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Evidence-based policy making

Statistical profiling of unemployed jobseekers

The increasing availability of big data allows for the profiling of unemployed jobseekers via statistical models

Keywords: statistical profiling, long-term unemployment, benefit exhaustion, labor market discrimination

ELEVATOR PITCH

Statistical models can help public employment services to identify factors associated with long-term unemployment and to identify at-risk groups. Such profiling models will likely become more prominent as increasing availability of big data combined with new machine learning techniques improve their predictive power. However, to achieve the best results, a continuous dialogue between data analysts, policymakers, and case workers is key. Indeed, when developing and implementing such tools, normative decisions are required. Profiling practices can misclassify many individuals, and they can reinforce but also prevent existing patterns of discrimination.

Statistical profiling is more accurate in predicting long-term unemployment than a lottery or simple selection rules
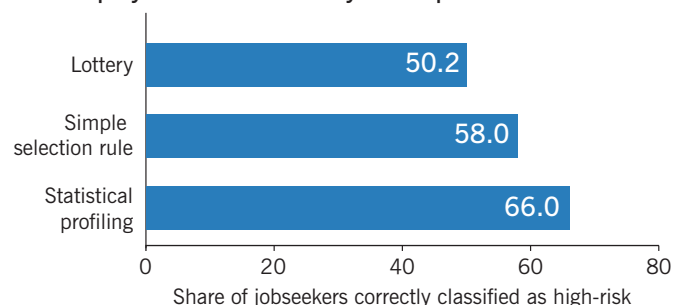
Note: High-risk = at risk of being unemployed for six months plus.
Source: Desiere, S., B. Van Landeghem, and L. Struyven. *Wat het beleid aanbiedt aan wie: een onderzoek bij Vlaamse werkzoekenden naar vraag en aanbod van activering*. Belgium: HIVA–KU Leuven, 2019.

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KEY FINDINGS

Pros

⊕ Systematic patterns between socioeconomic and sociodemographic variables, and the outcome of interest can be revealed by statistical models.

⊕ Statistical models can direct future research on why some groups are more at risk, and on how the gap can be closed.

⊕ Statistical profiling models offer an indication of the potential duration of an unemployment spell.

⊕ Under some circumstances, statistical models can reduce existing patterns of discrimination.

Cons

⊖ The improvement in profiling accuracy when using statistical models as opposed to a lottery is modest and many individuals tend to be misclassified.

⊖ Statistical profiling risks reinforcing existing patterns of discrimination.

⊖ Current statistical profiling models predict outcomes, but do not reveal which program works for whom.

AUTHOR'S MAIN MESSAGE

Statistical profiling can help identify individuals at risk of becoming long-term unemployed and highlight appropriate predictive variables. However, such models do not unravel the mechanisms behind these relationships, and will hence not inform directly about suitable policies to tackle long-term unemployment. It is also not straightforward to evaluate whether targeted policies are effective. Additionally, policymakers who consider relying on statistical profiling to direct jobseekers to job counseling, training programs, or other social programs should evaluate the ethical implications: individuals are often misclassified and statistical profiling can reinforce patterns of discrimination.