



UNIVERSITY OF
CALGARY

University of Calgary

PRISM: University of Calgary's Digital Repository

Science

Science Research & Publications

2019-10-05

Visualizing the 11th Classification of Diseases

Aseniero, Bon Adriel; Knudsen, Søren; Ghali, William A.;
Carpendale, Sheelagh

Aseniero, B.A., Knudsen, S., Ghali, W., Carpendale, S. (2019, October). Visualizing the 11th International Classification of Diseases. Paper presented at the WHO - Family of International Classifications Network Annual Meeting 2019, Banff, Canada.

<http://hdl.handle.net/1880/112376>

conference poster

<https://creativecommons.org/licenses/by-sa/4.0>

Unless otherwise indicated, this material is protected by copyright and has been made available with authorization from the copyright owner. You may use this material in any way that is permitted by the Copyright Act or through licensing that has been assigned to the document. For uses that are not allowable under copyright legislation or licensing, you are required to seek permission.

Downloaded from PRISM: <https://prism.ucalgary.ca>



Visualizing the 11th International Classification of Diseases

5-11 October 2019

Banff, Canada

Poster Number
329

Bon Adriel Aseniero, Dr. Søren Knudsen, Dr. William Ghali,
and Dr. Sheelagh Carpendale
University of Calgary, Alberta, Canada

Abstract We designed and implemented an interactive artistic data visualization of the 11th International Classification of Diseases (ICD-11). Our visualization primarily showcases the structure of the ICD-11, showing how the different codes fall into the main disease categories (chapters) and subcategories. This is our preliminary approach in the design and study of artistic visualizations for exploring the ICD-11, as well as aid in its awareness campaign.

The Visualization

Data visualization, or the use of interactive, visual representation of data has been shown to help people explore and understand data. Hence, we developed a visualization for browsing and exploring the ICD-11.

We designed a visualization similar to *tree visualizations* which shows the hierarchy of ICD-11 codes into categorical groupings and subgroupings. Each category is shown as a circle, and its subcategories as smaller circles within it. The size of the circles corresponds to the amount of codes the category has.

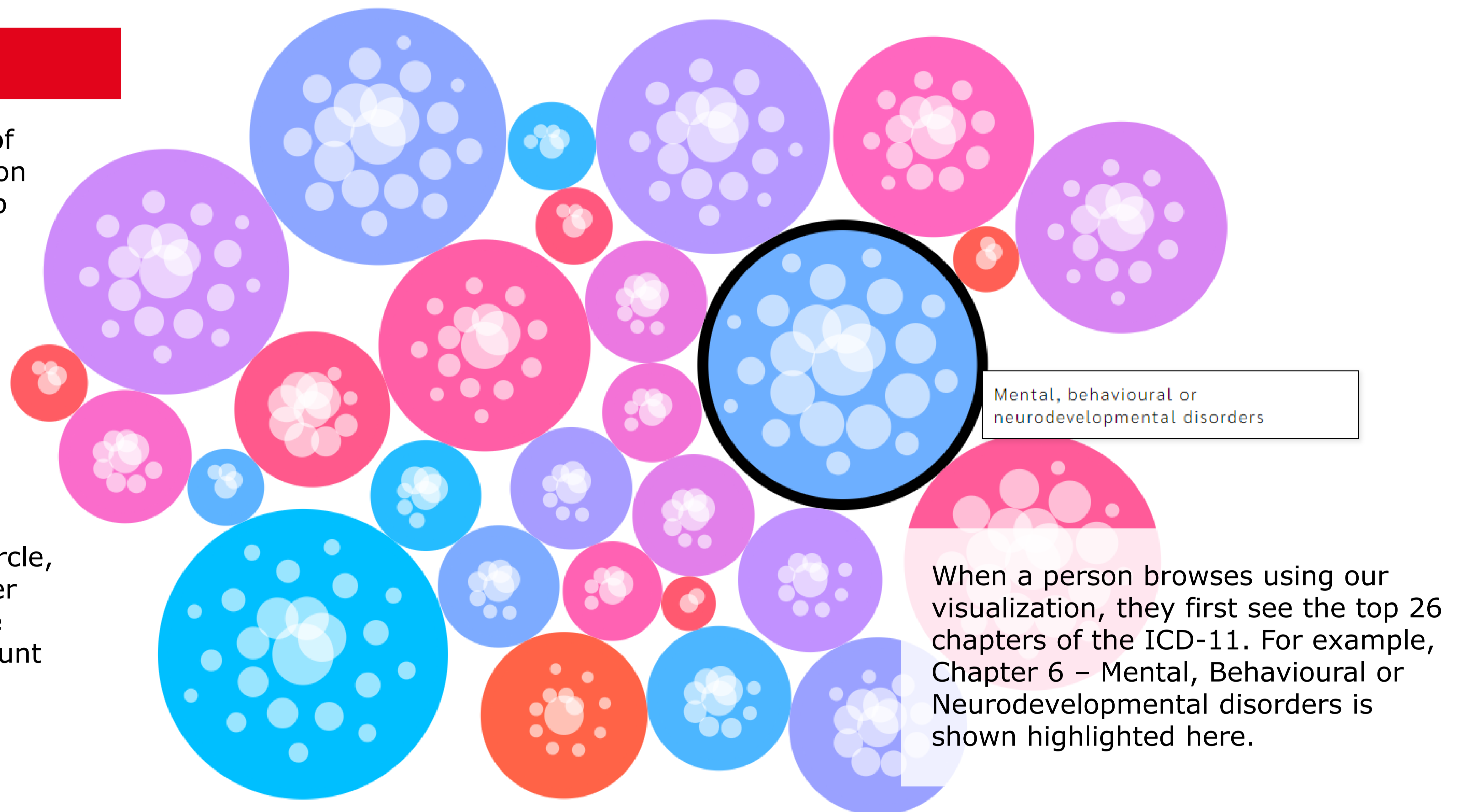
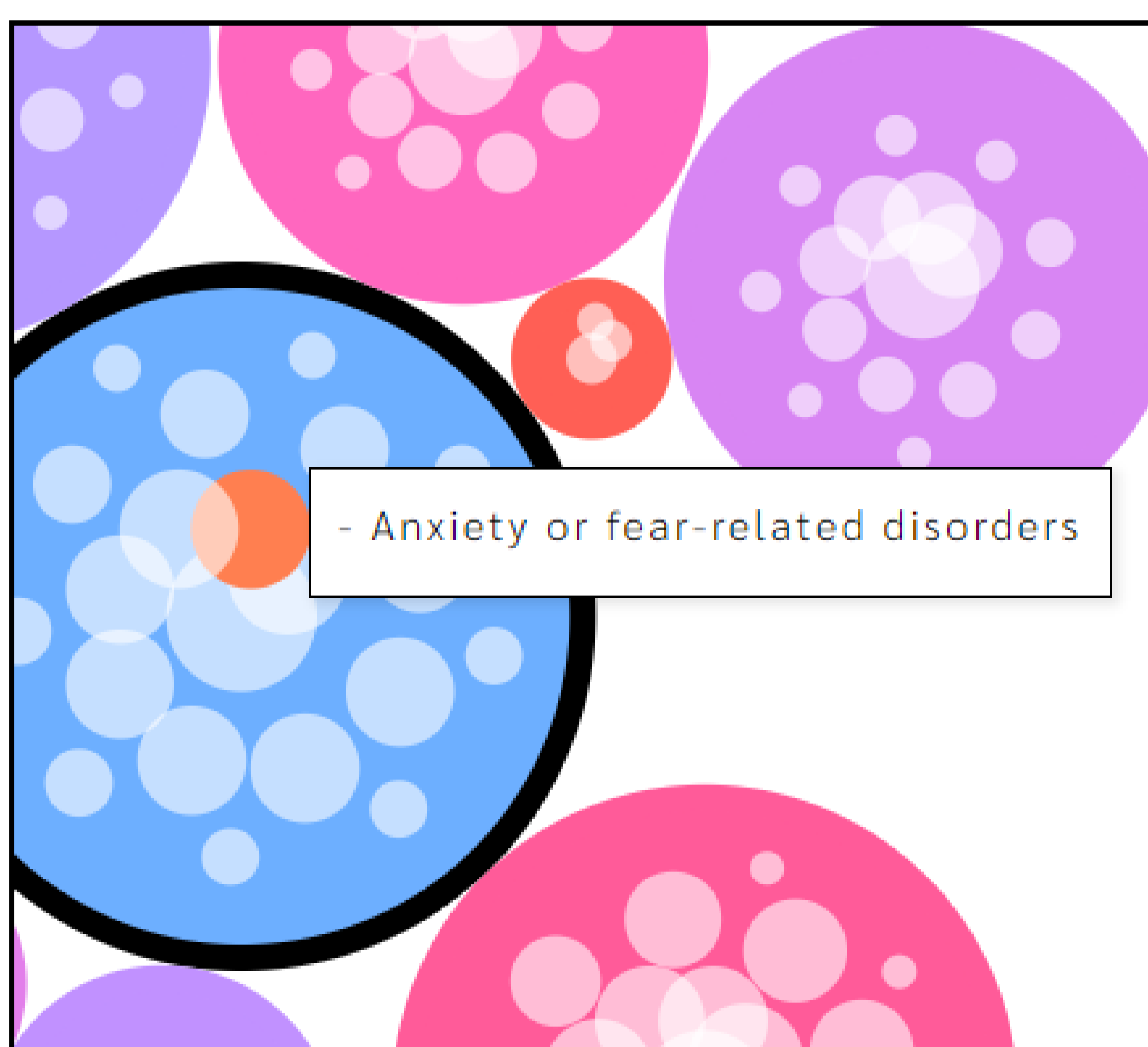
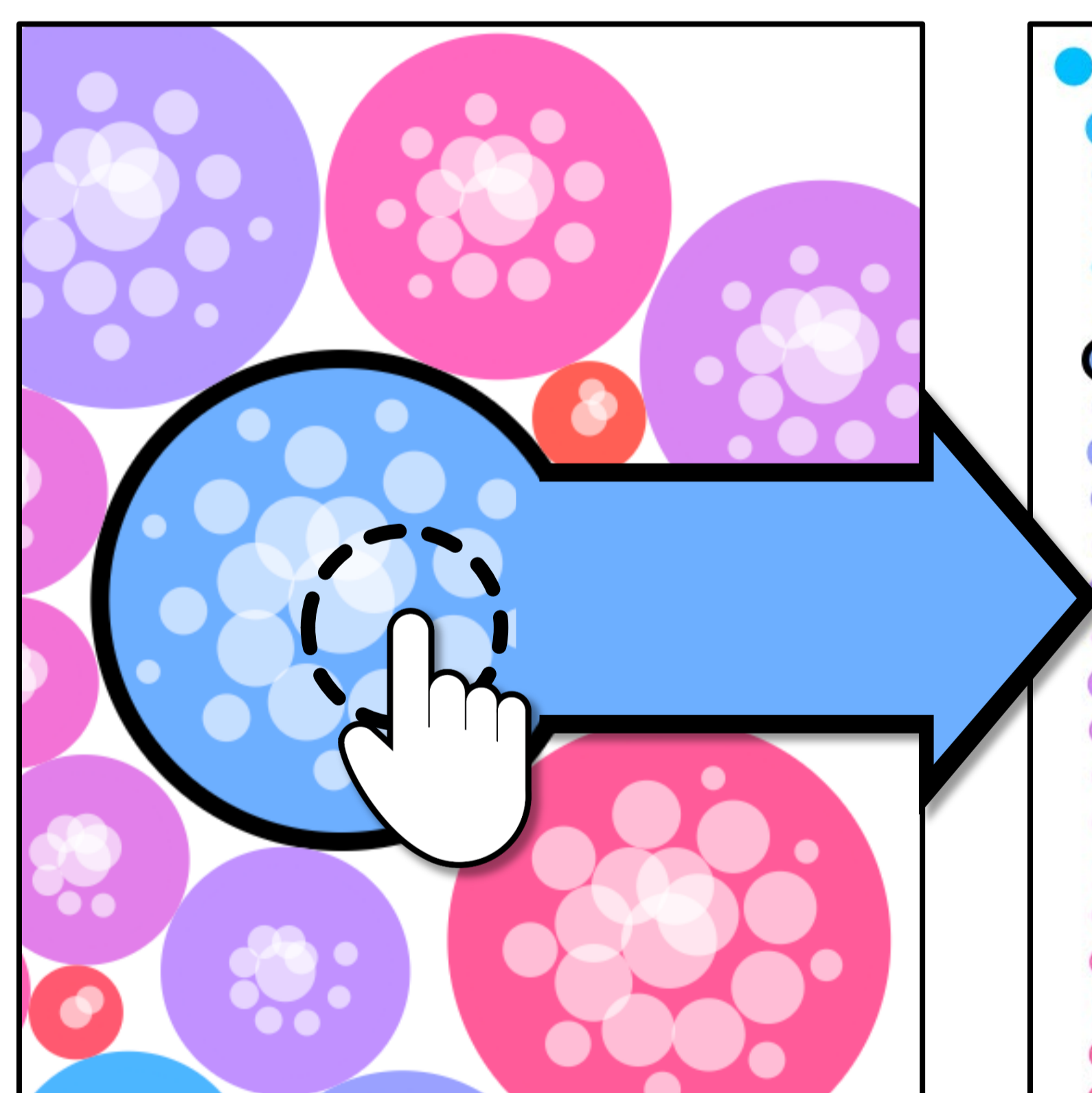


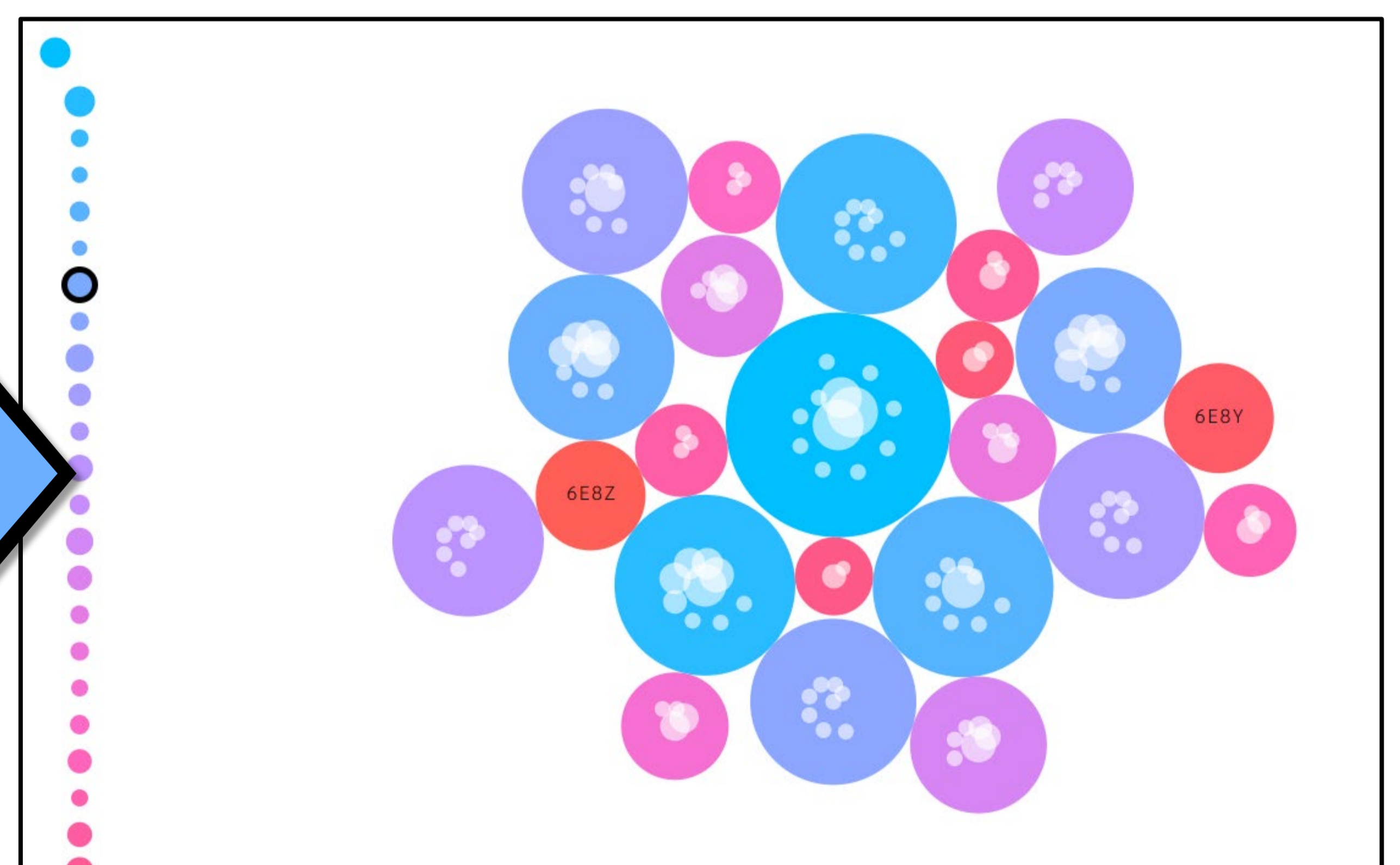
Figure 1. The 26 chapters, supplementary and extension codes of the ICD-11.



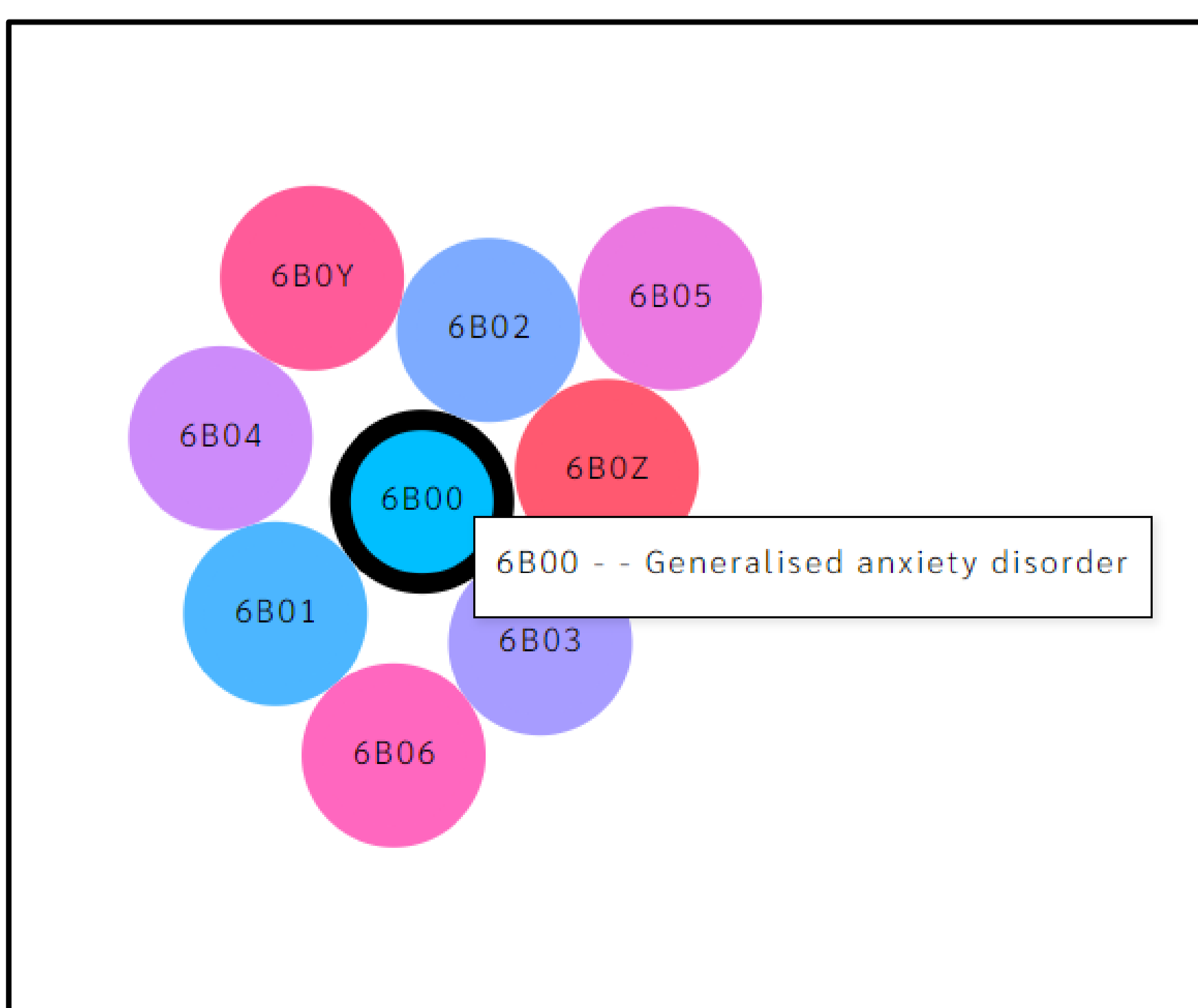
You can preview the subcategories of a group by hovering over the smaller circles in it.



You can explore the contents of a group by clicking on it.



As you go deeper into the hierarchy, the groups on the upper layers get visualized on the side. The current group is marked with a black border.



The individual codes in a group are labelled with their code and cannot be clicked further.

Future Work

This project is a work-in-progress and we are thinking of ways of how to improve it. First, we would like to explore linking it with another data sources (e.g., the Global Burden of Disease Study) to show how the ICD-11 relates to them. For example, rather than having the size of the circles show the amount of codes in a disease group, it can visualize the prevalence of that group within a population instead.

Next, we want to develop story-telling techniques and incorporate them into the visualization to help people understand what the ICD-11 is all about.

Acknowledgements

This work was supported in part by the following organizations:

1. The University of Calgary
2. The Interactions Lab, Innovis Group
3. The Natural Sciences and Engineering Research Council of Canada (NSERC)
4. Alberta Innovates Technology Futures (AITF)
5. The European Union
6. The Ward of the 21st Century