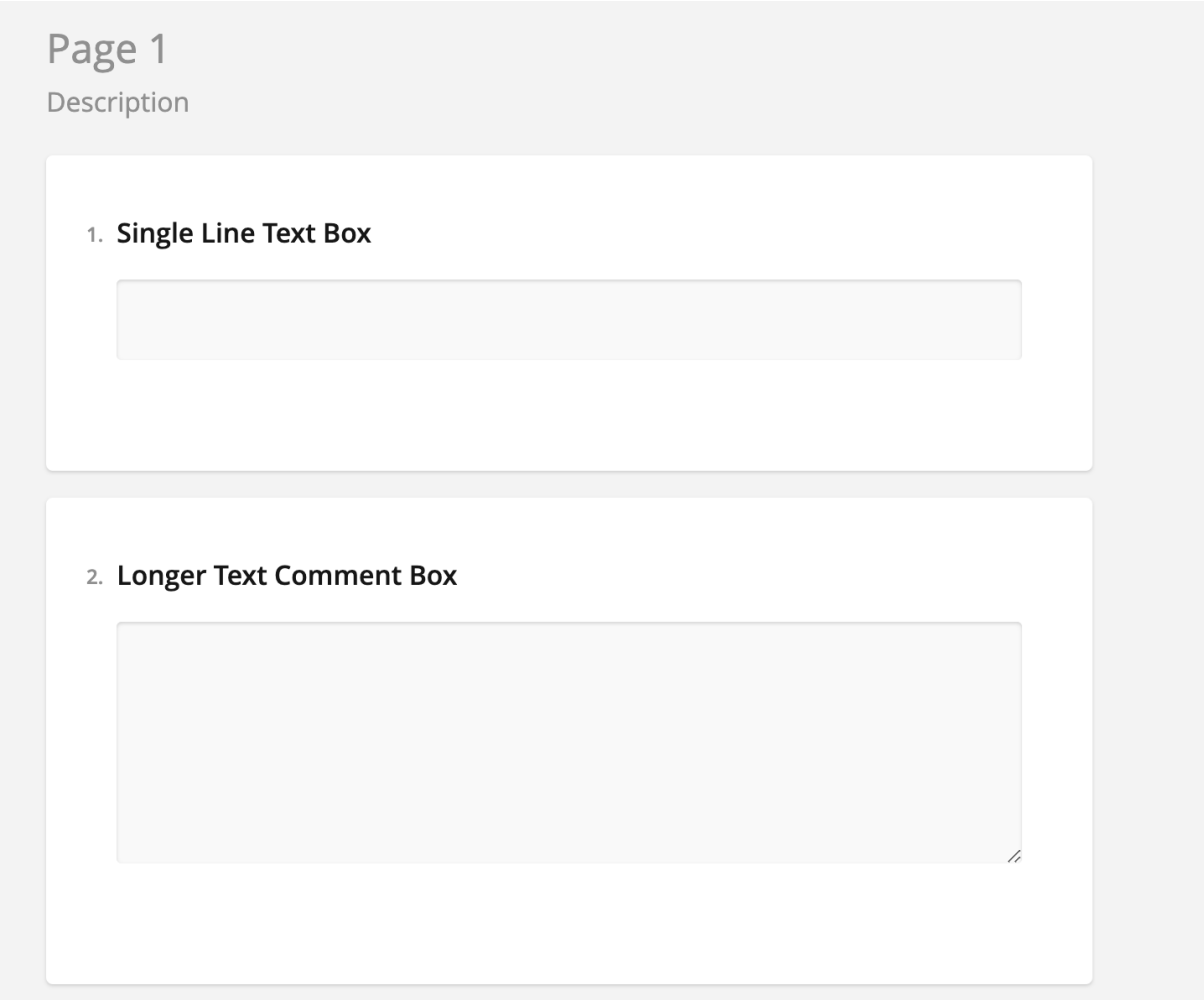
Sample questions in the build interface, prior to customisation are provided below.

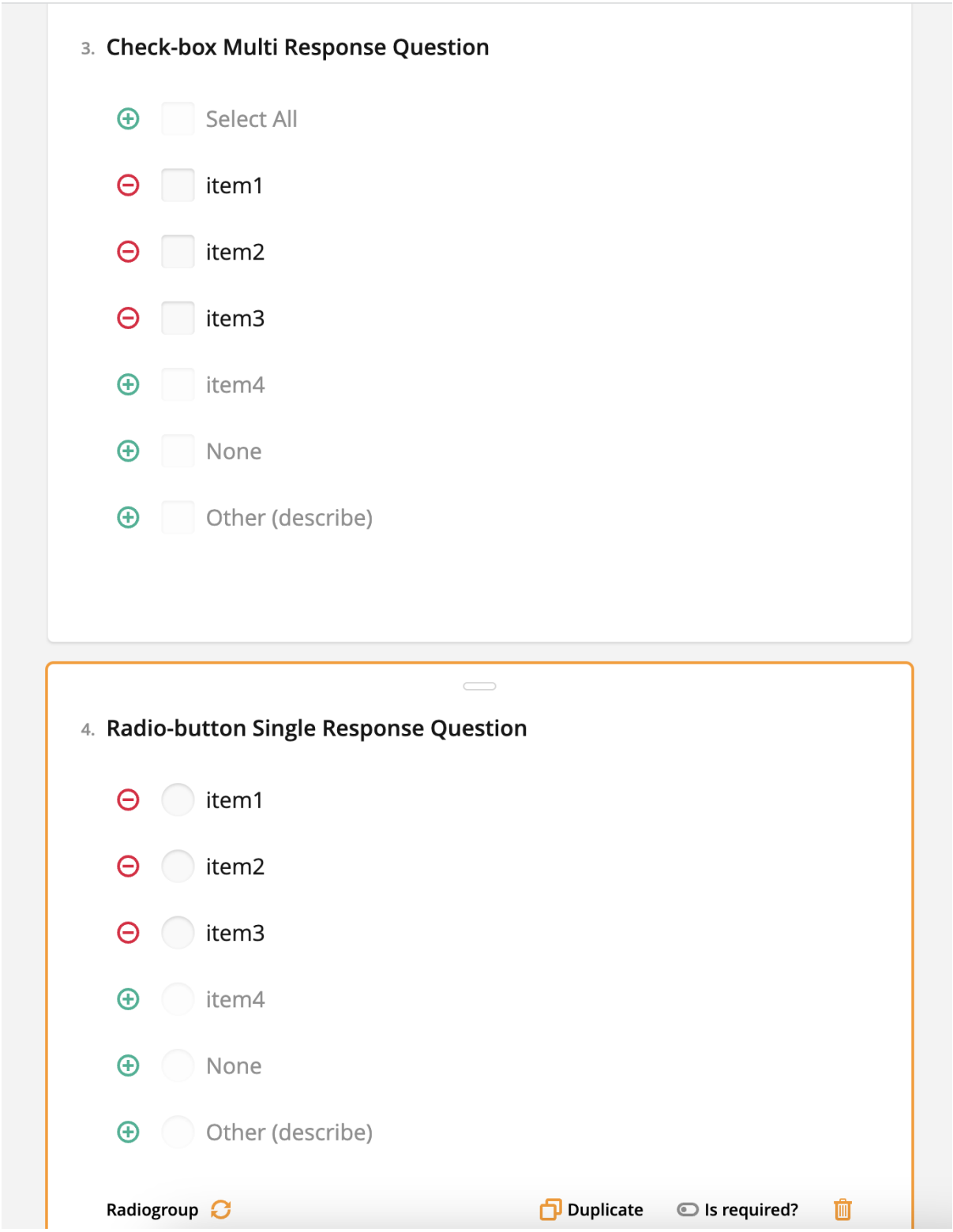


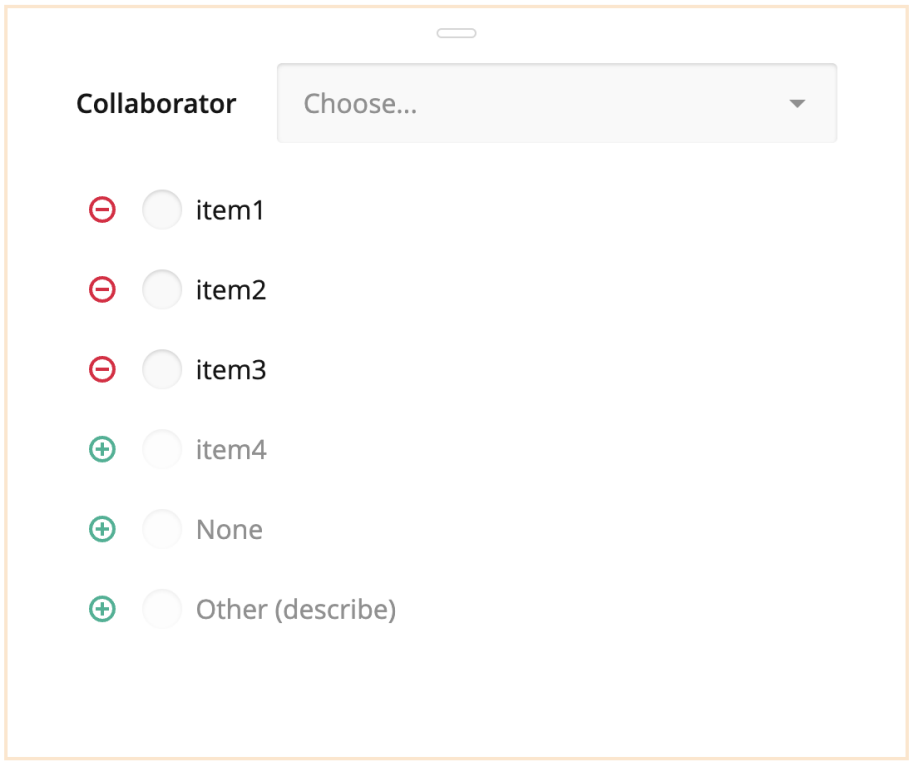
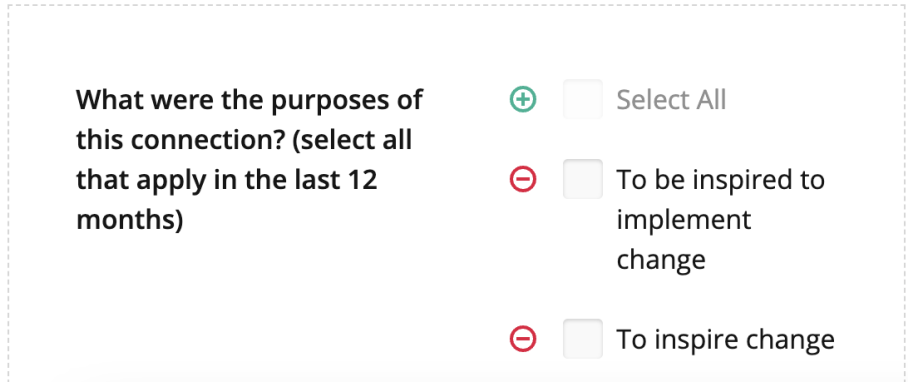
**Sample question in the build interface, after customisation**




**Examples of question types**






**Example Network Question**

6. **The list below contains all the cities, communities, and organizations that are part of the WHO Global Network for Age-Friendly Cities and Communities, plus the WHO headquarters and regional offices. To the best of your knowledge, which of these members did you engage with in the last 12 months?**