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Good Practices in Social Security

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Italian disabled workers' survival: Life tables for sub-groups

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Summary

Over recent years, the constant evolution of mortality has made it necessary, for insurance and social security institutions, to monitor constantly these developments.

Our study focuses on disabled people, specifically workers insured by the National Institute of Employment Accident Insurance (Istituto Nazionale per l'Assicurazione contro gli Infortuni sul Lavoro – *INAIL), who suffered an accident at work or contracted an occupational disease and receive a life annuity.*

The results show that, in recent decades, there was a general improvement of disabled's life expectancy for the Italian population, but this improvement is not uniform across all groups of disability.

The variables that most affect mortality for those with disabilities are duration (years from starting date of annuity to valuation date), severity of impairment (class of degree) and type of event (accident or occupational disease). In the case of longer duration, because of the stabilization of the event's after-effects, mortality of disabled is globally similar to that of the Italian population, other studied variables influence only slightly the level of mortality.

For shorter duration periods, there's a substantial difference between life expectancy of those with workplace injuries and those with occupational diseases: for low-mid impairment, an injured survives about ten years more than a diseased, for high impairment the difference is over twenty years.

The issue or challenge

What was the issue or challenge addressed by your good practice? Please provide a short description.

Over the last years, Italian labour market has quickly changed due to an ageing population, technological innovations and the appearance of new professions.

For example, regarding occupational diseases, new illnesses (i.e. musculoskeletal diseases) arose and there has been a development of the incidence of severe diseases related to asbestos. Although in Italy since 1992 asbestos has been banned, this type of disease, in fact, has a long latency period.

In this evolving context, how can INAIL manage "longevity risk"? Are survival rates always increasing? What are the variables that affect the most the level of mortality?

Addressing the challenge

What were the main objectives of the plan or strategy to resolve the issue or challenge? List and briefly describe the main elements of the plan or strategy, focusing especially on their innovative feature(s) and expected or intended effects.

INAIL pays social security benefits to employees involved in an accident at work and, in case of death, to their survivors. For actuarial valuations (pricing, reserving), INAIL uses specific coefficients; the Statistical Department has recently carried out a study focused on monitoring mortality (i.e. the demographic hypothesis for such coefficients) among INAIL annuitants.

The work aims to summarise the new life tables constructed in 2016 for work-related injured or ill people and compare them with those released by INAIL in the previous periods and with those built by the National Institute of Statistics (ISTAT) for the Italian population.

The study shows that the variables that mostly affect mortality are disabled's age, duration (years from starting date of annuity to valuation date), severity of impairment (class of degree) and the type of event (accident or occupational disease).

Results are summarised from ages from12 to108 to include also insured students, two classes of duration (up to 10 years and over 10 years) and two classes of impairment degree (up to 60 per cent and over 60 per cent). For the degree of impairment, 60 per cent is chosen being an important threshold where conditions start to significantly worsen.

For high duration annuitants, as a result of the stabilization of the event's after-effects, the difference between injured and diseased' mortality is not so evident.

So, for this group INAIL constructed only two life tables, depending only on class of degree. Otherwise, for low duration annuitants there is a substantial difference between observed mortality rates of accidents and occupational diseases: those with occupational diseases have a higher mortality rate than those with injuries at all ages.

This is even more evident for more serious illnesses, with an impairment degree over 60 per cent, that include all forms of cancer (including those related to asbestos). For this group of annuitants INAIL decided to realize four life tables, depending on type of event and class of degree.

Targets to be achieved

What were the quantitative and/or qualitative targets or key performance indicators that were set for the plan or strategy? Please describe briefly.

New disabled' life tables allowed INAIL to pursue the social security objective in term of benefits adequacy and financial sustainability, capturing the correct mortality of vulnerable groups. Furthermore the life tables ensure actuarial valuations (pricing, reserving, etc.) of long-term liabilities are appropriate, taking into account disabled' ageing and changes in risk at work.

Evaluating the results

Has there been an evaluation of the good practice? Please provide data on the impact and outcomes of the good practice by comparing targets vs actual performance, before-and-after indicators, and/or other types of statistics or measurements.

Study's results are:

- For the high duration group, the level of mortality is similar to that of the Italian population, the impairment degree does not significantly affect the level of mortality; mortality rates depend substantially on the age of the person exposed to the risk.
- For low duration groups the impairment degree does significantly affect the level of mortality:
  - in case of accidents, for low and mid impairment degree, mortality rates are lower than the Italian population. In terms of life expectancy, the injured with degree up to 60 per cent live on average two years more than the whole population. This fact can be explained bearing in mind that first of all they are workers, a selected group with respect to the Italian population, that have to stay healthy to be hired; then the average degree of disability of this group is 24 per cent, a disability level that does not substantially affect mortality; moreover INAIL provides them health care benefits, including rehabilitation care, in order to ensure recovery of health and of the maximum working capacity;
  - for diseased people, life expectancy of Italian population is higher than those with occupational diseases all ages. Diseased with impairment degree over 60 per cent have a very low life expectancy.

In conclusion, data obtained support the decision to stratify INAIL annuitants' collective so as to capture the level of mortality of vulnerable groups.

A further development of the study was the analysis of the life expectancy of INAIL annuitants in recent decades.

In particular, life tables built by the Institute were compared over four different periods: starting from those published in 1984 which referred to the 1972–1976 statistical observation period and ending with those currently in force.

The data show an improvement in life expectancy of INAIL annuitants with medium-low disability, in line with the one recorded in recent decades for the Italian population, for even the youngest age groups. As expected, there is a noticeable increase in life expectancy, although less pronounced, even for the disabled with more serious impairments.

Lessons learned

Based on the organization's experience, name up to three factors which you consider as indispensable to replicate this good practice. Name up to three risks that arose/could arise in implementing this good practice. Please explain these factors and/or risks briefly.

Based on INAIL's experience, frequent monitoring of INAIL data in order to obtain an in-depth knowledge of the annuitants' mortality is essential and allows for proper stratification to capture the actual mortality of each sub-group. The risk is an excessive or unrepresentative sub-grouping of the collective's characteristics that could make it impossible to create acceptable mortality tables.