II. The dependent and independent variables

In a series of dialogues, the research team identified sets of variables representing specific constructs by processing: previous research (our own and others', collated in a literature review); theoretical aspects of the implementation of innovations and evidence-based practice, and understanding of NQRs at the macro, meso and micro levels. We eventually arrived at five indexes and seven single items.

- Firstly, the dependent variable was created, representing **Respondent's depiction of their stroke unit's use of registry data**. This includes items 39-45 (from section F in the survey), hence the following follow-up items to the opening line "In my department, we…":
    - use the registry indicators in our activity plan;
    - perform own analyses of our data in the registry;
    - use registry data to identify issues where there is a need to change;
    - carry out the improvements which we have deemed necessary based on our results in the registry;
    - regularly present our results in the registry to members of staff;
    - use registry data to compare our results to similar organisations, and
    - use registry data when introducing new clinical methods and procedures.

All items in the index use a Likert scale approach for responses, with five alternatives ranging from Strongly Disagree to Strongly Agree. The categorization of response alternatives was non-agreement vs. agreement, with a cut-off at "Agree".

Secondly, the indexes of independent variables convey:

- **Data Quality and Usefulness,** includes items 9-13 (section C), i.e., follow-up items to the opening line "Data from the registry…": are of high quality; capture the essential aspects

of quality of care; are a useful tool for identifying improvement areas; enable reliable internal comparisons over time, and enable reliable external comparisons with other organisations registering in Riksstroke. Again, the categorization of response alternatives was non-agreement vs. agreement, with a cut-off at "Agree".

- **Support from Outer Setting** includes follow-up items 25-27 (from section D) to the opening line "I get the support I ask for from…": support functions at the hospital; the county council (equivalent to region), and a regional registry centre. The categorization of response alternatives was non-agreement vs. agreement, with a cut-off at "Agree".
- **Resources** consists of item 7 from section B: "I believe the care of our stroke patients has sufficient resources to maintain a high quality", and items 14-16 from section D, following the opening line "We have sufficient resources (for example, allocated time and competence) to…": enter complete mandatory data in the registry; analyse outdata from the registry, and perform improvement work based on registry data. Yet again, the categorization of response alternatives was non-agreement vs. agreement, with a cut-off at "Agree".
- **Management Request for Registry Data** includes item 17, "My manager (the manager I report to) calls for data from the registry", and items 47-49, all follow-ups to an opening line from section D, "Our results in Riksstroke are called for by": department managers; the hospital board of directors, and the county council board (equivalent to region). An identical categorization of response alternatives as above was made, that is to say non-agreement vs. agreement, with a cut-off at "Agree".
- **Management Involvement in Registry-based Quality Improvement** originates from section D (items 18 and 19) and its follow-up items, 18 and 19, to "My manager …": "supports improvement work initiated by others based on registry data", and "initiates

improvement work based on registry data". Once again, categorization of response alternatives was non-agreement vs. agreement, with a cut-off at "Agree".

Thirdly, a number of single items were included as independent variables:

- Item 8, "I consider our results in Riksstroke to be…". This item was accompanied by an alternative Likert scale ranging from "Very Poor" to" Very Good". The categorization of response alternatives was "Poor" versus "Good", with a cut-off at "Rather Good".
- Item 24, "I get the support I ask for from my own department."
- Item 28, "I get the support I ask for from the registry organisation."
- Item 29, "It is simple to retrieve registry data."
- Item 30, "It is simple to explain our department's results to colleagues and managers."
- Item 31, "I am motivated to improve the stroke care we provide as a result of our results in the registry."
- Item 46, "Our results in Riksstroke are called for by the department's members of staff."

The six latter single items applied the same Likert scale approach for responses as described above, that is, with five alternatives ranging from "Strongly Disagree" to "Strongly Agree". Thus, the categorization of response alternatives was non-agreement vs. agreement, with a cut-off at "Agree".