**Supplementary material**

Here we provide some further details for the network construction algorithm.

* Number of households receiving care, ;
* Number of full-time () and part-time (), giving nodes in the network;
* Distribution of the number of visits a household or client receives/needs , which then translates to numbers drawn from this distribution, i.e. , where ;
* Number of visits by full-time care workers is and it is for part-time care workers;
* We now allocate a proportion of all household stubs to full-time care workers and the remaining ones to part-time care workers. At this point the stubs are not yet allocated to care workers.
* The number of visits made by care workers is now allocated based on , with a similar formula for the part-time care workers. This means that some care workers will have or so stubs compared to or . But such differences are minimised by a careful choice of the number of care workers of different type;
* Create a list/array by placing copies/labels of HH in a list as many times as their number of visits requires;
* Do the same for full-time and part-time CW in a different list;
* Pick elements at random from both lists and connect them up;
* This will produce a network where most links have only been realised once, with some duplicate links occurring;
* This is then refined to allow multiple links between the same household and CW leading to weighted edges. This is done as follows. Once a HH and a CW is connected, the algorithm looks for any of stubs belonging to the same HH and CW and connects them with probability .