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Who's protected by lockdown: occupational exposure to contagion during the COVID-19 pandemic in Poland

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Based on the Diagnoza.plus survey data collected between 2-27 February 2021

Measuring social contacts at work and occupational exposure to contagion with survey data

Measuring levels of social contact is critical for understanding the spread of infectious diseases transmitted by the respiratory or close-contact route, such as COVID-19. Workplace interactions constitute the majority of social contacts among people of working ages (Mossong et al., 2008, Klepac et al., 2018). Lewandowski (2020) developed a country-specific measure of occupational exposure to contagion in Europe, using six indicators based on two data sources:

1. exposure to disease or infections (Occupation Information Network – O*NET)
2. physical proximity at work (O*NET)
3. dealing with clients, pupils, or patients (European Working Condition Survey – EWCS, Diagnoza.plus – D+)
4. working in public spaces (EWCS, D+)
5. working at clients' premises (EWCS, D+)
6. not working from home (EWCS, D+)

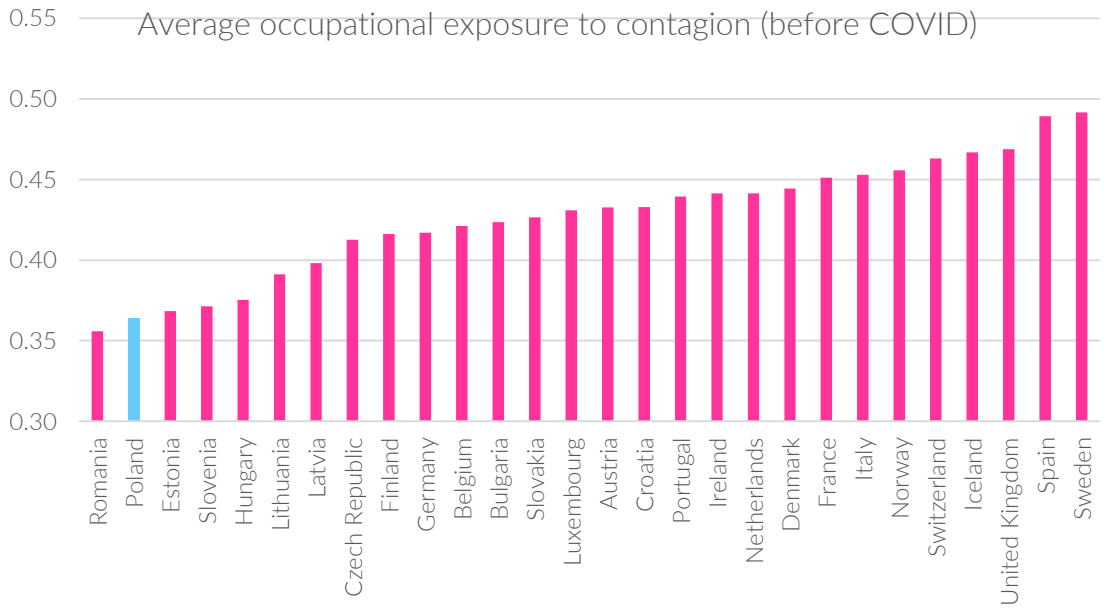
In the 5th wave of Diagnoza.plus survey, we collected data on social contacts at work, using questions 3-6 above. Respondents provided information about their modes of work in February 2021 (when the survey was conducted), as well as retrospectively: in February 2020, so before the COVID-19 epidemic emerged in Poland, and in April 2020 when Poland was under a rather strict lockdown. To measure the incidence of working from home, we use data collected in the first wave of Diagnoza.plus (April 2020) and in the 2019 Labour Force Survey (before the pandemic). This allows assessing how the exposure has changed over the course of the pandemic.

Before the COVID-19 pandemic, there were noticeable cross-country differences in the exposure to contagion at work

The measure of occupational exposure developed by Lewandowski (2020):

- Equal weight assigned to each of the six indicators. It's a safe assumption given that data on COVID cases by occupation are in most countries not available, so it's not possible to estimate which aspects of work-related contacts are paticularly relevant for increased infection risk.
- Ranges from 0 to 1 – higher level suggests higher exposure.
- Shows that the frequency of social contacts differs between workers in various occupations, as well as between workers in comparable occupations in different countries – this results in cross-country differences in exposure.
- Is based on pre-pandemic survey data so it's relevant for the first COVID19 wave, but less so later as behaviours have surely changed over the course of the pandemic.

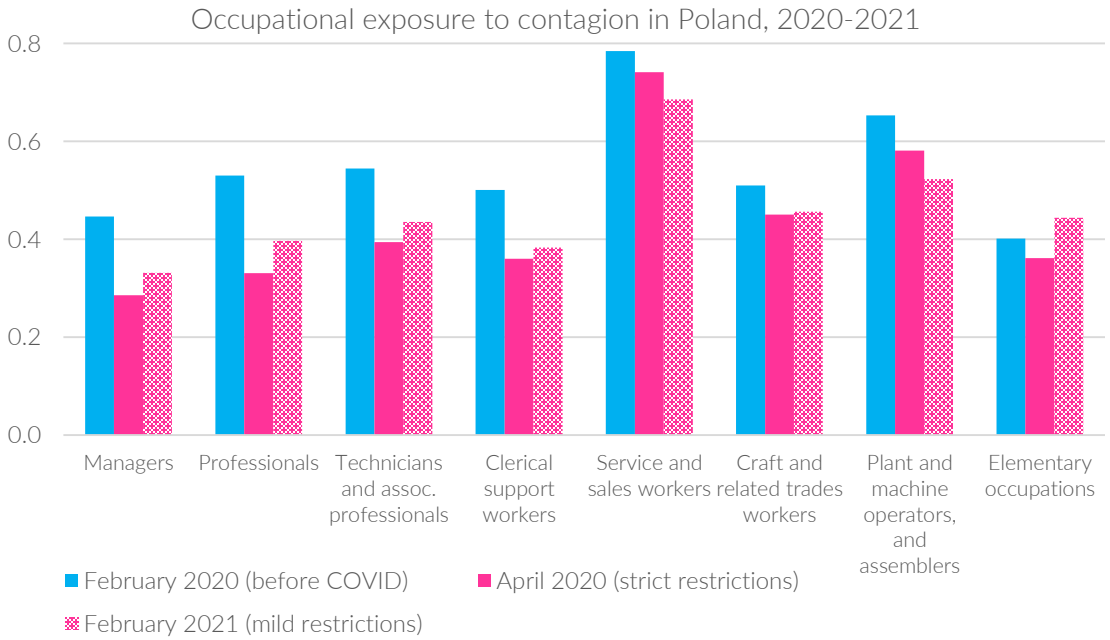
We measure exposures during the pandemic in Poland using data collected in D+ survey.



Source: Lewandowski (2020)

In Poland, occupational exposure declined but unequally

- In April 2020, when Poland was under lockdown and people were very cautious, the occupational exposure to contagion declined noticeably in comparison to the pre-pandemic period.
- Exposure declined the most among workers in office jobs, especially among managers, professionals, and associate professionals which jointly consitute 40% of workers in Poland. These in occupations usually performed by workers with tertiary education.
- In the later stage of the pandemic, exposure among workers in office jobs increased, but remained below the pre-pandemic level.
- Exposure remained the highest among sales and services workers, and among industrial workers, despite a slight decline of exposure in these groups over time.
- After a year of the pandemic, exposure among elementary workers actually increased above the pre-pandemic level.

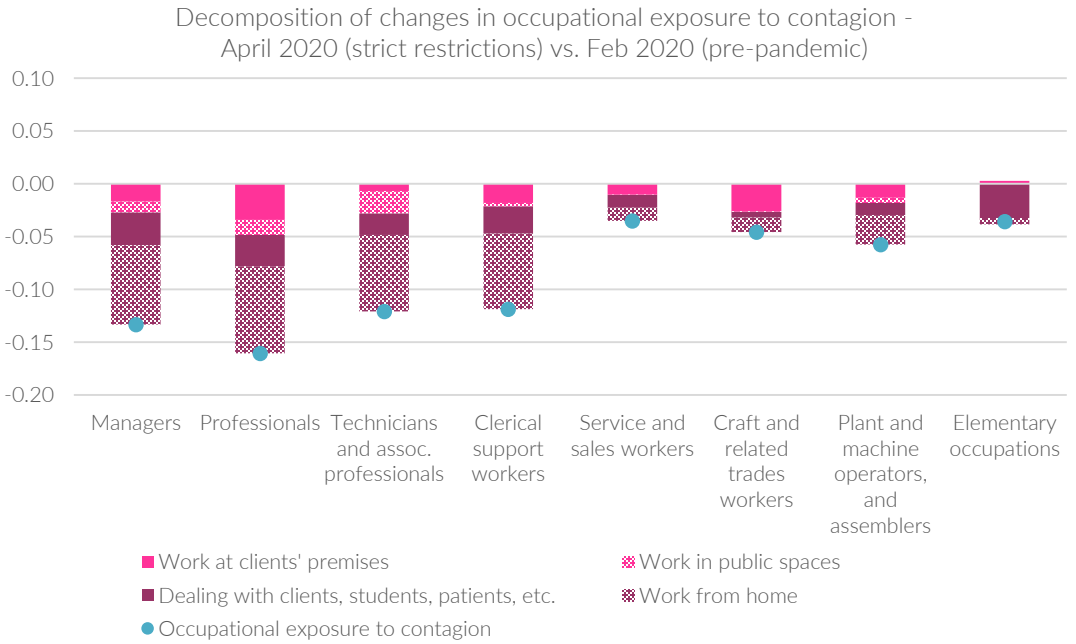


The index ranges from 0 to 1- higher value indicates higher exposure

During the Spring 2020 lockdown, reduction in occupational exposure was the largest in high-skilled office jobs

During the first, strict lockdown in April 2020:

- Exposure to contagion declined the most among workers in high-skilled office jobs as they moved to working from home more often than workers in other occupations.
- Workers in professional and managerial jobs also reduced the most the frequency of dealing with clients and of working at client's premises.
- Exposure declined the least among sales and services workers: although they reduced slightly the frequency of contacts with clients and of working at clients' premises, they were barely able to work from home.
- Exposure of workers in elementary occupations also declined marginally, mainly because the frequency of contacts with clients declined a bit, but other facets of work didn't change.

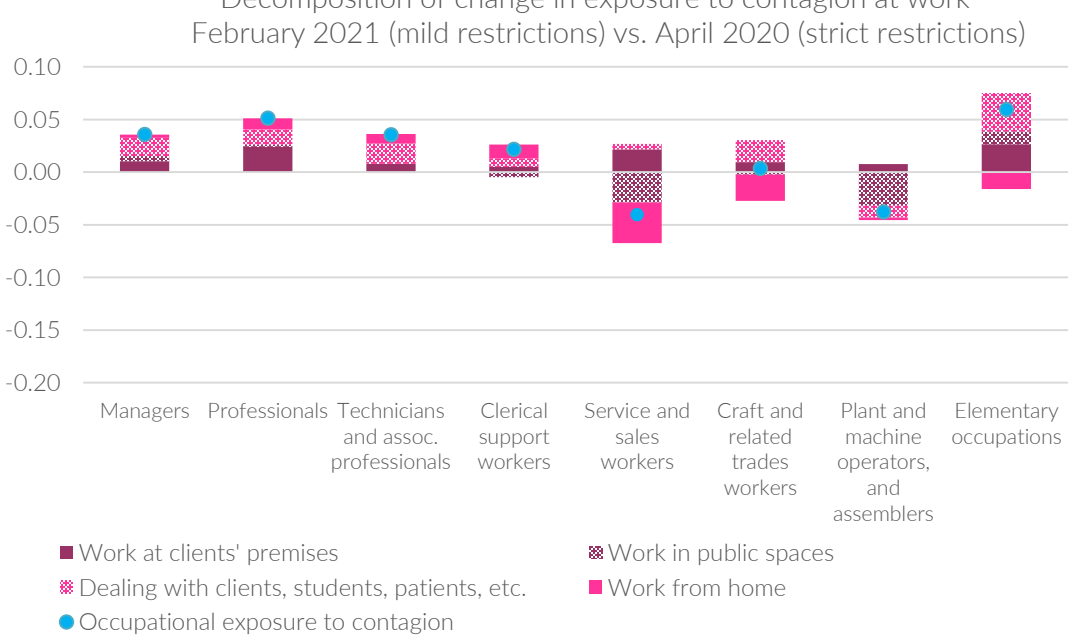


Bars show the contribution of particular factors to overall changes in exposure by occupation. The index ranges from 0 to 1- higher value indicates higher exposure.

Between April 2020 and February 2021, exposure in most occupations increased as the frequency of contact with clients increased

In 2021, the restrictions on economic activity have been less stringent than in the first, relatively strict lockdown in April 2020. Importantly, the patterns of work-related social contacts have partly returned to the pre-pandemic routines:

- Workers in managerial and professional jobs have increased frequency of contacts with clients, while the incidence of working from home has remained roughly at the 2020 level.
- Exposure of workers in elementary occupations has increased even above the pre-pandemic level, as the frequency of dealing with clients, and of working at clients' premises rose noticeably.
- Exposure of sales and services workers declined because the frequency of work in public space decreased – supposedly due to shops, restaurants, stalls etc. at transit stations, shopping malls, stadia, etc. being less busy or closed altogether.



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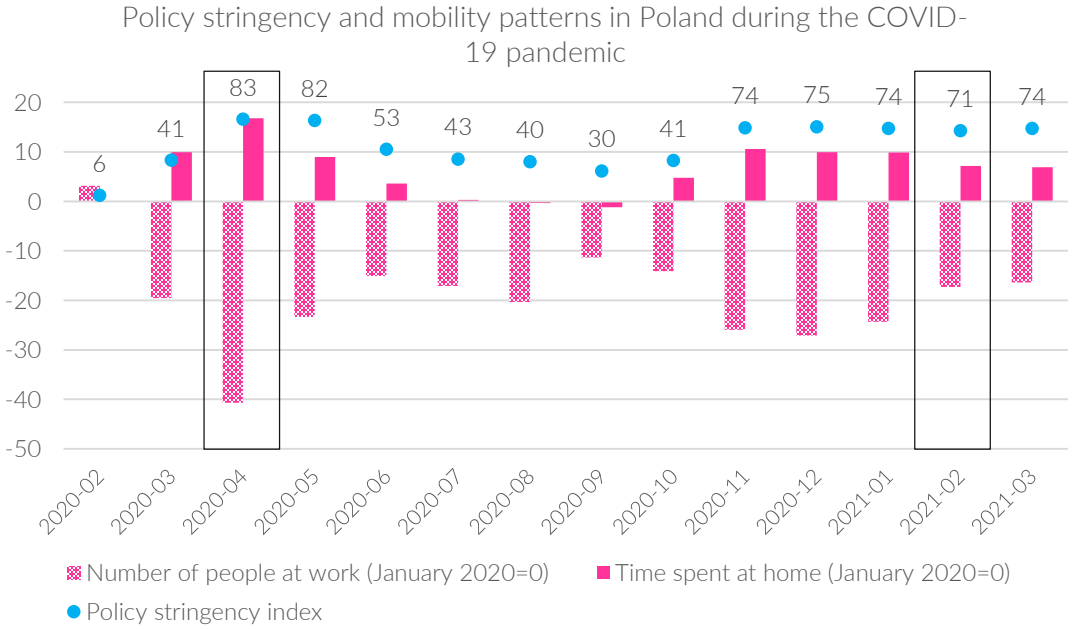
In February 2021 the stringency of restrictions in Poland was close to the one in April 2020, but mobility patterns were different

- In Poland, the first lockdown was introduced in mid-March when the number of positive tests was low (<100). According to the Oxford COVID-19 Government Response Tracker, the restictions were rather strict.
- In April 2020, people have largely stayed at home and avoided going to work, as shown by the Google Mobility Trends data.
- In February 2021, the policy stringency was lower than in the Spring 2020, but still relatively high;
- However, the mobility patterns were different than during the 1st wave:
  - The share of time spent by people at home was lower,
  - Going to work was more common.



Own calculations on Google Mobility Trends and Oxford COVID-19 Government Response Tracker data.

In 2021, differences in occupational exposure are mainly related to different ability to work from home and to avoid dealing with clients

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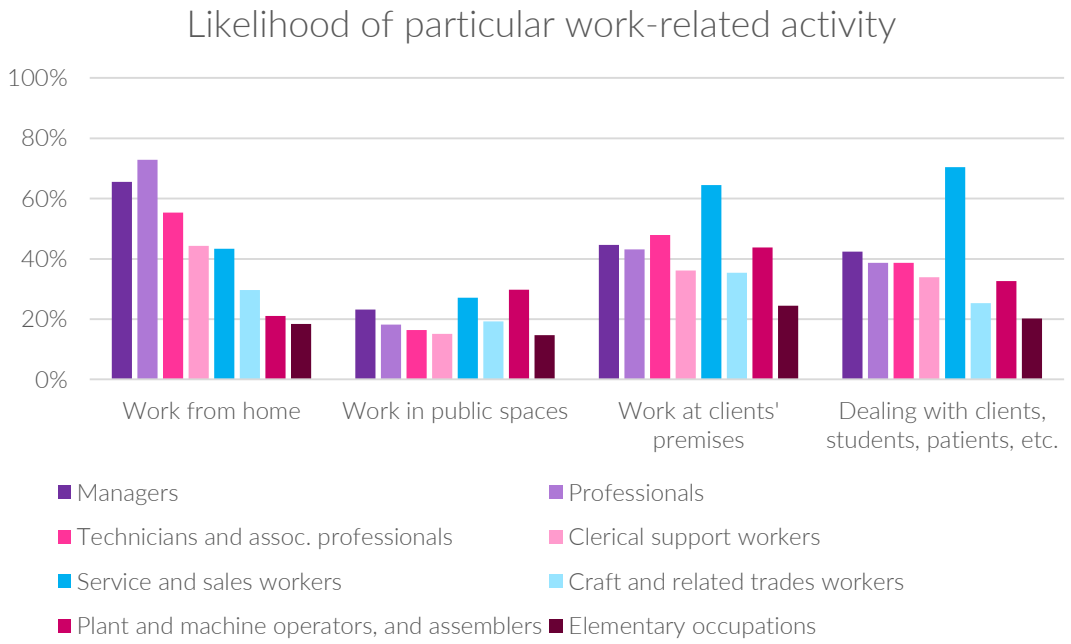
At a worker level, we can factor our the effect of age, gender, and education.

Isolating the effects related to occupations shows that:

- Workers in managerial and professional jobs are significantly more likely to work from home on a regular basis.
- Plant and machine operators, assemblers, and workers in elementary occupations are significantly less likely to work from home.
- Sales and services workers are significantly more likely to regularly deal with clients and to work at client's premises which is presumably related to the increased incidence of home deliveries.



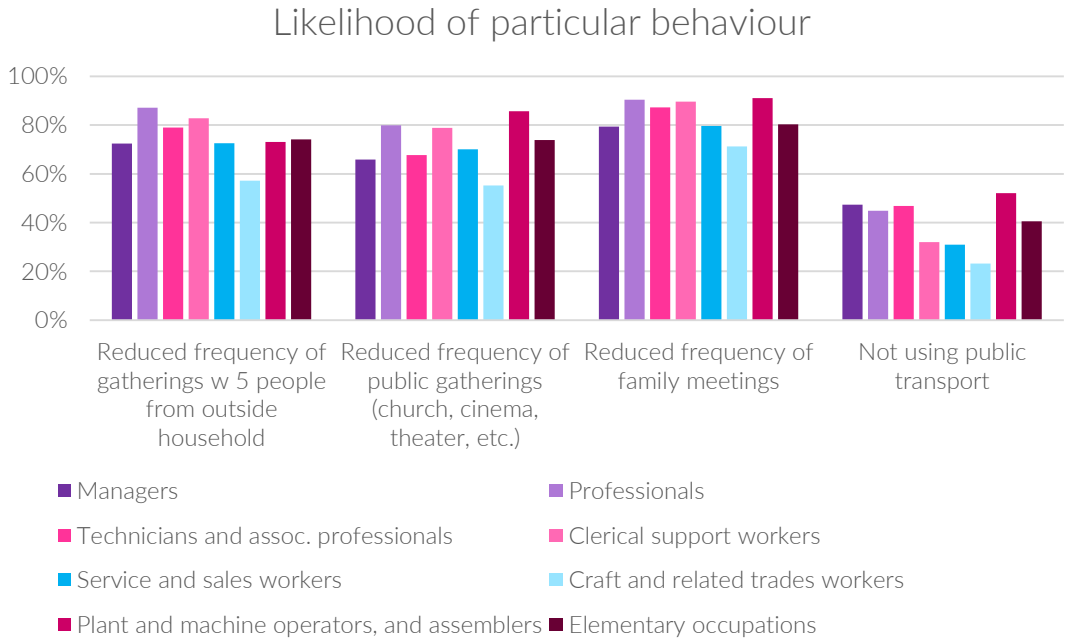
Occupation-specific likelihoods estimated from a logit model with age, sex, and education as other controls.

Private interactions have widely reduced in Poland

In Poland, the vast majority of people reduced the frequency of contacts related to leisure and family life.

However, differences remain between occuapational groups:

- Workers in managerial and professional jobs are most likely to not use public transport at all.
- At the same time, workers in managerial jobs are less likely to have reduced (compared to pre-pandemic) the frequency of family, and leisure-related social contacts. Perhaps their lower work-related exposure decreases the need to reduce family and leisure-related contacts.
- Workers in craft and related trades are the least likely to have reduced the frequency of family and leisure-related contacts. The occupational exposure of this group has declined during the pandemic – which may give these workers a subjective assessment of reduced risk - it has remained relatively high compared to other occupational groups.



Occupation-specific likelihoods estimated from a logit model with age, sex, and education as other controls.

Policies to address occupational exposures

Paid sick leave equal to 100% of wage to all workers and self-employed with positive COVID-19 test, paid by the Social Security Institution

Currently, the paid sick leave in Poland amounts to 80% of wage, and the first three days of leave are covered by the employer. Sick leave is often not granted to people who declare that they can work remotely. Thus, workers with relatively low income, or afraid of losing their job, may continue or be forced to continue to work even if infected. Moreover, self-employed individuals are granted sick leave if they paid contribution for at least 90 days. This condition should be scrapped for people infected with COVID. All infected workers, regardless of their contract type, should receive income-replacing fully benefits paid by the taxpayer.

Housing support for people unable to isolate at home

The housing overcrowding rate in Poland is high: in 2019, it amounted to 38%, more than double the EU27 average (17%). Transmission within household is a key channel of COVID-19 spread. Unused hotels or dormitories could be adapted as quarantine facilities. Authorities should encourage people who cannot isolate from their household members to use these facilities when sick.

Access to free tests for people with symptoms and their household members should be expanded

Limited access to free tests in Poland is an obstacle to getting tested. Quarantining contacts of infected people but not testing them (for free) discourages infected people from reporting their contacts: those related to work and private life. 21-day long quarantine for family members without access to free tests discourages reporting of infections at all.

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Diagnoza.plus – bi-monthly online survey

- Diagnoza.plus is an online survey in Poland which started in April 2020 with the aim to provide almost real-time statistics on labour market outcomes, incomes, and wellbeing over the course of the COVID-19 pandemic.
- It is run by a group of research institutes and universities.
- Data are collected every two months, each wave includes a module of questions aimed at measuring a given phenomena. In the 6th wave, conducted in February 2021, the survey included four questions on work-related social contacts, designed in line with the European Working Conditions Survey, and a range of questions on private contacts and preventing behaviours, designed in line with the Six-country Survey on Covid-19.
- The data are weighted so that they are representative at a country level and consistent with the Polish Labour Force Survey. The procedurę is described in an article published in Sociological Methods and Research.

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