



Figure 2.10: Small portion of a computers-people graph for a 4-week period. Computers are marked by black dots and are shown in their actual location on the 4th floor of the UIHC. Healthcare workers are shown as white dots and the edges connect healthcare workers to the computers they have logged into during the 4-week time window.

computers-people graph are vaccinated first and show that this policy also performs much better than the policy that picks healthcare workers uniformly at random.

2.3 Analysis of HCW Contact Networks

One of the premises of contact network epidemiology is that individual contact patterns can be quite diverse and this diversity substantially affects the spread of infectious diseases. In their seminal paper, Watts and Strogatz [109] point out that “real world” networks such as movie collaboration networks or the power grid network in the Western United States have structural characteristics that are quite different from those possessed by the well-known Erdős-Renyi random graph model [35]. The Erdős-Renyi random graph model, denoted $G(n, p)$, is an n -vertex graph in which each pair of vertices u and v are independently connected by an edge with probability