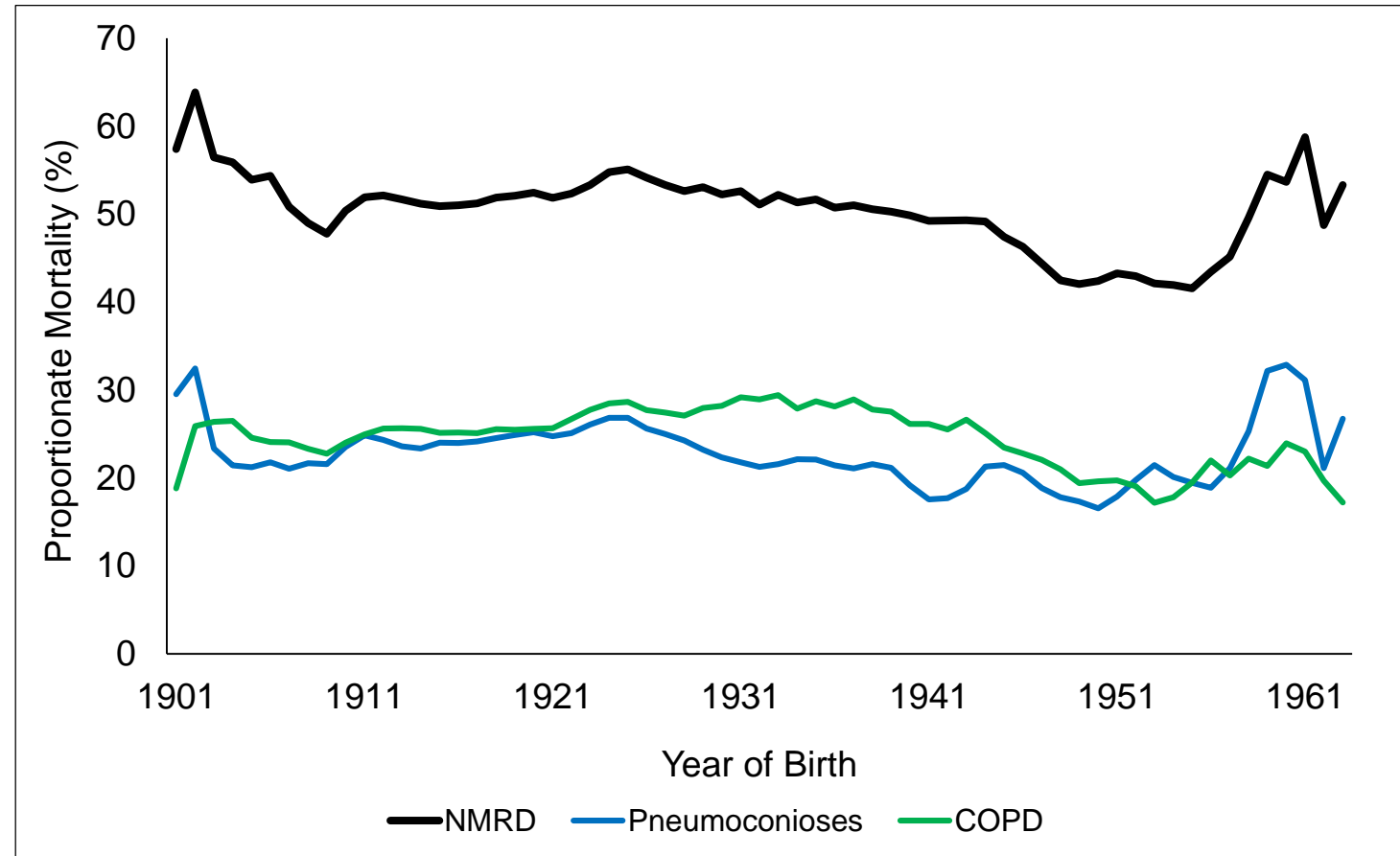


# Trends in mortality patterns among U.S. coal miners filing for Federal Black Lung Program benefits, 1970 to 2016

- 34,771 deceased U.S. coal miners
- Proportional mortality across successive birth cohorts:
  - Increased for non-malignant respiratory diseases (NMRD), specifically COPD and the pneumoconioses, with highest proportions observed in miners born after 1940
  - Increased for lung cancer among older miners in the most recent birth cohort (1940 onward) compared to miners of the same age in previous cohorts
  - Decreased for ischemic heart disease (IHD)



**Figure 1.** Proportionate mortality from selected underlying or contributing causes of death among miners participating in the Federal Black Lung Program and the Coal Workers' Health Surveillance Program by year of birth. Proportions reflect a three-year moving average.