

	Contact Network Generation Parameters	Possible Values
$d =$	maximum hop-distance between pairs of login locations	0, 1, 2, 3, 5
$t =$	maximum time (in minutes) between pairs of logins	0, 5, 10, 15, 30
$T =$	a 4-week time window completely within the period 9-1-06 and 6-1-08	000, 001, 002, \dots , 089 000 starts on 2006-09-01, 001 starts on 2006-09-08, etc.

Figure 2.7: The different parameters and their possible values that we use for generating healthcare worker contact networks. With 5 values for d , 5 for t , and 90 for T , all independently chosen, we obtain over 2,250 different healthcare contact networks.

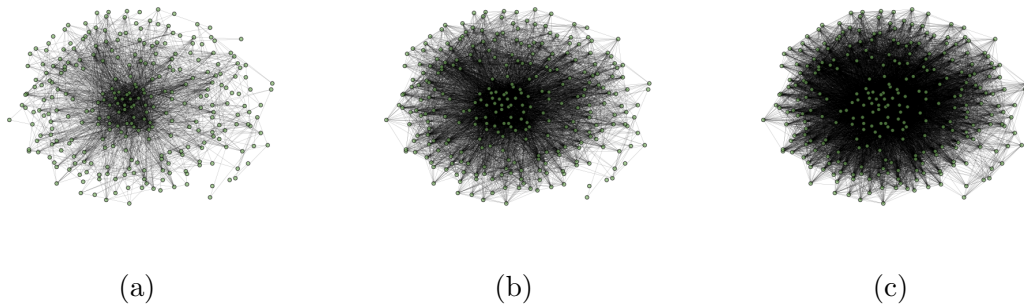


Figure 2.8: Small section of HCW contact networks generated based on EMR login data using different definitions of a contact. (a) Contact graph generated with $d = 1, t = 0$. (b) Contact graph generated with $d = 3, t = 15$. (c) Contact graph generated with $d = 5, t = 30$.

2.1.3 HCW contact networks: discussion

The high resolution of our EMR login data allows us to extract from it encounters between pairs of healthcare workers who have “weak ties.” This might include pairs of healthcare workers who work together only occasionally, e.g., to deal with an unusual patient. Contacts between such pairs of healthcare workers could not have been easily predicted by static, coarse-grained data, e.g., department affiliations or job types. “Weak ties” influence the structure of contact networks in critical