

Abstract Submitted
for the MAR08 Meeting of
The American Physical Society

Sorting Category: 12.7.7 (C)

The Human Phenotypic Disease Network CESAR HIDALGO, Center for Complex Network Research, Dept of Physics, University of Notre Dame, NICHOLAS BLUMM, Center for Network Science, Dept of Computer Science, Northeastern University, ALBERT-LASZLO BARABASI, Center for Network Science, Dept of Physics, Biology and Computer Science, Northeastern University, NICHOLAS CHRISTAKIS, Dept of Health Care Policy, Harvard Medical School — We study the evolution of patient illness using a network summarizing the disease associations extracted from 32 million Medicare claims recorded from 13 million elders using the ICD9-CM format. We find that the evolution of patients' illness is accurately described by a process in which once a patient develops a particular disease, subsequent disease are seen to occur among diseases lying close by in the network. In addition, we find that patients affected with diseases with high network connectivity are more likely to die during a follow-up period of eight years.

Prefer Oral Session

Prefer Poster Session

Center for Complex Network Research, Dept of Physics, University of Notre D

Cesar Hid
chidalgo@nd

Date submitted: 05 Dec 2007

Electronic form version 1.4