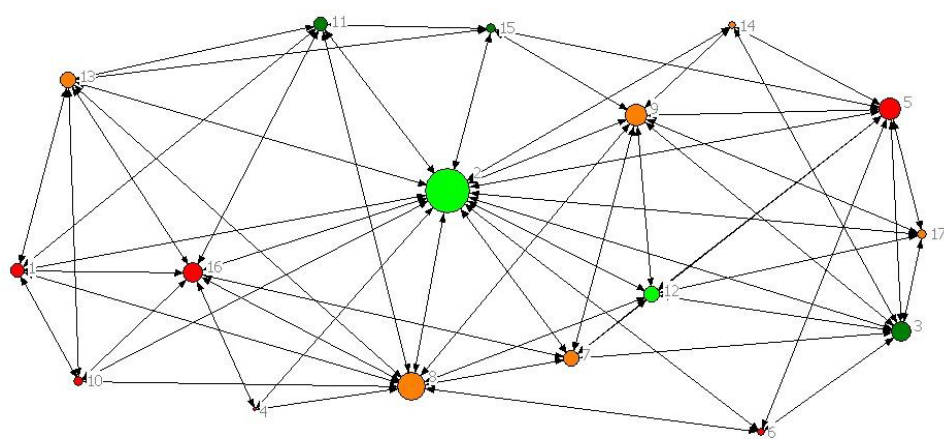


**Supplemental Digital Figure 1: Example of Social Network of 17 Clinical Supervisors in a Medium-Sized Pediatrics Department in the Netherlands**



Each circle represents a clinical supervisor. The size of the circle represents the centrality of the supervisor in the pediatrics department. The lines represent communication between clinical supervisors about new developments on at least a monthly basis. The color of the circle shows the adoption pattern of the educational innovation, constructive and structured feedback (as reflected in residents' assessments of their clinical supervisors): Red represents the first quartile of the resident assessed innovation adoption pattern (score 1.90 to < 3.80), orange represents the second quartile (3.80 to < 4.10), dark green represents the third quartile (4.10 to < 4.40), and light green represents the fourth quartile (4.40 to 5.00).

## Supplemental Digital Appendix 1: Items in the Web-based Questionnaire for Residents

Resident Questionnaire Implementation Educational Innovations in the Netherlands						
0% <input type="text"/> 100%						
Constructive and structured feedback Please rate the following statements						
* The clinical supervisor provides feedback in a structured way						
	Totally disagree				Totally agree	Not possible to assess
Clinical supervisor 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Clinical supervisor 2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Clinical supervisor 3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Clinical supervisor 4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Clinical supervisor N	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*The clinical supervisor gives residents the opportunity to express their opinion						
	Totally disagree				Totally agree	Not possible to assess
Clinical supervisor 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Clinical supervisor 2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Clinical supervisor 3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Clinical supervisor 4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Clinical supervisor N	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
* The clinical supervisor provides the residents with positive comments						
	Totally disagree				Totally agree	Not possible to assess
Clinical supervisor 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Clinical supervisor 2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Clinical supervisor 3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Clinical supervisor 4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Clinical supervisor N	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
* The clinical supervisor provides residents with specific comments for improvement						
	Totally disagree				Totally agree	Not possible to assess
Clinical supervisor 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Clinical supervisor 2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Clinical supervisor 3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Clinical supervisor 4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Clinical supervisor N	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*The clinical supervisor provides feedback in a "safe" way						
	Totally disagree				Totally agree	Not possible to assess
Clinical supervisor 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Clinical supervisor 2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Clinical supervisor 3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Clinical supervisor 4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Clinical supervisor N	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



## Supplemental Digital Appendix 2: Items in the Web-Based Questionnaire for Clinical Supervisors

Clinical Supervisor Questionnaire Implementation Educational Innovations in the Netherlands						
0% <input type="text"/> 100%						
General						
*Please select your gender						
<div>Male</div> <div>Female</div> <div>Answer: <input type="radio"/> <input type="radio"/></div>						
*Please provide your age						
<input type="text"/> In dit veld kunnen alleen cijfers worden ingevoerd						
*Please rate the following statement: Structured feedback constitutes an improvement of the quality of the clinical teaching of residents						
<div>Totally disagree</div> <div>Totally agree</div> <div>Not possible to assess</div> <div>Answer: <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/></div>						
Constructive and structured feedback Please rate the following statements						
*I provide feedback in a structured way						
<div>Totally disagree</div> <div>Totally agree</div> <div>Not possible to assess</div> <div>Answer: <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/></div>						
*I give residents the opportunity to express their opinion						
<div>Totally disagree</div> <div>Totally agree</div> <div>Not possible to assess</div> <div>Answer: <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/></div>						
*I provide residents with positive comments						
<div>Totally disagree</div> <div>Totally agree</div> <div>Not possible to assess</div> <div>Answer: <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/></div>						
*I provide residents with specific comments for improvement						
<div>Totally disagree</div> <div>Totally agree</div> <div>Not possible to assess</div> <div>Answer: <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/></div>						
*I provide feedback in a "safe" way						
<div>Totally disagree</div> <div>Totally agree</div> <div>Not possible to assess</div> <div>Answer: <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/></div>						
Teach-the-Teacher training course						
*In the past three years, did you attend and complete a 2-day accredited Teach-the-Teacher course?						
<div>Yes</div> <div>No</div> <div>Answer: <input type="radio"/> <input type="radio"/></div>						
Communication with fellow clinical supervisors						
*How often do you communicate with your fellow clinical supervisors in the past half year about the introduction of innovations, new methods or procedures, or new developments related to the work situation?						
	Never	Less than once a month	More than once a month	Weekly	Daily	More than once daily
Answer for fellow supervisor 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Answer for fellow supervisor 2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Answer for fellow supervisor 3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Answer for fellow supervisor 4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Answer for fellow supervisor N	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



### **Supplemental Digital Appendix 3: Expanded Description of Method for Network Analysis and Calculation of Clinical Supervisor Centrality**

Responding clinical supervisors' answers to the item asking them to indicate the frequency with which they communicated with other clinical supervisors in their department resulted in a directed valued matrix. "Directed" means that the tie of one person to another has a direction. Each responding clinical supervisor entered a communication intensity score for each of their fellow clinical supervisors. The answers for clinical supervisor  $i$  to clinical supervisor  $j$  may not be the same as the answers for clinical supervisor  $j$  to  $i$ . "Valued" means that the tie, or connection between the supervisors, can range between "never" (score 1), "less than once a month" (score 2), "more than once a month" (score 3), "weekly" (score 4), "daily" (score 5), and "more than once daily" (score 6). In order to compute centrality, the data needed to be transformed into an undirected dichotomous matrix. We used the maximum symmetrizing method to convert the directed matrix into an undirected one and to correct for missing network data. This meant that the highest rating of communication intensity between two persons was used or, in the case of missing network data, the rating from one person. To dichotomize the undirected valued matrix (ranging from 1 to 6), we recoded the scores as follows. The values 1 and 2 were recoded into 0, which means there is no communication. The values 3, 4, 5 and 6 were recoded into 1, which means there is a communication relationship between clinical supervisors. We chose this cut-off point because even weakly connected social networks (beginning with score 3) produce considerable effects. For each clinical supervisor, degree centrality was computed as  $x_{i+} = \sum_j x_{ij} = \sum_j x_{ji}$  where  $x_{ij}$  is the direct contact from clinical supervisor  $i$  to clinical supervisor  $j$ .<sup>6</sup>