

NISK

n=763,891

diagnosis filtering
- injury, regular
check excluded
(ICD-10)

DAG based
diagnosis
trajectory
modeling*

No. trajectory=405
1st diagnosis &
end-stage analysis
(Fig4)

Paired edge analysis in
network (Fig 5-6), Edge=5869
- disease-to-disease pair
- disease-to-death pair

Mortality associated edge
analysis (Fig 8)
- disease-to-death pair
- cancer diagnosis analysis

USSID

n=1,488,551

diagnosis filtering
- injury, regular
check excluded
(ICD-9-CM)

DAG based
diagnosis
trajectory
modeling*

No. trajectory=300
1st diagnosis &
end-stage analysis
(Fig 4)

Paired edge analysis in
network (Fig 5,6), Edge=460
- disease-to-disease pair
- disease-to-death pair

Mortality associated edge
analysis (Fig 7)
- disease-to-death pair
- cardiac disease analysis

Supplemental figure 4. Analysis overview

*Directed Acyclic Graph modeling, details are presented in Figure 3