Short-term effectiveness of face-to-face periodic occupational health screening versus electronic screening with targeted follow-up: results from a quasi-randomized controlled trial in four Belgian hospitals

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Supplement A: Generalised Mixed Effects Models

Generalised Linear Mixed Effects models (GLMM) were used to assess the effect of the intervention upon the outcome measures. We base the following paragraphs on (31, 37, 38). In its non-generalised form, the linear mixed effect model (LMM) is an extension of simple linear models by allowing for both fixed and random effects. The fixed effects are introduced on the highest level of the data, are the same for all subjects, and capture between group differences. The random effects are subject-specific and capture deviations from the fixed effects, and thus capture part of the within group variability. Analogous to subjects randomly drawn from a population of subjects, the subject-specific random effects can be considered as randomly sampled from a population of regression coefficients, often with an assumed underlying distribution (e.g. a multivariate normal distribution). In its hierarchical form, the linear mixed effect model (LMM) can be represented as follows (37):

\[
\begin{align*}
Y_i &= X_i \beta + Z_i b_i + \varepsilon_i \\
_b_i &\sim \mathcal{N}(0, \Sigma) \\
\varepsilon_i &\sim \mathcal{N}(0, \Sigma_i) \\
_b_i, ... b_n, \varepsilon_i, ..., \varepsilon_n &\text{ independent}
\end{align*}
\]

with \(Y_i\) the response vector of repeated measurements for subject \(i\) (1 \(\leq i \leq N\), \(N\) number of subjects), \(X_i\) and \(Z_i\) matrices of covariates, \(\beta\) a vector with the fixed effects, \(b_i\) a vector of random effects, and \(\varepsilon_i\) the residuals. Note how \(\beta\) does not have a subscript \(i\) (the parameters are the same for all subjects), but \(b_i\) does (parameters vary over subjects). \(\Sigma\) and \(\Sigma_i\) are covariance matrices; they imply a flexible and specific covariance structure that allows for highly unbalanced data. Equation (1) can also be stated as follows (31):

\[
\begin{align*}
Y_i | b_i &\sim \mathcal{N}(X_i \beta + Z_i b_i, \Sigma_i) \\
b_i &\sim \mathcal{N}(0, \Sigma) \\
Y_{ij} | b_i &\text{ independent}
\end{align*}
\]
In a non-Bayesian framework, estimating (2) is based on the marginal distribution for $Y_i$ (integrating out the random effects) through maximum likelihood, which renders consistent, asymptotic normal, and efficient estimates. The model-fitting procedures are iterative and Newton-Raphson-based, and are described in the R package ‘nlme’ documentation (39, 40).

Analogous to univariate standard and generalised linear models, the linear mixed model (LMM) in Equation (1) and (2) is a specific case of generalised linear mixed models (GLMM). In GLMM, $Y_{ij}$ have densities $f_i(Y_{ij}|\theta_{ij}, \phi)$ of the exponential family (e.g. normal, Poisson, generalised Poisson, negative binomial, or binomial distributed dependent variables) with $\theta$ a ‘natural’ parameter and $\phi$ a ‘scale’ parameter. GLMM models can then be represented as follows (31):

\[
\begin{align*}
Y_i|\mathbf{b}_i &\sim \text{Exp}_i(\Theta, \Phi) \\
\mathbf{b}_i &\sim \mathcal{N}(\mathbf{0}, \mathbf{D}) \\
Y_{ij}|\mathbf{b}_i &\text{ independent}
\end{align*}
\]

To estimate (3), the mean $\mu$ is then modelled for a link function $\eta(\cdot)$: $(\mu_{ij}) = \eta[E(Y_{ij}|\mathbf{b}_i)] = \mathbf{x}'_{ij}\mathbf{\beta} + \mathbf{z}'_{ij}\mathbf{b}_i$. If the natural link function is used $\eta(\cdot) = \psi'(\cdot)$, this renders $\theta_{ij} = \mathbf{x}'_{ij}\mathbf{\beta} + \mathbf{z}'_{ij}\mathbf{b}_i$, which satisfies a linear regression model.

If $Y_i|\mathbf{b}_i$ is normally distributed with mean $\mathbf{X}_i\mathbf{\beta} + \mathbf{Z}_i\mathbf{b}_i$, and covariance $\Sigma_i$, Equation (3) collapses to (2). The density $f_i(y_{ij})$ is then the normal distribution, with $\theta = \mu, \phi = \sigma^2$, and variance function $\nu(\mu) = 1$. If $f_i(y_{ij})$ is the Poisson density with $\theta = \ln \lambda, \phi = 1$, variance function $\nu(\lambda) = \lambda$, and log link function, a Poisson mixed model can be estimated, or a negative binomial model when an extra dispersion parameter is added. If $f_i(y_{ij})$ is a Bernoulli density, and using a probit or logit link function, a probit or logit normal model can be obtained.

On the first level (L1), the $\beta$ has subscripts ($j$) to indicate they belong to one particular employee. On the second level, each $\beta$ for a particular employee ($\beta_{pj}$) can be represented as a combination of a mean estimate for that parameter ($\gamma_{p0}$), and a random effect for that measurement moment ($u_{pj}$). Only the intercept ($\beta_{0j}$) and time slope ($\beta_{2j}$) can vary across employees, the other $\beta_{pj}$ are fixed.

\[
L1: Y_{ij} = \beta_{0j} + \beta_{1j}\text{Group}_{ij} + \beta_{2j}\text{Time}_{ij} + \beta_{3j}\text{Group} \ast \text{Time}_{ij} + \beta_{pj}\text{Covariates}_{ij} + e_{ij} \quad (4.1)
\]

\[
\begin{align*}
\beta_{0j} &= \gamma_{00} + u_{0j} \\
\beta_{1j} &= \gamma_{10} \\
\beta_{2j} &= \gamma_{20} + u_{2j} \\
\beta_{3j} &= \gamma_{30} \\
\beta_{pj} &= \gamma_{p0}
\end{align*}
\]

\[
L2: \quad (4.2)
\]

with $\beta_{pj}\text{Covariates}_{ij}$ containing age, gender, hospital, and education. In each model, fixed effects were thus included for group (intervention or control) and time (1,2,3), covariate fixed
effects for age, gender, educational attainment, and hospital, and random intercept effects for each individual employee.

Approach in our analyses

In our data, some of the measured outcomes are typically left- or right-skewed. We therefore used logarithmic transformations for musculoskeletal complaints (NMQ), general mental health (GHQ), and need for recovery (NFR). We also make use of continuous ordinal regression (41) to analyse the visual analog scale for general health status (EQ-5D), as several authors have argued that it should be analysed as an ordinal instead of a continuous variable ((42-45) as cited in (41)). As this method is not standardly used, we also include the linear mixed model of the EQ-5D visual analog scale.

It is moreover often likely that count variables diverge from the normality assumption of the residuals because of frequent zero-values (e.g. zero days absent, zero consultations, etc.) and dispersed non-zero values (long tails). We therefore estimated these outcomes with binomial and Poisson-type (e.g. generalised Poisson or negative binomial) mixed models. The fit of these models is tested by several tests for simulated residuals (46): a Kolmogorov–Smirnov test (KS) to test distributional fit, a test for the presence of zero-inflation, and a dispersion test to verify whether the observed variance is higher or lower than the theoretical variance of the model. A generalised Poisson or negative binomial model is adopted when it is necessary to specify a separate dispersion parameter to help alleviate over- or under-dispersion. We also test whether a large number of outliers occur, and quantiles are compared to their theoretical value. Finally, the presence of autocorrelation is tested with a Durbin-Watson test on uniformly scaled residuals, and the covariance structure is adjusted (if autocorrelation is present).

Post-hoc tests

After the analyses, we make use of post-hoc Tukey-Kramer tests (also called honest significant difference tests) as a robustness test of our estimates.

\[
Tukey = \frac{M_i - M_j}{\sqrt{\frac{MS_W}{n_h}}}
\]

where \(M_i - M_j\) is the difference between the estimated means, \(MS_W\) is the Mean Square Within, and \(n\) is the number of employees in the group. The means are obtained by making predictions on the estimated mixed models (e.g. the mean stress score for the control and intervention group in time 1, 2, and 3) with their standard deviation. The pairwise differences of these six (3 times * 2 groups) means are then compared. Results are averaged over the levels of the covariates (hospital, gender, education), and a p-value adjustment is used by the Tukey method for comparing a family of 6 estimates. Because the sample sizes are unequal (unbalanced panel data), the Tukey-Kramer adjustment is used to estimate separate standard deviations for each pairwise comparison. A similar approach is used for the non-inferiority tests.

References supplement A
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Supplement B: descriptive statistics by wave

Supplemental Table SS1. Summary Statistics by wave: mean (proportion)

| Time         | Wave 1 (N=776) | Wave 2 (N=418) | Wave 3 (N=588) | Total (N=1782) |
|--------------|----------------|----------------|----------------|----------------|
| **Gender**   |                |                |                |                |
| Missing      | 2              | 16             | 27             | 45             |
| Male         | 143 (18.5%)    | 79 (19.7%)     | 107 (19.1%)    | 329 (18.9%)    |
| Female       | 631 (81.5%)    | 323 (80.3%)    | 454 (80.9%)    | 1408 (81.1%)   |
| Other        | 0 (0.0%)       | 0 (0.0%)       | 0 (0.0%)       | 0 (0.0%)       |
| **Age**      |                |                |                |                |
| Missing      | 0              | 15             | 26             | 41             |
| Mean (SD)    | 45.387 (11.197)| 46.757 (11.203)| 46.797 (10.686)| 46.159 (11.052)|
| Range        | 17.000 - 66.000| 18.000 - 65.000| 18.000 - 65.000| 17.000 - 66.000|
| **Income**   |                |                |                |                |
| Missing      | 5              | 1              | 34             | 40             |
| Income less than 1500 monthly | 123 (16.0%) | 47 (11.3%) | 80 (14.4%) | 250 (14.4%) |
| Income 1500.00 - 1999.99 monthly | 240 (31.1%) | 127 (30.5%) | 167 (30.1%) | 534 (30.7%) |
| Income 2000.00 - 2499.99 monthly | 241 (31.3%) | 127 (30.5%) | 186 (33.6%) | 554 (31.8%) |
| Income 2500.00 - 2999.99 monthly | 76 (9.9%) | 48 (11.5%) | 62 (11.2%) | 186 (10.7%) |
| Income 3000.00 - 4999.99 monthly | 26 (3.4%) | 12 (2.9%) | 22 (4.0%) | 60 (3.4%) |
| Income > 5000,00 monthly | 5 (0.6%) | 3 (0.7%) | 2 (0.4%) | 10 (0.6%) |
| Income not stated | 60 (7.8%) | 53 (12.7%) | 35 (6.3%) | 148 (8.5%) |
| **Nationality** |            |                |                |                |
| Missing      | 0              | 0              | 17             | 17             |
| Belgian      | 763 (98.3%)    | 399 (99.0%)    | 557 (99.1%)    | 1719 (98.7%)   |
| Migrant inside EU | 9 (1.2%) | 3 (0.7%) | 5 (0.9%) | 17 (1.0%) |
| Migrant outside EU | 4 (0.5%) | 1 (0.2%) | 0 (0.0%) | 5 (0.3%) |
| **Education** |                |                |                |                |
| Missing      | 0              | 15             | 27             | 42             |
| No degree    | 7 (0.9%)       | 0 (0.0%)       | 1 (0.2%)       | 8 (0.5%)       |
| Time                   | Wave 1 (N=776) | Wave 2 (N=418) | Wave 3 (N=588) | Total (N=1782) |
|-----------------------|----------------|----------------|----------------|----------------|
| Primary education     | 23 (3.0%)      | 9 (2.2%)       | 17 (3.0%)      | 49 (2.8%)      |
| Secondary education   | 148 (19.1%)    | 75 (18.6%)     | 98 (17.5%)     | 321 (18.4%)    |
| Higher education      | 593 (76.4%)    | 316 (78.4%)    | 441 (78.6%)    | 1350 (77.6%)   |
| Other education       | 5 (0.6%)       | 3 (0.7%)       | 4 (0.7%)       | 12 (0.7%)      |
| Household             |                |                |                |                |
| Missing               | 0              | 15             | 26             | 41             |
| Single                | 91 (11.7%)     | 42 (10.4%)     | 55 (9.8%)      | 188 (10.8%)    |
| Single with child(ren)| 63 (8.1%)      | 26 (6.5%)      | 43 (7.7%)      | 132 (7.6%)     |
| Couple with child(ren)| 486 (62.6%)    | 265 (65.8%)    | 373 (66.4%)    | 1124 (64.6%)   |
| Couple without child(ren) | 130 (16.8%) | 66 (16.4%) | 88 (15.7%) | 284 (16.3%) |
| Other                 | 6 (0.8%)       | 4 (1.0%)       | 3 (0.5%)       | 13 (0.7%)      |
| Occupation            |                |                |                |                |
| Missing               | 27             | 4              | 4              | 35             |
| Medical Personnel     | 394 (52.6%)    | 212 (51.2%)    | 319 (54.6%)    | 925 (52.9%)    |
| Paramedics            | 20 (2.7%)      | 20 (4.8%)      | 24 (4.1%)      | 64 (3.7%)      |
| Technicians           | 56 (7.5%)      | 35 (8.5%)      | 40 (6.8%)      | 131 (7.5%)     |
| Administrative Personnel | 120 (16.0%) | 75 (18.1%) | 93 (15.9%) | 288 (16.5%) |
| Management            | 34 (4.5%)      | 22 (5.3%)      | 27 (4.6%)      | 83 (4.8%)      |
| Cleaning Staff        | 34 (4.5%)      | 12 (2.9%)      | 24 (4.1%)      | 70 (4.0%)      |
| Other                 | 91 (12.1%)     | 38 (9.2%)      | 57 (9.8%)      | 186 (10.6%)    |
| Hospital              |                |                |                |                |
| Hospital A            | 197 (25.4%)    | 101 (24.2%)    | 175 (29.8%)    | 473 (26.5%)    |
| Hospital B            | 266 (34.3%)    | 113 (27.0%)    | 147 (25.0%)    | 526 (29.5%)    |
| Hospital C            | 214 (27.6%)    | 125 (29.9%)    | 193 (32.8%)    | 532 (29.9%)    |
| Hospital D            | 99 (12.8%)     | 79 (18.9%)     | 73 (12.4%)     | 251 (14.1%)    |
| Group                 |                |                |                |                |
| Non-random control    | 340 (43.8%)    | 187 (44.7%)    | 266 (45.2%)    | 793 (44.5%)    |
| Random control        | 56 (7.2%)      | 15 (3.6%)      | 42 (7.1%)      | 113 (6.3%)     |
| Non-random intervention | 53 (6.8%)    | 44 (10.5%)     | 35 (6.0%)      | 132 (7.4%)     |
| Time                      | Wave 1 (N=776) | Wave 2 (N=418) | Wave 3 (N=588) | Total (N=1782) |
|--------------------------|----------------|----------------|----------------|----------------|
| Random intervention      | 327 (42.1%)    | 172 (41.1%)    | 245 (41.7%)    | 744 (41.8%)    |
| Language                 |                |                |                |                |
| Missing                  | 434            | 169            | 0              | 603            |
| Dutch                    | 330 (96.5%)    | 240 (96.4%)    | 569 (96.8%)    | 1139 (96.6%)   |
| French                   | 3 (0.9%)       | 3 (1.2%)       | 3 (0.5%)       | 9 (0.8%)       |
| Other                    | 9 (2.6%)       | 6 (2.4%)       | 16 (2.7%)      | 31 (2.6%)      |
| Absenteeism              |                |                |                |                |
| Missing                  | 4              | 8              | 11             | 23             |
| Mean (SD)                | 4.807 (31.922) | 1.229 (4.720)  | 1.007 (5.034)  | 2.727 (21.535) |
| Range                    | 0.000 - 526.000| 0.000 - 57.000 | 0.000 - 90.000 | 0.000 - 526.000|
| Prescribed.medication.use.last.2.weeks. | | | | |
| Missing                  | 0              | 1              | 1              | 2              |
| No                       | 379 (48.8%)    | 199 (47.7%)    | 298 (50.8%)    | 876 (49.2%)    |
| Yes                      | 397 (51.2%)    | 218 (52.3%)    | 289 (49.2%)    | 904 (50.8%)    |
| Non.prescribed.medication.use.last.2.weeks. | | | | |
| Missing                  | 1              | 1              | 0              | 2              |
| No                       | 525 (67.7%)    | 256 (61.4%)    | 357 (60.7%)    | 1138 (63.9%)   |
| Yes                      | 250 (32.3%)    | 161 (38.6%)    | 231 (39.3%)    | 642 (36.1%)    |
| Year.of.last.PHS         |                |                |                |                |
| Missing                  | 22             | 16             | 46             | 84             |
| Never                    | 12 (1.6%)      | 5 (1.2%)       | 7 (1.3%)       | 24 (1.4%)      |
| 2009 or earlier          | 1 (0.1%)       | 3 (0.7%)       | 0 (0.0%)       | 4 (0.2%)       |
| 2010                     | 0 (0.0%)       | 1 (0.2%)       | 0 (0.0%)       | 1 (0.1%)       |
| 2011                     | 0 (0.0%)       | 0 (0.0%)       | 0 (0.0%)       | 0 (0.0%)       |
| 2012                     | 2 (0.3%)       | 0 (0.0%)       | 0 (0.0%)       | 2 (0.1%)       |
| 2013                     | 0 (0.0%)       | 0 (0.0%)       | 0 (0.0%)       | 0 (0.0%)       |
| 2014                     | 4 (0.5%)       | 0 (0.0%)       | 0 (0.0%)       | 4 (0.2%)       |
| 2015                     | 6 (0.8%)       | 2 (0.5%)       | 1 (0.2%)       | 9 (0.5%)       |
| 2016                     | 13 (1.7%)      | 5 (1.2%)       | 5 (0.9%)       | 23 (1.4%)      |
| Time          | Wave 1 (N=776) | Wave 2 (N=418) | Wave 3 (N=588) | Total (N=1782) |
|--------------|----------------|----------------|----------------|----------------|
| 2017         | 88 (11.7%)     | 17 (4.2%)      | 15 (2.8%)      | 120 (7.1%)     |
| 2018         | 314 (41.6%)    | 123 (30.6%)    | 86 (15.9%)     | 523 (30.8%)    |
| 2019         | 314 (41.6%)    | 246 (61.2%)    | 252 (46.5%)    | 812 (47.8%)    |
| 2020         | 0 (0.0%)       | 0 (0.0%)       | 176 (32.5%)    | 176 (10.4%)    |

| Time.since.last.PMO | Missing | 0 | 1 | 2 | 3 | 4 | 5 | 7 | 10 | 11 |
|---------------------|---------|---|---|---|---|---|---|---|----|----|
|                     | 34       | 314 (42.3%) | 314 (42.3%) | 88 (11.9%) | 13 (1.8%) | 6 (0.8%) | 4 (0.5%) | 2 (0.3%) | 1 (0.1%) | 0 (0.0%) |
|                     | 21       | 0 (0.0%)    | 246 (62.0%) | 123 (31.0%) | 17 (4.3%) | 5 (1.3%) | 2 (0.5%) | 0 (0.0%) | 1 (0.3%) | 3 (0.8%) |
|                     | 53       | 176 (32.9%) | 252 (47.1%) | 86 (16.1%) | 15 (2.8%) | 5 (0.9%) | 1 (0.2%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) |
|                     | 108      | 490 (29.3%) | 812 (48.5%) | 297 (17.7%) | 45 (2.7%) | 16 (1.0%) | 7 (0.4%) | 2 (0.1%) | 2 (0.1%) | 3 (0.2%) |

| Turnover.intention | Missing | 8 | 2 | 4 | 14 |
|--------------------|---------|---|---|---|----|
|                    | 0.924 (1.155) | 0.945 (1.230) | 0.841 (1.154) | 0.902 (1.173) |
|                    | 0.000 - 4.000 | 0.000 - 4.000 | 0.000 - 4.000 | 0.000 - 4.000 |

| Relation.with.OP  | Missing | 2 | 0 | 3 | 5 |
|-------------------|---------|---|---|---|---|
| I have not yet met the occupational physician | 43 (5.6%) | 14 (3.3%) | 23 (3.9%) | 80 (4.5%) |
| Less than 1 year  | 104 (13.4%) | 34 (8.1%) | 34 (5.8%) | 172 (9.7%) |
| 1 to 2 years      | 165 (21.3%) | 81 (19.4%) | 100 (17.1%) | 346 (19.5%) |
| 3 to 4 years      | 135 (17.4%) | 84 (20.1%) | 111 (19.0%) | 330 (18.6%) |
| 5 years or more   | 327 (42.2%) | 205 (49.0%) | 317 (54.2%) | 849 (47.8%) |

| Work.related.HC   | Missing | 0 | 0 | 2 | 2 |
|-------------------|---------|---|---|---|---|
|                    | 1.384 (2.115) | 1.299 (2.098) | 1.314 (2.074) | 1.341 (2.097) |
| Time                              | Wave 1 (N=776) | Wave 2 (N=418) | Wave 3 (N=588) | Total (N=1782) |
|----------------------------------|----------------|----------------|----------------|----------------|
| **Range**                        | 0.000 - 6.000  | 0.000 - 6.000  | 0.000 - 6.000  | 0.000 - 6.000  |
| **Referrals by OP to other HC**  |                |                |                |                |
| Missing                          | 1              | 0              | 2              | 3              |
| Mean (SD)                        | 0.263 (1.003)  | 0.165 (0.801)  | 0.213 (0.966)  | 0.224 (0.947)  |
| Range                            | 0.000 - 6.000  | 0.000 - 6.000  | 0.000 - 6.000  | 0.000 - 6.000  |
| **Spontaneous consultations with OP** |                |                |                |                |
| Mean (SD)                        | 0.232 (0.750)  | 0.144 (0.557)  | 0.190 (0.632)  | 0.198 (0.671)  |
| Range                            | 0.000 - 6.000  | 0.000 - 6.000  | 0.000 - 6.000  | 0.000 - 6.000  |
| **Health Literacy Score**        |                |                |                |                |
| Missing                          | 25             | 8              | 19             | 52             |
| Mean (SD)                        | 74.779 (10.407) | 74.825 (10.133) | 76.030 (11.336) | 75.201 (10.669) |
| Range                            | 37.500 - 100.000 | 25.000 - 100.000 | 25.000 - 100.000 | 25.000 - 100.000 |
| **Trust in Physician Score**     |                |                |                |                |
| Missing                          | 51             | 16             | 29             | 96             |
| Mean (SD)                        | 37.851 (6.170) | 37.418 (6.341) | 38.338 (6.491) | 37.909 (6.324) |
| Range                            | 14.000 - 55.000 | 11.000 - 55.000 | 11.000 - 55.000 | 11.000 - 55.000 |
| **Stress score**                 |                |                |                |                |
| Mean (SD)                        | 4.013 (2.528)  | 4.201 (2.484)  | 4.366 (2.441)  | 4.173 (2.493)  |
| Range                            | 0.000 - 12.000 | 0.000 - 12.000 | 0.000 - 12.000 | 0.000 - 12.000 |
| **General Mental Health**        |                |                |                |                |
| Mean (SD)                        | 2.067 (2.900)  | 2.153 (3.030)  | 2.468 (3.222)  | 2.219 (3.043)  |
| Range                            | 0.000 - 12.000 | 0.000 - 12.000 | 0.000 - 12.000 | 0.000 - 12.000 |
| **Need for Recovery**            |                |                |                |                |
| Mean (SD)                        | 3.772 (2.787)  | 3.632 (2.659)  | 3.952 (2.873)  | 3.799 (2.788)  |
| Range                            | 0.000 - 11.000 | 0.000 - 10.000 | 0.000 - 11.000 | 0.000 - 11.000 |
| **Sleep score**                  |                |                |                |                |
| Mean (SD)                        | 5.174 (3.673)  | 4.998 (3.649)  | 5.427 (3.731)  | 5.216 (3.688)  |
| Range                            | 0.000 - 16.000 | 0.000 - 16.000 | 0.000 - 16.000 | 0.000 - 16.000 |
### Role.conflicts

| Time       | Wave 1 (N=776) | Wave 2 (N=418) | Wave 3 (N=588) | Total (N=1782) |
|------------|----------------|----------------|----------------|----------------|
| Mean (SD)  | 3.620 (2.548)  | 3.651 (2.575)  | 3.612 (2.586)  | 3.625 (2.566)  |
| Range      | 0.000 - 12.000 | 0.000 - 12.000 | 0.000 - 12.000 | 0.000 - 12.000 |

### Job.satisfaction

| Time       | Wave 1 | Wave 2 | Wave 3 | Total |
|------------|--------|--------|--------|-------|
| Mean (SD)  | 15.235 (2.377) | 15.187 (2.483) | 15.224 (2.317) | 15.220 (2.382) |
| Range      | 6.000 - 20.000 | 7.000 - 20.000 | 7.000 - 20.000 | 6.000 - 20.000 |

### Supplemental Table SS2. Summary Statistics by wave: complete cases: mean (proportion)

| Time       | Wave 1 (N=208) | Wave 2 (N=208) | Wave 3 (N=208) | Total (N=624) |
|------------|----------------|----------------|----------------|---------------|
| Gender     |                |                |                |                |
| - Missing  | 1              | 1              | 1              | 3              |
| - Male     | 49 (23.7%)     | 49 (23.7%)     | 49 (23.7%)     | 147 (23.7%)   |
| - Female   | 158 (76.3%)    | 158 (76.3%)    | 158 (76.3%)    | 474 (76.3%)   |
| - Other    | 0 (0.0%)       | 0 (0.0%)       | 0 (0.0%)       | 0 (0.0%)      |
| Age        |                |                |                |                |
| - Mean (SD)| 47.553 (10.454)| 48.553 (10.454)| 48.553 (10.454)| 48.220 (10.448) |
| - Range    | 17.000 - 63.000 | 18.000 - 64.000 | 18.000 - 64.000 | 17.000 - 64.000 |
| Income     |                |                |                |                |
| - Income less than 1500 monthly | 25 (12.0%) | 25 (12.0%) | 25 (12.0%) | 75 (12.0%) |
| - Income 1500,00 - 1999,99 monthly | 54 (26.0%) | 54 (26.0%) | 54 (26.0%) | 162 (26.0%) |
| - Income 2000,00 - 2499,99 monthly | 74 (35.6%) | 74 (35.6%) | 74 (35.6%) | 222 (35.6%) |
| - Income 2500,00 - 2999,99 monthly | 30 (14.4%) | 30 (14.4%) | 30 (14.4%) | 90 (14.4%) |
| - Income 3000,00 - 4999,99 monthly | 7 (3.4%) | 7 (3.4%) | 7 (3.4%) | 21 (3.4%) |
| - Income $>$ 5000,00 monthly | 1 (0.5%) | 1 (0.5%) | 1 (0.5%) | 3 (0.5%) |
| - Income not stated | 17 (8.2%) | 17 (8.2%) | 17 (8.2%) | 51 (8.2%) |
| Nationality |            |                |                |                |
| - Belgian  | 207 (99.5%)   | 207 (99.5%)    | 207 (99.5%)    | 621 (99.5%)   |
| Time                  | Wave 1 (N=208) | Wave 2 (N=208) | Wave 3 (N=208) | Total (N=624) |
|----------------------|----------------|----------------|----------------|---------------|
|                      |                |                |                |               |
| - Migrant inside EU  | 1 (0.5%)       | 1 (0.5%)       | 1 (0.5%)       | 3 (0.5%)      |
| - Migrant outside EU | 0 (0.0%)       | 0 (0.0%)       | 0 (0.0%)       | 0 (0.0%)      |
| Education            |                |                |                |               |
| - No degree          | 0 (0.0%)       | 0 (0.0%)       | 0 (0.0%)       | 0 (0.0%)      |
| - Primary education  | 5 (2.4%)       | 5 (2.4%)       | 5 (2.4%)       | 15 (2.4%)     |
| - Secondary education| 38 (18.3%)     | 38 (18.3%)     | 38 (18.3%)     | 114 (18.3%)   |
| - Higher education   | 165 (79.3%)    | 165 (79.3%)    | 165 (79.3%)    | 495 (79.3%)   |
| - Other education    | 0 (0.0%)       | 0 (0.0%)       | 0 (0.0%)       | 0 (0.0%)      |
| Household            |                |                |                |               |
| - Single             | 25 (12.0%)     | 25 (12.0%)     | 25 (12.0%)     | 75 (12.0%)    |
| - Single with child(ren) | 17 (8.2%) | 17 (8.2%) | 17 (8.2%) | 51 (8.2%) |
| - Couple with child(ren) | 138 (66.3%) | 138 (66.3%) | 138 (66.3%) | 414 (66.3%) |
| - Couple without child(ren) | 27 (13.0%) | 27 (13.0%) | 27 (13.0%) | 81 (13.0%) |
| - Other              | 1 (0.5%)       | 1 (0.5%)       | 1 (0.5%)       | 3 (0.5%)      |
| Occupation           |                |                |                |               |
| - Missing            | 1              | 1              | 1              | 3             |
| - Medical Personnel  | 101 (48.8%)    | 101 (48.8%)    | 101 (48.8%)    | 303 (48.8%)   |
| - Paramedics         | 9 (4.3%)       | 9 (4.3%)       | 9 (4.3%)       | 27 (4.3%)     |
| - Technicians        | 21 (10.1%)     | 21 (10.1%)     | 21 (10.1%)     | 63 (10.1%)    |
| - Administrative Personnel | 41 (19.8%) | 41 (19.8%) | 41 (19.8%) | 123 (19.8%) |
| - Management         | 12 (5.8%)      | 12 (5.8%)      | 12 (5.8%)      | 36 (5.8%)     |
| - Cleaning Staff     | 6 (2.9%)       | 6 (2.9%)       | 6 (2.9%)       | 18 (2.9%)     |
| - Other              | 17 (8.2%)      | 17 (8.2%)      | 17 (8.2%)      | 51 (8.2%)     |
| Hospital             |                |                |                |               |
| - Hospital A         | 22 (10.6%)     | 22 (10.6%)     | 22 (10.6%)     | 66 (10.6%)    |
| - Hospital B         | 71 (34.1%)     | 71 (34.1%)     | 71 (34.1%)     | 213 (34.1%)   |
| - Hospital C         | 80 (38.5%)     | 80 (38.5%)     | 80 (38.5%)     | 240 (38.5%)   |
| - Hospital D         | 35 (16.8%)     | 35 (16.8%)     | 35 (16.8%)     | 105 (16.8%)   |
| Group                |                |                |                |               |
| Time                        | Wave 1 (N=208) | Wave 2 (N=208) | Wave 3 (N=208) | Total (N=624) |
|-----------------------------|----------------|----------------|----------------|---------------|
| - Non-random control        | 93 (44.7%)     | 93 (44.7%)     | 93 (44.7%)     | 279 (44.7%)   |
| - Random control            | 7 (3.4%)       | 7 (3.4%)       | 7 (3.4%)       | 21 (3.4%)     |
| - Non-random intervention   | 18 (8.7%)      | 18 (8.7%)      | 18 (8.7%)      | 54 (8.7%)     |
| - Random intervention       | 90 (43.3%)     | 90 (43.3%)     | 90 (43.3%)     | 270 (43.3%)   |
| Language                    |                |                |                |               |
| - Dutch                     | 200 (96.2%)    | 200 (96.2%)    | 200 (96.2%)    | 600 (96.2%)   |
| - French                    | 3 (1.4%)       | 3 (1.4%)       | 3 (1.4%)       | 9 (1.4%)      |
| - Other                     | 5 (2.4%)       | 5 (2.4%)       | 5 (2.4%)       | 15 (2.4%)     |
| Absenteeism                 |                |                |                |               |
| - Missing                   | 1              | 2              | 3              | 6             |
| - Mean (SD)                 | 1.130 (7.055)  | 1.083 (3.867)  | 1.049 (4.141)  | 1.087 (5.221) |
| - Range                     | 0.000 - 63.000 | 0.000 - 28.000 | 0.000 - 30.000 | 0.000 - 63.000 |
| Absenteeism.28              |                |                |                |               |
| - Missing                   | 5              | 2              | 5              | 12            |
| - Mean (SD)                 | 0.192 (1.349)  | 1.083 (3.867)  | 0.764 (2.989)  | 0.681 (2.951) |
| - Range                     | 0.000 - 14.000 | 0.000 - 28.000 | 0.000 - 21.000 | 0.000 - 28.000 |
| Prescribed.medication.use..last.2.weeks. | | | | |
| - Missing                   | 0              | 1              | 0              | 1             |
| - No                        | 97 (46.6%)     | 93 (44.9%)     | 97 (46.6%)     | 287 (46.1%)   |
| - Yes                       | 111 (53.4%)    | 114 (55.1%)    | 111 (53.4%)    | 336 (53.9%)   |
| Non.prescribed.medication.use..last.2.weeks. | | | | |
| - Missing                   | 0              | 1              | 0              | 1             |
| - No                        | 144 (69.2%)    | 129 (62.3%)    | 133 (63.9%)    | 406 (65.2%)   |
| - Yes                       | 64 (30.8%)     | 78 (37.7%)     | 75 (36.1%)     | 217 (34.8%)   |
| Year.of.last.PHS            |                |                |                |               |
| - Missing                   | 2              | 9              | 21             | 32            |
| - Never                     | 1 (0.5%)       | 1 (0.5%)       | 1 (0.5%)       | 3 (0.5%)      |
| - 2009 or earlier           | 0 (0.0%)       | 3 (1.5%)       | 0 (0.0%)       | 3 (0.5%)      |
| -2010                       | 0 (0.0%)       | 0 (0.0%)       | 0 (0.0%)       | 0 (0.0%)      |
| Time     | Wave 1 (N=208) | Wave 2 (N=208) | Wave 3 (N=208) | Total (N=624) |
|----------|----------------|----------------|----------------|---------------|
| -2011    | 0 (0.0%)       | 0 (0.0%)       | 0 (0.0%)       | 0 (0.0%)      |
| -2012    | 0 (0.0%)       | 0 (0.0%)       | 0 (0.0%)       | 0 (0.0%)      |
| -2013    | 0 (0.0%)       | 0 (0.0%)       | 0 (0.0%)       | 0 (0.0%)      |
| -2014    | 1 (0.5%)       | 0 (0.0%)       | 0 (0.0%)       | 1 (0.2%)      |
| -2015    | 1 (0.5%)       | 0 (0.0%)       | 0 (0.0%)       | 1 (0.2%)      |
| -2016    | 2 (1.0%)       | 2 (1.0%)       | 2 (1.1%)       | 6 (1.0%)      |
| -2017    | 23 (11.2%)     | 11 (5.5%)      | 8 (4.3%)       | 42 (7.1%)     |
| -2018    | 90 (43.7%)     | 72 (36.2%)     | 35 (18.7%)     | 197 (33.3%)   |
| -2019    | 88 (42.7%)     | 110 (55.3%)    | 82 (43.9%)     | 280 (47.3%)   |
| -2020    | 0 (0.0%)       | 0 (0.0%)       | 59 (31.6%)     | 59 (10.0%)    |

| Time.since.last.PMO |   |   |   |   |
|---------------------|---------------|---------------|---------------|---------------|
| - Missing            | 3             | 10            | 22            | 35            |
| 0                    | 88 (42.9%)    | 0 (0.0%)      | 59 (31.7%)    | 147 (25.0%)   |
| -1                   | 90 (43.9%)    | 110 (55.6%)   | 82 (44.1%)    | 282 (47.9%)   |
| -2                   | 23 (11.2%)    | 72 (36.4%)    | 35 (18.8%)    | 130 (22.1%)   |
| -3                   | 2 (1.0%)      | 11 (5.6%)     | 8 (4.3%)      | 21 (3.6%)     |
| -4                   | 1 (0.5%)      | 2 (1.0%)      | 2 (1.1%)      | 5 (0.8%)      |
| -5                   | 1 (0.5%)      | 0 (0.0%)      | 0 (0.0%)      | 1 (0.2%)      |
| -7                   | 0 (0.0%)      | 0 (0.0%)      | 0 (0.0%)      | 0 (0.0%)      |
| -10                  | 0 (0.0%)      | 0 (0.0%)      | 0 (0.0%)      | 0 (0.0%)      |
| -11                  | 0 (0.0%)      | 3 (1.5%)      | 0 (0.0%)      | 3 (0.5%)      |

| Turnover.intention |   |   |   |   |
|-------------------|---------------|---------------|---------------|---------------|
| - Missing          | 0             | 1             | 0             | 1             |
| - Mean (SD)        | 0.846 (1.106) | 0.928 (1.242) | 0.678 (1.006) | 0.817 (1.125) |
| - Range            | 0.000 - 4.000 | 0.000 - 4.000 | 0.000 - 4.000 | 0.000 - 4.000 |

| Relation.with.OP  |   |   |   |   |
|-------------------|---------------|---------------|---------------|---------------|
| - I did not yet meet the OP | 11 (5.3%) | 7 (3.4%) | 8 (3.8%) | 26 (4.2%) |
| - < 1 year        | 29 (13.9%)    | 16 (7.7%)     | 14 (6.7%)     | 59 (9.5%)     |
| - 1 - 2 years     | 41 (19.7%)    | 47 (22.6%)    | 41 (19.7%)    | 129 (20.7%)   |
| Time                  | Wave 1 (N=208) | Wave 2 (N=208) | Wave 3 (N=208) | Total (N=624) |
|-----------------------|----------------|----------------|----------------|---------------|
| - 3 - 4 years         | 41 (19.7%)     | 50 (24.0%)     | 45 (21.6%)     | 136 (21.8%)   |
| - 5 years or more     | 86 (41.3%)     | 88 (42.3%)     | 100 (48.1%)    | 274 (43.9%)   |
| Work.related.HC       |                |                |                |               |
| - Mean (SD)           | 1.202 (2.028)  | 1.231 (2.068)  | 0.957 (1.853)  | 1.130 (1.986) |
| - Range               | 0.000 - 6.000  | 0.000 - 6.000  | 0.000 - 6.000  | 0.000 - 6.000 |
| Referrals.by.OP.to.other.HC |            |                |                |               |
| - Missing             | 0              | 0              | 1              | 1             |
| - Mean (SD)           | 0.202 (0.883)  | 0.144 (0.721)  | 0.198 (0.947)  | 0.181 (0.855) |
| - Range               | 0.000 - 6.000  | 0.000 - 6.000  | 0.000 - 6.000  | 0.000 - 6.000 |
| Spontaneous.consultations.with.OP |          |                |                |               |
| - Mean (SD)           | 0.188 (0.735)  | 0.149 (0.575)  | 0.168 (0.692)  | 0.168 (0.670) |
| - Range               | 0.000 - 6.000  | 0.000 - 6.000  | 0.000 - 6.000  | 0.000 - 6.000 |
| Health.Literacy.Score |                |                |                |               |
| - Missing             | 4              | 1              | 4              | 9             |
| - Mean (SD)           | 76.884 (10.825)| 75.853 (9.335)| 77.788 (10.828)| 76.837 (10.362)|
| - Range               | 37.500 - 100.000| 39.062 - 100.000 | 45.312 - 100.000 | 37.500 - 100.000 |
| Trust.in.Physician.Score |            |                |                |               |
| - Missing             | 13             | 8              | 8              | 29            |
| - Mean (SD)           | 37.554 (6.544) | 37.700 (6.439) | 38.740 (6.773) | 38.002 (6.597) |
| - Range               | 14.000 - 55.000 | 13.000 - 55.000 | 11.000 - 55.000 | 11.000 - 55.000 |
| Stress.score          |                |                |                |               |
| - Mean (SD)           | 3.635 (2.353)  | 3.995 (2.340)  | 3.966 (2.343)  | 3.865 (2.347) |
| - Range               | 0.000 - 10.000 | 0.000 - 9.000  | 0.000 - 10.000 | 0.000 - 10.000 |
| General.Mental.Health |                |                |                |               |
| - Mean (SD)           | 1.692 (2.601)  | 1.986 (2.913)  | 2.260 (3.221)  | 1.979 (2.927) |
| - Range               | 0.000 - 10.000 | 0.000 - 12.000 | 0.000 - 12.000 | 0.000 - 12.000 |
| Need.for.Recovery     |                |                |                |               |
| - Mean (SD)           | 3.553 (2.764)  | 3.606 (2.693)  | 3.615 (2.785)  | 3.591 (2.743) |
| - Range               | 0.000 - 10.000 | 0.000 - 10.000 | 0.000 - 11.000 | 0.000 - 11.000 |
|                          | Wave 1 (N=208) | Wave 2 (N=208) | Wave 3 (N=208) | Total (N=624) |
|--------------------------|----------------|----------------|----------------|--------------|
| **Sleep score**          |                |                |                |              |
| - Mean (SD)              | 4.885 (3.672)  | 4.817 (3.437)  | 5.101 (3.593)  | 4.934 (3.565) |
| - Range                  | 0.000 - 16.000 | 0.000 - 16.000 | 0.000 - 16.000 | 0.000 - 16.000 |
| **Role conflicts**       |                |                |                |              |
| - Mean (SD)              | 3.529 (2.582)  | 3.562 (2.490)  | 3.433 (2.460)  | 3.508 (2.508) |
| - Range                  | 0.000 - 12.000 | 0.000 - 10.000 | 0.000 - 11.000 | 0.000 - 12.000 |
| **Job satisfaction**     |                |                |                |              |
| - Mean (SD)              | 15.284 (2.229) | 15.115 (2.415) | 15.149 (2.337) | 15.183 (2.326) |
| - Range                  | 8.000 - 20.000 | 7.000 - 20.000 | 7.000 - 20.000 | 7.000 - 20.000 |
| **Musculoskeletal Functioning** |            |                |                |              |
| - Mean (SD)              | 0.981 (1.588)  | 0.909 (1.509)  | 2.178 (2.152)  | 1.356 (1.863) |
| - Range                  | 0.000 - 9.000  | 0.000 - 9.000  | 0.000 - 9.000  | 0.000 - 9.000  |

1. Pearson's Chi-squared test
2. Kruskal-Wallis rank sum test
3. Trend test for ordinal variables
Supplement C: descriptive statistics by group

Gender, age, income, nationality, and household are not significantly different in the three waves. In wave 1, the intervention group has slightly more employees with a higher educational attainment, and more medical personnel in comparison with the control group. Most of the medical personnel are nurses: in wave 1 there were 158 nurses in the control group (41.7% of 396), and 188 (50.8% of 380) in the intervention group. These differences are no longer significant in wave 2 or 3.

Supplemental Table S3. Summary Statistics by group (Wave 1) : mean (proportion)

|                | control (N=396) | intervention (N=380) | Total (N=776) | p value |
|----------------|-----------------|----------------------|---------------|---------|
| Gender         |                 |                      |               | 0.352¹  |
| Missing        | 1               | 1                    | 2             |         |
| Male           | 78 (19.7%)      | 65 (17.2%)           | 143 (18.5%)   |         |
| Female         | 317 (80.3%)     | 314 (82.8%)          | 631 (81.5%)   |         |
| Other          | 0 (0.0%)        | 0 (0.0%)             | 0 (0.0%)      |         |
| Age            |                 |                      |               | 0.535²  |
| Mean (SD)      | 45.634 (11.215) | 45.129 (11.188)      | 45.387 (11.197) |         |
| Range          | 22.000 - 66.000 | 17.000 - 64.000      | 17.000 - 66.000 |         |
| Income         |                 |                      |               | 0.801³  |
| Missing        | 3               | 2                    | 5             |         |
| Income less than 1500 monthly | 69 (17.6%) | 54 (14.3%) | 123 (16.0%) |
| Income 1500,00 - 1999,99 monthly | 117 (29.8%) | 123 (32.5%) | 240 (31.1%) |
| Income 2000,00 - 2499,99 monthly | 124 (31.6%) | 117 (31.0%) | 241 (31.3%) |
| Income 2500,00 - 2999,99 monthly | 34 (8.7%) | 42 (11.1%) | 76 (9.9%) |
| Income 3000,00 - 4999,99 monthly | 15 (3.8%) | 11 (2.9%) | 26 (3.4%) |
| Income > 5000,00 monthly | 3 (0.8%) | 2 (0.5%) | 5 (0.6%) |
| Income not stated | 31 (7.9%) | 29 (7.7%) | 60 (7.8%) |
| Nationality    |                 |                      |               | 0.640¹  |
| Belgian        | 388 (98.0%)     | 375 (98.7%)          | 763 (98.3%)   |         |
| Migrant inside EU | 6 (1.5%)   | 3 (0.8%)             | 9 (1.2%)      |         |
| Migrant outside EU | 2 (0.5%) | 2 (0.5%) | 4 (0.5%) |
| Education      |                 |                      |               | 0.061³  |
| Level                  | control (N=396) | intervention (N=380) | Total (N=776) | p value |
|-----------------------|-----------------|----------------------|---------------|---------|
| No degree             | 3 (0.8%)        | 4 (1.1%)             | 7 (0.9%)      |         |
| Primary education     | 14 (3.5%)       | 9 (2.4%)             | 23 (3.0%)     |         |
| Secondary education   | 85 (21.5%)      | 63 (16.6%)           | 148 (19.1%)   |         |
| Higher education      | 294 (74.2%)     | 299 (78.7%)          | 593 (76.4%)   |         |
| Other education       | 0 (0.0%)        | 5 (1.3%)             | 5 (0.6%)      |         |
| Household             |                 |                      |               | 0.640$^1$ |
| Single                | 41 (10.4%)      | 50 (13.2%)           | 91 (11.7%)    |         |
| Single with child(ren)| 34 (8.6%)       | 29 (7.6%)            | 63 (8.1%)     |         |
| Couple with child(ren)| 247 (62.4%)     | 239 (62.9%)          | 486 (62.6%)   |         |
| Couple without child(ren)| 70 (17.7%)  | 60 (15.8%)           | 130 (16.8%)   |         |
| Other                 | 4 (1.0%)        | 2 (0.5%)             | 6 (0.8%)      |         |
| Occupation            |                 |                      |               | 0.048$^1$ |
| Missing               | 17              | 10                   | 27            |         |
| Medical Personnel     | 185 (48.8%)     | 209 (56.5%)          | 394 (52.6%)   |         |
| Paramedics            | 12 (3.2%)       | 8 (2.2%)             | 20 (2.7%)     |         |
| Technicians           | 31 (8.2%)       | 25 (6.8%)            | 56 (7.5%)     |         |
| Administrative Personnel| 55 (14.5%)   | 65 (17.6%)           | 120 (16.0%)   |         |
| Management            | 18 (4.7%)       | 16 (4.3%)            | 34 (4.5%)     |         |
| Cleaning Staff        | 24 (6.3%)       | 10 (2.7%)            | 34 (4.5%)     |         |
| Other                 | 54 (14.2%)      | 37 (10.0%)           | 91 (12.1%)    |         |
| Hospital              |                 |                      |               | 0.012$^1$ |
| Hospital A            | 116 (29.3%)     | 81 (21.3%)           | 197 (25.4%)   |         |
| Hospital B            | 141 (35.6%)     | 125 (32.9%)          | 266 (34.3%)   |         |
| Hospital C            | 93 (23.5%)      | 121 (31.8%)          | 214 (27.6%)   |         |
| Hospital D            | 46 (11.6%)      | 53 (13.9%)           | 99 (12.8%)    |         |
| Group                 |                 |                      |               | < 0.001$^1$ |
| Non-random control    | 340 (85.9%)     | 0 (0.0%)             | 340 (43.8%)   |         |
| Random control        | 56 (14.1%)      | 0 (0.0%)             | 56 (7.2%)     |         |
| Non-random intervention| 0 (0.0%)        | 53 (13.9%)           | 53 (6.8%)     |         |
| Gender                | control (N=202) | intervention (N=216) | Total (N=418) | p value |
|-----------------------|----------------|----------------------|---------------|---------|
| Missing               | 8              | 8                    | 16            | 0.638   |
| Male                  | 40 (20.6%)     | 39 (18.8%)           | 79 (19.7%)    |         |
| Female                | 154 (79.4%)    | 169 (81.2%)          | 323 (80.3%)   |         |
| Other                 | 0 (0.0%)       | 0 (0.0%)             | 0 (0.0%)      |         |
| Age                   |                |                      |               | 0.842   |
| Missing               | 7              | 8                    | 15            |         |
| Mean (SD)             | 46.949 (11.087)| 46.577 (11.333)     | 46.757 (11.203)|         |
| Range                 | 23.000 - 65.000| 18.000 - 64.000      | 18.000 - 65.000|         |
| Income                |                |                      |               | 0.527   |
| Missing               | 1              | 0                    | 1             |         |
| Income less than 1500 monthly | 23 (11.4%) | 24 (11.1%) | 47 (11.3%) |
| Income 1500,00 - 1999,99 monthly | 63 (31.3%) | 64 (29.6%) | 127 (30.5%) |
| Income 2000,00 - 2499,99 monthly | 58 (28.9%) | 69 (31.9%) | 127 (30.5%) |
| Income 2500,00 - 2999,99 monthly | 19 (9.5%) | 29 (13.4%) | 48 (11.5%) |
| Income 3000,00 - 4999,99 monthly | 7 (3.5%) | 5 (2.3%) | 12 (2.9%) |
| Income > 5000,00 monthly | 2 (1.0%) | 1 (0.5%) | 3 (0.7%) |
| Income not stated     | 29 (14.4%)     | 24 (11.1%)           | 53 (12.7%)    |         |

| Nationality           |                |                      |               | 0.477   |
| Belgian               | 192 (98.5%)    | 207 (99.5%)          | 399 (99.0%)   |         |
| Migrant inside EU     | 2 (1.0%)       | 1 (0.5%)             | 3 (0.7%)      |         |
| Migrant outside EU    | 1 (0.5%)       | 0 (0.0%)             | 1 (0.2%)      |         |

| Education             |                |                      |               | 0.183   |
| Missing               | 7              | 8                    | 15            |         |
| Education Level          | control (N=202) | intervention (N=216) | Total (N=418) | p value |
|--------------------------|-----------------|----------------------|---------------|---------|
| No degree                | 0 (0.0%)        | 0 (0.0%)             | 0 (0.0%)      |         |
| Primary education        | 4 (2.1%)        | 5 (2.4%)             | 9 (2.2%)      |         |
| Secondary education      | 43 (22.1%)      | 32 (15.4%)           | 75 (18.6%)    |         |
| Higher education         | 147 (75.4%)     | 169 (81.2%)          | 316 (78.4%)   |         |
| Other education          | 1 (0.5%)        | 2 (1.0%)             | 3 (0.7%)      |         |
| Household                |                 |                      |               | 0.270¹  |
| Missing                  | 7               | 8                    | 15            |         |
| Single                   | 18 (9.2%)       | 24 (11.5%)           | 42 (10.4%)    |         |
| Single with child(ren)   | 18 (9.2%)       | 8 (3.8%)             | 26 (6.5%)     |         |
| Couple with child(ren)   | 126 (64.6%)     | 139 (66.8%)          | 265 (65.8%)   |         |
| Couple without child(ren)| 31 (15.9%)      | 35 (16.8%)           | 66 (16.4%)    |         |
| Other                    | 2 (1.0%)        | 2 (1.0%)             | 4 (1.0%)      |         |
| Occupation               |                 |                      |               | 0.119¹  |
| Missing                  | 2               | 2                    | 4             |         |
| Medical Personnel        | 89 (44.5%)      | 123 (57.5%)          | 212 (51.2%)   |         |
| Paramedics               | 12 (6.0%)       | 8 (3.7%)             | 20 (4.8%)     |         |
| Technicians              | 20 (10.0%)      | 15 (7.0%)            | 35 (8.5%)     |         |
| Administrative Personnel | 40 (20.0%)      | 35 (16.4%)           | 75 (18.1%)    |         |
| Management               | 12 (6.0%)       | 10 (4.7%)            | 22 (5.3%)     |         |
| Cleaning Staff           | 9 (4.5%)        | 3 (1.4%)             | 12 (2.9%)     |         |
| Other                    | 18 (9.0%)       | 20 (9.3%)            | 38 (9.2%)     |         |
| Hospital                 |                 |                      |               | 0.691¹  |
| Hospital A               | 53 (26.2%)      | 48 (22.2%)           | 101 (24.2%)   |         |
| Hospital B               | 56 (27.7%)      | 57 (26.4%)           | 113 (27.0%)   |         |
| Hospital C               | 58 (28.7%)      | 67 (31.0%)           | 125 (29.9%)   |         |
| Hospital D               | 35 (17.3%)      | 44 (20.4%)           | 79 (18.9%)    |         |
| Group                    |                 |                      |               | <0.001¹ |
| Non-random control       | 187 (92.6%)     | 0 (0.0%)             | 187 (44.7%)   |         |
| Random control           | 15 (7.4%)       | 0 (0.0%)             | 15 (3.6%)     |         |
|                          | control (N=202) | intervention (N=216) | Total (N=418) | p value |
|--------------------------|-----------------|----------------------|---------------|---------|
| Non-random intervention  | 0 (0.0%)        | 44 (20.4%)           | 44 (10.5%)    |         |
| Random intervention      | 0 (0.0%)        | 172 (79.6%)          | 172 (41.1%)   |         |

**Supplemental Table S5. Summary Statistics by group (Wave 3) : mean (proportion)**

|                          | control (N=308) | intervention (N=280) | Total (N=588) | p value |
|--------------------------|-----------------|----------------------|---------------|---------|
| Gender                   |                 |                      |               | 0.810¹  |
| Missing                  | 15              | 12                   | 27            |         |
| Male                     | 57 (19.5%)      | 50 (18.7%)           | 107 (19.1%)   |         |
| Female                   | 236 (80.5%)     | 218 (81.3%)          | 454 (80.9%)   |         |
| Other                    | 0 (0.0%)        | 0 (0.0%)             | 0 (0.0%)      |         |
| Age                      |                 |                      |               | 1.000²  |
| Missing                  | 14              | 12                   | 26            |         |
| Mean (SD)                | 46.789 (10.788) | 46.806 (10.595)     | 46.797 (10.686)|         |
| Range                    | 23.000 - 65.000 | 18.000 - 64.000     | 18.000 - 65.000|         |
| Income                   |                 |                      |               | 0.681³  |
| Missing                  | 19              | 15                   | 34            |         |
| Income less than 1500 monthly | 41 (14.2%) | 39 (14.7%)            | 80 (14.4%)   |         |
| Income 1500.00 - 1999.99 monthly | 88 (30.4%) | 79 (29.8%)            | 167 (30.1%)  |         |
| Income 2000.00 - 2499.99 monthly | 99 (34.3%) | 87 (32.8%)            | 186 (33.6%)  |         |
| Income 2500.00 - 2999.99 monthly | 28 (9.7%) | 34 (12.8%)            | 62 (11.2%)   |         |
| Income 3000.00 - 4999.99 monthly | 11 (3.8%) | 11 (4.2%)            | 22 (4.0%)    |         |
| Income > 5000.00 monthly | 0 (0.0%)        | 2 (0.8%)             | 2 (0.4%)     |         |
| Income not stated        | 22 (7.6%)       | 13 (4.9%)            | 35 (6.3%)    |         |
| Nationality              |                 |                      |               | 0.580¹  |
| Missing                  | 9               | 8                     | 17            |         |
| Belgian                  | 292 (99.3%)     | 265 (98.9%)          | 557 (99.1%)   |         |
| Migrant inside EU        | 2 (0.7%)        | 3 (1.1%)             | 5 (0.9%)     |         |
| Migrant outside EU       | 0 (0.0%)        | 0 (0.0%)             | 0 (0.0%)     |         |
|                      | control (N=308) | intervention (N=280) | Total (N=588) | p value |
|----------------------|-----------------|----------------------|---------------|---------|
| **Education**        |                 |                      |               | 0.380$^3$ |
| Missing              | 14              | 13                   | 27            |         |
| No degree            | 1 (0.3%)        | 0 (0.0%)             | 1 (0.2%)      |         |
| Primary education    | 7 (2.4%)        | 10 (3.7%)            | 17 (3.0%)     |         |
| Secondary education  | 58 (19.7%)      | 40 (15.0%)           | 98 (17.5%)    |         |
| Higher education     | 227 (77.2%)     | 214 (80.1%)          | 441 (78.6%)   |         |
| Other education      | 1 (0.3%)        | 3 (1.1%)             | 4 (0.7%)      |         |
| **Household**        |                 |                      |               | 0.298$^1$ |
| Missing              | 14              | 12                   | 26            |         |
| Single               | 26 (8.8%)       | 29 (10.8%)           | 55 (9.8%)     |         |
| Single with child(ren) | 28 (9.5%)     | 15 (5.6%)            | 43 (7.7%)     |         |
| Couple with child(ren) | 188 (63.9%)   | 185 (69.0%)          | 373 (66.4%)   |         |
| Couple without child(ren) | 50 (17.0%) | 38 (14.2%)           | 88 (15.7%)    |         |
| Other                | 2 (0.7%)        | 1 (0.4%)             | 3 (0.5%)      |         |
| **Occupation**       |                 |                      |               | 0.203$^1$ |
| Missing              | 1               | 3                    | 4             |         |
| Medical Personnel    | 157 (51.1%)     | 162 (58.5%)          | 319 (54.6%)   |         |
| Paramedics           | 13 (4.2%)       | 11 (4.0%)            | 24 (4.1%)     |         |
| Technicians          | 28 (9.1%)       | 12 (4.3%)            | 40 (6.8%)     |         |
| Administrative Personnel | 50 (16.3%) | 43 (15.5%)           | 93 (15.9%)    |         |
| Management           | 13 (4.2%)       | 14 (5.1%)            | 27 (4.6%)     |         |
| Cleaning Staff       | 16 (5.2%)       | 8 (2.9%)             | 24 (4.1%)     |         |
| Other                | 30 (9.8%)       | 27 (9.7%)            | 57 (9.8%)     |         |
| **Hospital**         |                 |                      |               | 0.112$^1$ |
| Hospital A           | 101 (32.8%)     | 74 (26.4%)           | 175 (29.8%)   |         |
| Hospital B           | 81 (26.3%)      | 66 (23.6%)           | 147 (25.0%)   |         |
| Hospital C           | 88 (28.6%)      | 105 (37.5%)          | 193 (32.8%)   |         |
| Hospital D           | 38 (12.3%)      | 35 (12.5%)           | 73 (12.4%)    |         |
| **Group**            |                 |                      |               | < 0.001$^1$ |

$^1$ Indicates a statistical significance.
| Variable          | Population B-C (n=1402) | Sample B-C (n=480) | Population D (n=862) | Sample D (n=99) |
|-------------------|-------------------------|--------------------|----------------------|----------------|
| Gender            |                         |                    |                      |                |
| Missing           | 2.2%                    | 0.2%               | 0.0%                 | 0.0%           |
| Male              | 17.8%                   | 20.0%              | 19.8%                | 16.16%         |
| Female            | 80.0%                   | 79.8%              | 80.2%                | 83.83%         |
| Age               | 44.48(12.20)            |                    | 47.46(11.15)         |                |
| Missing           | 2.2%                    | 0.0%               |                      |                |
| <25               | 4.6%                    | 2.1%               |                      |                |
| 25 - 34           | 23.7%                   | 21.0%              |                      |                |
| 35 - 44           | 22.5%                   | 21.5%              |                      |                |
| 45 - 54           | 25.1%                   | 29.2%              |                      |                |
| >55               | 22.0%                   | 26.3%              |                      |                |

Supplement D: sample quality

Supplemental Table S6. Comparison of sample proportion estimates in time 1 for hospital B C, and D to population data from hospital C, B, and D
Supplement E: full mixed models, including covariates

Supplemental Table S7. Regressions mixed methods: group + time + interaction, and covariates. For each variable, estimates are on the first line, and 95% confidence intervals are in parentheses. * = p<0.1; ** = p<0.05; *** = p<0.01. ICC = between/(between+within) variance. $\sigma^2$ = within-group variance; $\tau00$ = variance of random intercept; $\tau11$ = variance of random slope; $\rho01$ = correlation between random intercept and slope.

| Dependent Var          | EQSD vas | Musculo (log) | Stress | Burnout | Sleep Problems | GHQ(log) | NFR(log) |
|------------------------|----------|---------------|--------|---------|----------------|----------|----------|
| Range                  | (0-100)  | (1-10)        | (0-12) | (0-16)  | (0-13)         | (1-13)   | (1-12)   |
| **Intercept**          | 76.76 ***| 0.54 ***      | 2.96 ***| 4.07 ***| 4.63 ***       | 0.56 *** | 1.12 *** |
|                        | (73.13 – 80.38) | (0.36 – 0.73) | (2.26 – 3.66) | (3.04 – 5.10) | (3.59 – 5.67) | (0.34 – 0.79) | (0.94 – 1.30) |
| **Intervention group** | -0.26    | -0.06         | 0.02   | 0.13    | 0.36           | 0.07     | 0.00     |
| (ref.=control)         |         |               |        |         |                |          |          |
| (-2.01 – 1.49)         | (-0.15 – 0.02) | (-0.32 – 0.36) | (-0.36 – 0.63) | (-0.14 – 0.86) | (-0.04 – 0.19) | (-0.09 – 0.09) |
| **Time 2 (ref.=Time1)**| -1.72 *  | -0.12 ***     | 0.46 ***| 0.59 ***| 0.07           | 0.08     | 0.04     |
|                        |         |               |        |         |                |          |          |
| (-3.50 – 0.05)         | (-0.20 – 0.04) | (0.16 – 0.77) | (0.15 – 1.03) | (-0.34 – 0.48) | (-0.04 – 0.19) | (-0.03 – 0.12) |
| **Time 3**             | -1.11    | 0.45 ***      | 0.48 ***| 0.69 ***| 0.53 **        | 0.17 *** | 0.08 **  |
|                        |         |               |        |         |                |          |          |
| (-2.80 – 0.57)         | (0.36 – 0.54) | (0.19 – 0.77) | (0.25 – 1.13) | (0.08 – 0.98) | (0.05 – 0.28) | (0.00 – 0.15) |
| **Hospital B (ref. = hosp A)**| 3.31 *** | -0.08         | -0.38 **| -0.81 ***| -0.82 ***      | -0.23 ***| -0.11 **  |
|                        |         |               |        |         |                |          |          |
| (1.41 – 5.21)          | (-0.17 – 0.02) | (-0.74 – 0.01) | (-1.35 – 0.27) | (-1.37 – 0.27) | (-0.35 – 0.11) | (-0.21 – 0.02) |
| **Hospital C**         | 2.89 *** | -0.11 **      | -0.16  | -0.41   | -0.49 *        | -0.11 *  | -0.06    |
|                        |         |               |        |         |                |          |          |
| (0.96 – 4.83)          | (-0.20 – 0.01) | (-0.53 – 0.21) | (-0.96 – 0.13) | (-1.05 – 0.07) | (-0.23 – 0.01) | (-0.16 – 0.03) |
| **Hospital D**         | 3.28 *** | -0.14 **      | -0.32  | -0.42   | 0.02           | -0.07    | -0.03    |
|                        |         |               |        |         |                |          |          |
| (0.90 – 5.65)          | (-0.26 – 0.02) | (-0.77 – 0.13) | (-1.08 – 0.25) | (-0.66 – 0.70) | (-0.21 – 0.08) | (-0.15 – 0.08) |
| **Age <25 (ref. = Age > 55)** | -0.34    | -0.07         | 0.11   | 0.46    | -0.08          | -0.11    | 0.06     |
|                        |         |               |        |         |                |          |          |
| (-6.16 – 3.47)         | (-0.31 – 0.17) | (-0.81 – 1.03) | (-0.89 – 1.81) | (-1.42 – 1.27) | (-0.41 – 0.20) | (-0.17 – 0.30) |
| **Age 25 - 34**        | 0.10     | -0.05         | 1.05 ***| 1.43 ***| -0.40          | 0.29 *** | 0.13 **  |
|                        |         |               |        |         |                |          |          |
| (-2.09 – 2.29)         | (-0.16 – 0.06) | (0.63 – 1.47) | (0.81 – 2.05) | (-1.02 – 0.23) | (0.15 – 0.42) | (0.03 – 0.24) |
| **Age 35 - 44**        | 1.23     | -0.05         | 0.54 ***| 0.76 ** | 0.04           | 0.08     | 0.10 **  |
|                        |         |               |        |         |                |          |          |
| (-0.83 – 3.29)         | (-0.15 – 0.05) | (0.14 – 0.93) | (0.18 – 1.34) | (-0.54 – 0.63) | (-0.05 – 0.21) | (0.00 – 0.20) |
| **Age 45 - 54**        | 0.14     | 0.01          | 0.18   | 0.43    | 0.20           | 0.06     | 0.06     |
|                        |         |               |        |         |                |          |          |
| (-1.71 – 1.98)         | (-0.08 – 0.10) | (-0.17 – 0.53) | (-0.09 – 0.95) | (-0.32 – 0.72) | (-0.06 – 0.17) | (-0.03 – 0.15) |
| **Female (ref. = Male)**| -0.99    | 0.18 ***      | 0.50 ***| 0.93 ***| 0.66 **        | 0.10     | 0.08     |
|                        |         |               |        |         |                |          |          |
| (-2.86 – 0.89)         | (0.08 – 0.27) | (0.14 – 0.86) | (0.40 – 1.47) | (0.12 – 1.20) | (-0.02 – 0.21) | (-0.02 – 0.17) |
Supplemental Table S8. Regressions mixed methods: group + time + interaction, and covariates. For each variable, estimates are on the first line, and 95% confidence intervals are in parentheses. *p<0.1; **p<0.05; ***p<0.01. ICC=between/(between+within) variance. $\sigma^2 =$ within-group variance; $\tau_{00} =$ variance of random intercept ; $\tau_{11} =$ variance of random slope; $\rho_{01} =$ correlation between random intercept and slope.

| Dependent Var | EQSD vas | Musculo (log) | Stress | Burnout | Sleep Problems | GHQ[log] | NFR[log] |
|---------------|---------|--------------|--------|---------|----------------|---------|---------|
| Education (linear) | 0.07 | -0.12 | 1.50 * | 0.30 | 1.39 | -0.50 * | 0.20 |
| (-8.14 – 8.28) | (-0.53 – 0.29) | (-0.09 – 3.08) | (-2.04 – 2.63) | (-0.98 – 3.75) | (-1.01 – 0.02) | (-0.21 – 0.61) |
| Education (quadratic) | 4.00 | -0.14 | -1.42 ** | -2.47 ** | -1.47 | -0.40 * | -0.42 ** |
| (-2.99 – 10.99) | (-0.49 – 0.21) | (-2.77 – 0.07) | (-4.46 – 0.49) | (-3.49 – 0.54) | (-0.84 – 0.04) | (-0.76 – 0.07) |
| Education (cubic) | -6.06 ** | 0.09 | 0.99 ** | 0.57 | 1.58 ** | -0.08 | -0.01 |
| (-10.89 – -1.22) | (-0.15 – 0.33) | (0.06 – 1.92) | (-0.81 – 1.94) | (0.19 – 2.97) | (-0.39 – 0.22) | (-0.25 – 0.23) |
| Education (4th degree) | 3.14 ** | 0.02 | -0.62 ** | -0.91 ** | -0.81 ** | -0.19 ** | -0.02 |
| (0.36 – 5.91) | (-0.12 – 0.16) | (-1.16 – -0.09) | (-1.70 – -0.13) | (-1.60 – -0.01) | (-0.36 – -0.01) | (-0.15 – 0.12) |
| intervention:time2 | -0.46 | 0.13 ** | -0.29 | -0.25 | -0.27 | -0.10 | -0.08 |
| (-2.94 – 2.01) | (0.02 – 0.24) | (-0.72 – -0.14) | (-0.87 – -0.36) | (-0.84 – -0.30) | (-0.26 – -0.06) | (-0.18 – -0.03) |
| intervention:time3 | 0.00 | 0.01 | -0.21 | -0.57 * | -0.53 | -0.15 * | -0.09 * |
| (-2.41 – 2.41) | (-0.12 – 0.14) | (-0.62 – -0.20) | (-1.20 – -0.06) | (-1.18 – -0.11) | (-0.32 – -0.01) | (-0.20 – -0.02) |

| Random Effects | | | | | | | |
| $\sigma^2$ | 13.75 | 0.03 | 0.43 | 0.94 | 0.91 | 0.06 | 0.03 |
| $\tau_{00}$ | 144.97 ID | 0.36 ID | 5.73 ID | 12.10 ID | 12.30 ID | 0.60 ID | 0.37 ID |
| $\tau_{11}$ | 134.63 ID.time2 | 0.28 ID.time2 | 4.23 ID.time2 | 8.43 ID.time2 | 6.75 ID.time2 | 0.64 ID.time2 | 0.23 ID.time2 |
| 173.98 ID.time3 | 0.50 ID.time3 | 4.66 ID.time3 | 11.21 ID.time3 | 11.83 ID.time3 | 0.90 ID.time3 | 0.31 ID.time3 |
| $\rho_{01}$ | -0.33 | -0.45 | -0.44 | -0.43 | -0.39 | -0.5 | -0.45 |
| -0.51 | -0.47 | -0.49 | -0.47 | -0.46 | -0.57 | -0.44 |
| ICC | 0.92 | 0.92 | 0.93 | 0.93 | 0.93 | 0.91 | 0.93 |
| N | 1041 ID | 1042 ID | 1042 ID | 1042 ID | 1042 ID | 1042 ID |

| Observations | 1733 | 1736 | 1736 | 1736 | 1736 | 1736 |
| Marginal R2 / Conditional R2 | 0.029 / 0.923 | 0.132 / 0.932 | 0.048 / 0.932 | 0.046 / 0.931 | 0.025 / 0.934 | 0.037 / 0.916 | 0.023 / 0.930 |
| Dependent Var          | Role conflicts | Health literacy | Trust in physician | Job Satisfaction | Turnover intention |
|------------------------|----------------|-----------------|--------------------|------------------|--------------------|
| Intercept              | 3.65 ***       | 76.25 ***       | 40.59 ***          | 15.53 ***        | 0.37 **            |
|                        | (2.95 – 4.36)  | (73.27 – 79.23) | (38.85 – 42.33)   | (14.86 – 16.20)  | (0.05 – 0.68)      |
| Intervention group     | 0.30 *         | -0.97           | -0.94 **           | -0.07            | -0.02              |
| (ref. = control)       | (-0.04 – 0.64) | (-2.43 – 0.49)  | (-1.78 – 0.10)    | (-0.38 – 0.25)   | (-0.17 – 0.13)     |
| Time 2 (ref. = Time1)  | 0.16           | -1.31 *         | -0.32              | -0.09            | 0.19 ***           |
|                        | (-0.13 – 0.46) | (-2.62 – 0.00)  | (-0.99 – 0.36)    | (-0.35 – 0.17)   | (0.05 – 0.32)      |
| Time 3                 | 0.13           | 1.22 *          | -0.04              | -0.06            | -0.15 **           |
|                        | (-0.17 – 0.43) | (-0.19 – 2.63)  | (-0.79 – 0.72)    | (-0.33 – 0.21)   | (-0.28 – 0.02)     |
| Hospital B             | -0.79 ***      | 0.49            | -0.16              | 0.31 *           | -0.16 *            |
| (ref. = hosp A)        | (-1.16 – 0.42) | (-1.10 – 2.07)  | (-1.09 – 0.77)    | (-0.04 – 0.67)   | (-0.33 – 0.00)     |
| Hospital C             | -0.02          | -0.03           | 0.53               | 0.14             | 0.19 **            |
|                        | (-0.39 – 0.36) | (-1.63 – 1.57)  | (-0.40 – 1.47)    | (-0.22 – 0.50)   | (0.02 – 0.35)      |
| Hospital D             | -0.20          | -3.36 ***       | -4.77 ***          | 0.24             | -0.03              |
|                        | (-0.66 – 0.25) | (-5.31 – 1.41)  | (-5.89 – 3.64)    | (-0.20 – 0.68)   | (-0.24 – 0.18)     |
| Age <25 (ref. = Age > 55) | 0.91 *        | -5.44 ***       | -2.55 **           | 0.34             | 0.47 **            |
|                        | (-0.01 – 1.83) | (-9.45 – 1.43)  | (-4.83 – 0.28)    | (-0.51 – 1.20)   | (0.05 – 0.89)      |
| Age 25 - 34            | 0.99 ***       | -1.29           | -0.98 *            | -0.44 **         | 0.84 ***           |
|                        | (0.57 – 1.41)  | (-3.08 – 0.50)  | (-2.03 – 0.07)    | (-0.85 – 0.04)   | (0.65 – 1.03)      |
| Age 35 - 44            | 0.63 ***       | -0.55           | -0.55              | -0.26            | 0.65 ***           |
|                        | (0.23 – 1.03)  | (-2.26 – 1.15)  | (-1.54 – 0.44)    | (-0.63 – 0.12)   | (0.47 – 0.83)      |
| Age 45 - 54            | -0.11          | -0.11           | 0.08               | -0.28 *          | 0.48 ***           |
|                        | (-0.46 – 0.24) | (-1.63 – 1.41)  | (-0.79 – 0.95)    | (-0.61 – 0.05)   | (0.32 – 0.64)      |
| Female (ref. = Male)   | -0.46 **       | -0.74           | -0.69              | 0.53 ***         | -0.23 ***          |
|                        | (-0.82 – 0.09) | (-2.28 – 0.80)  | (-1.60 – 0.22)    | (0.18 – 0.88)    | (-0.40 – 0.07)     |
| Education (linear)     | -1.68 **       | 1.60            | 1.43               | 0.55             | -0.23              |
|                        | (1.68 **       | 1.60            | 1.43               | 0.55             | -0.23              |
| Education (quadratic)  | 1.27           | 1.75            | 0.83               | -0.54 *          |
|                        | (-1.47 – 1.26) | (-4.48 – 7.03)  | (-1.61 – 5.11)    | (-0.47 – 2.13)   | (-1.15 – 0.07)     |
| Education (cubic)      | -0.65          | 1.81            | 1.16 **            | -0.42 *          |
|                        | (-1.01 **      | -0.65          | 1.81               | 1.16 **          | -0.42 *            |
| Education (4th degree) | 0.15           | -0.01           | -0.10              | 0.01             |
Supplemental Table S9. Regressions mixed methods: group + time + interaction, and covariates. For each variable, estimates are on the first line, and 95% confidence intervals are in parentheses. *=p<0.1; **=p<0.05; ***=p<0.01. ICC=between/(between+within) variance. σ² = within-group variance; τ00 = variance of random intercept ; τ11 = variance of random slope; ρ01= correlation between random intercept and slope.

| Dependent Var | Role conflicts | Health literacy | Trust in physician | Job Satisfaction | Turnover intention |
|---------------|----------------|-----------------|--------------------|-----------------|-------------------|
| (-0.62 – 0.46) | (-2.16 – 2.46) | (-1.35 – 1.33) | (-0.62 – 0.41) | (-0.23 – 0.26) |
| Intervention:time2 | -0.27 | 1.55 * | 0.32 | 0.08 | -0.18 * |
| (-0.68 – 1.14) | (-0.27 – 3.38) | (-0.61 – 1.25) | (-0.28 – 0.44) | (-0.37 – 0.00) |
| Intervention:time3 | -0.22 | -0.36 | 0.76 | 0.05 | 0.15 |
| (-0.65 – 0.22) | (-2.38 – 1.65) | (-0.32 – 1.85) | (-0.33 – 0.43) | (-0.04 – 0.34) |

**Random Effects**

|  | σ² | τ00 | τ11 | ρ01 | ICC | N  |
|---|----|-----|-----|-----|-----|----|
|干预组 | 0.44 | 5.70 ID | 3.60 ID.time2 | -0.43 | 0.93 | 1042 ID |
| | 8.57 | 99.95 ID | 72.66 ID.time2 | -0.49 | 0.92 | 1017 ID |
| | 2.39 | 33.41 ID | 15.86 ID.time2 | -0.36 | 0.93 | 1001 ID |
| | 0.36 | 5.13 ID | 2.48 ID.time2 | -0.28 | 0.93 | 1040 ID |
| | 0.09 | 1.11 ID | 0.70 ID.time2 | -0.29 | 0.93 | 1034 ID |
| | 0.44 | 0.27 ID.time2 | 0.95 ID.time3 | -0.45 | 0.93 | 1034 ID |
| | | | | -0.45 | 0.93 | 1034 ID |

Observations | 1736 | 1688 | 1642 | 1734 | 1723 |

Marginal R2 / Conditional R2 | 0.058 / 0.932 | 0.027 / 0.926 | 0.094 / 0.940 | 0.024 / 0.936 | 0.098 / 0.938 |
| Dependent Var | Generalised Poisson absenteeism | Generalised Poisson absenteeism last 4 weeks | Binomial work-related consultations | Negative binomial referrals | Negative binomial spontaneous consultations | Binomial prescribed medication | Binomial non-prescribed medication |
|---------------|---------------------------------|---------------------------------------------|----------------------------------|------------------------|---------------------------------------------|-------------------------------|---------------------------------|
| **Time 2**     |                                 |                                             |                                  |                        |                                             |                               |                                 |
| (ref. = Time1) |                                 |                                             |                                  |                        |                                             |                               |                                 |
| 1.45          | 1.36                            | 0.80                                        | 0.58 *                          | 0.54 ***              | 1.30                                        | 1.51 *                        |                                 |
| (0.91 – 2.29) | (0.74 – 2.51)                   | (0.52 – 1.23)                               | (0.33 – 1.00)                   | (0.34 – 0.86)         | (0.78 – 2.17)                               | (0.97 – 2.34)                 |                                 |
| 0.83          | 1.38                            | 0.62 **                                     | 0.48 ***                        | 0.59 ***              | 0.88                                        | 1.32                          |                                 |
| (0.52 – 1.33) | (0.74 – 2.59)                   | (0.43 – 0.92)                               | (0.29 – 0.80)                   | (0.40 – 0.87)         | (0.56 – 1.40)                               | (0.89 – 1.96)                 |                                 |
| 0.85          | 1.75 ***                        | 0.64 **                                     | 0.88                            | 0.79                  | 0.94                                        | 0.85                          |                                 |
| **Hospital B** |                                 |                                             |                                  |                        |                                             |                               |                                 |
| (ref. = hosp A) |                                |                                             |                                  |                        |                                             |                               |                                 |
| 0.85          | 1.75 ***                        | 0.64 **                                     | 0.88                            | 0.79                  | 0.94                                        | 0.85                          |                                 |
| (0.59 – 1.23) | (1.16 – 2.64)                   | (0.45 – 0.92)                               | (0.55 – 1.42)                   | (0.57 – 1.11)         | (0.57 – 1.56)                               | (0.58 – 1.23)                 |                                 |
| **Hospital C** |                                |                                             |                                  |                        |                                             |                               |                                 |
| 0.78          | 0.78                            | 0.79                                        | 1.13                            | 0.82                  | 0.59 **                                     | 1.01                          |                                 |
| (0.54 – 1.13) | (0.49 – 1.23)                   | (0.55 – 1.14)                               | (0.74 – 1.74)                   | (0.57 – 1.16)         | (0.35 – 0.99)                               | (0.70 – 1.47)                 |                                 |
| 0.46 ***      | 0.75                            | 0.80                                        | 0.74                            | 0.58 **               | 0.65                                        | 0.96                          |                                 |
| **Hospital D** |                                |                                             |                                  |                        |                                             |                               |                                 |
| 0.90          | 0.53                            | 0.87                                        | 1.67                            | 1.95 *                | 0.14 ***                                    | 2.04                          |                                 |
| (0.27 – 0.80) | (0.30 – 1.86)                   | (0.51 – 1.25)                               | (0.40 – 1.34)                   | (0.36 – 0.95)         | (0.34 – 1.23)                               | (0.61 – 1.51)                 |                                 |
| 0.90          | 0.53                            | 0.87                                        | 1.67                            | 1.95 *                | 0.14 ***                                    | 2.04                          |                                 |
| **Age <25**    |                                 |                                             |                                  |                        |                                             |                               |                                 |
| (ref. = Age > 55) |                                 |                                             |                                  |                        |                                             |                               |                                 |
| 0.85          | 1.75 ***                        | 0.64 **                                     | 0.88                            | 0.79                  | 0.94                                        | 0.85                          |                                 |
| (0.28 – 2.89) | (0.14 – 2.00)                   | (0.33 – 2.28)                               | (0.61 – 4.62)                   | (0.91 – 4.15)         | (0.04 – 0.55)                               | (0.77 – 5.42)                 |                                 |
| **Age 25 - 34**|                                |                                             |                                  |                        |                                             |                               |                                 |
| 1.06          | 1.47                            | 0.80                                        | 0.75                            | 1.00                  | 0.20 ***                                    | 1.52 **                       |                                 |
| (0.96 – 2.21) | (0.59 – 1.59)                   | (0.66 – 1.50)                               | (0.34 – 0.99)                   | (0.65 – 1.45)         | (0.09 – 0.34)                               | (0.70 – 1.65)                 |                                 |
| **Age 35 - 44**|                               |                                             |                                  |                        |                                             |                               |                                 |
| 1.06          | 1.47                            | 0.80                                        | 0.75                            | 1.00                  | 0.20 ***                                    | 1.52 **                       |                                 |
| (0.69 – 1.61) | (0.86 – 2.52)                   | (0.54 – 1.18)                               | (0.47 – 1.20)                   | (0.69 – 1.46)         | (0.11 – 0.36)                               | (1.02 – 2.27)                 |                                 |
| 0.99          | 1.37                            | 0.98                                        | 0.91                            | 0.79                  | 0.43 ***                                    | 1.09                          |                                 |
| (0.67 – 1.47) | (0.88 – 2.14)                   | (0.69 – 1.40)                               | (0.61 – 1.37)                   | (0.55 – 1.12)         | (0.26 – 0.72)                               | (0.75 – 1.57)                 |                                 |
| **Female**    |                                 |                                             |                                  |                        |                                             |                               |                                 |
| (ref. = Male) |                                |                                             |                                  |                        |                                             |                               |                                 |
| 1.83 ***      | 1.03                            | 1.97 ***                                    | 1.24                            | 1.32                  | 1.29                                        | 1.87 ***                      |                                 |
| (1.17 – 2.87) | (0.47 – 2.25)                   | (1.36 – 2.84)                               | (0.80 – 1.92)                   | (0.91 – 1.92)         | (0.78 – 2.14)                               | (1.28 – 2.72)                 |                                 |
| 1.78          | 0.54 ***                        | 1.16                                        | 0.54 ***                        | 0.73                  | 0.93                                        | 1.78 **                       |                                 |
| (0.50 – 1.24) | (0.35 – 0.84)                   | (0.71 – 1.89)                               | (0.34 – 0.83)                   | (0.48 – 1.11)         | (0.47 – 1.84)                               | (1.04 – 3.04)                 |                                 |
| 1.01          | 1.03                            | 1.01                                        | 1.17                            | 0.90                  | 0.90                                        | 1.03                          |                                 |
Supplemental Table S10. Regressions mixed methods: group + time + interaction, and covariates. For each variable, estimates are on the first line, and 95% confidence intervals are in parentheses. * = p < 0.1; ** = p < 0.05; *** = p < 0.01. ICC = between/(between + within) variance. \( \sigma^2 \) = within-group variance; \( \tau_{00} \) = variance of random intercept; \( \tau_{11} \) = variance of random slope; \( \rho_{01} \) = correlation between random intercept and slope.
| Dependent Var | Weighted Presenteeism | Predictors | Incidence Rate Ratios |
|--------------|----------------------|------------|----------------------|
| Range        | (0-140)              |            |                      |
| Interception | 20.30 ***            | Dispersion Model |                      |
|              | (15.47 – 26.63)      | Intercept 12.47 *** |                      |
| Intervention group (ref.=control) | 1.15 | (0.95 – 1.39) | Hospital B (ref. = hosp A) 0.93 |
| Time 2 (ref.=Time1) | 0.98 | (0.77 – 1.25) | Hospital C 0.77 |
| Time 3       | 1.07                 | (0.87 – 1.31) | Hospital D 1.25 |
| Hospital B (ref. = hosp A) | 0.97 | (0.78 – 1.20) | Age <25 (ref. = Age > 55) 3.24 |
| Hospital C   | 0.83 *               | (0.67 – 1.03) | Age 25 - 34 1.48 |
| Hospital D   | 1.09                 | (0.83 – 1.44) | Age 35 - 44 1.44 |
| Age <25 (ref. = Age > 55) | 1.29 | (0.62 – 2.71) | Age 45 - 54 1.80 ** |
| Age 25 - 34  | 1.04                 | (0.82 – 1.33) | Zero-Inflated Model |
| Age 35 - 44  | 1.12                 | Intercept 1.90 *** |                      |
|              | (0.90 – 1.40)        | (1.45 – 2.48) |                      |
| Age 45 - 54  | 1.13                 | Hospital B (ref. = hosp A) 1.73 *** |                      |
|              | (0.91 – 1.40)        | (1.31 – 2.29) |                      |
| Female (ref. = Male) | 0.83 ** | Hospital C 1.33 ** | (0.70 – 0.99) | (1.01 – 1.75) |
Supplemental Table S11. Regressions mixed methods: group + time + interaction, and covariates. For each variable, estimates are on the first line, and 95% confidence intervals are in parentheses. *=p<0.1; **=p<0.05; ***=p<0.01. ICC=between/(between+within) variance. $\sigma^2 =$ within-group variance; $\tau_{00} =$ variance of random intercept ; $\tau_{11} =$ variance of random slope; $\rho_{01} =$ correlation between random intercept and slope.

| Dependent Var | Worry intensity | Worry frequency | Worry weighted score |
|---------------|----------------|----------------|----------------------|
| Range         | (1-5)          | (1-5)          | (0-1.55)             |
| Intercept     | 1.41 ***       | 1.82 ***       | 0.72 ***             |
|               |
|               | (1.19 – 1.64)  | (1.51 – 2.14)  | (0.61 – 0.83)        |
| Intervention group (ref.=control) | -0.06          | -0.03          | -0.02                |
|               | (-0.17 – 0.06) | (-0.18 – 0.13) | (-0.07 – 0.03)       |
| Time 2 (ref.=Time1) | -0.14 **       | 0.01           | -0.03                |
|               | (-0.24 – 0.03) | (-0.12 – 0.15) | (-0.08 – 0.01)       |
| Time 3        | -0.06          | 0.24 ***       | 0.03                 |
| Dependent Var          | Worry intensity | Worry frequency | Worry weighted score |
|------------------------|-----------------|----------------|----------------------|
| Hospital B (ref. = hosp A) | -0.11 *         | -0.28 ***      | -0.08 ***            |
| Hospital C             | -0.15 **        | -0.20 **       | -0.08 ***            |
| Hospital D             | -0.13 *         | -0.38 ***      | -0.11 ***            |
| Age<25 (ref. = Age > 55) | -0.09           | 0.11           | -0.00                |
| Age 25 - 34            | -0.23 ***       | -0.12           | -0.08 **             |
| Age 35 - 44            | -0.26 ***       | -0.17 *        | -0.10 ***            |
| Age 45 - 54            | -0.09           | -0.15 *        | -0.05 *              |
| Female (ref. = Male)   | 0.04            | 0.15 *         | 0.04                 |
| Education (linear)     | -0.14           | -0.40           | -0.12                |
| Education (quadratic)  | 0.06            | 0.30           | 0.07                 |
| Education (cubic)      | 0.14            | -0.16          | 0.00                 |
| Education (4th degree) | 0.03            | 0.08           | 0.02                 |
| intervention:time2     | 0.20 ***        | 0.10           | 0.07 **              |
| intervention:time3     | 0.03            | -0.07          | -0.00                |

Random Effects
| Dependent Var | Worry intensity | Worry frequency | Worry weighted score |
|---------------|----------------|----------------|---------------------|
| $\sigma^2$    | 0.05           | 0.09           | 0.01                |
| $\tau_{00}$   | 0.62 ID        | 1.15 ID        | 0.14 ID             |
| $\tau_{11}$   | 0.46 ID.time2  | 0.72 ID.time2  | 0.08 ID.time2       |
|               | 0.61 ID.time3  | 1.07 ID.time3  | 0.12 ID.time3       |
| $\rho_{01}$   | -0.42          | -0.39          | -0.36               |
|               | -0.57          | -0.48          | -0.5                |
| ICC           | 0.92           | 0.93           | 0.93                |
| N             | 1042 ID        | 1042 ID        | 1042 ID             |

| Observations  | 1736           | 1735           | 1735                |
| Marginal R2 / Conditional R2 | 0.037 / 0.922 | 0.030 / 0.930 | 0.031 / 0.931 |
Supplement F: post-hoc estimations

Supplemental Table S12. Posthoc estimations with contrasts of within (one group over time) and between (same time different groups) group with 95% confidence intervals in parentheses

| contrasts | c1-i1 | c2-i2 | c3-i3 | c1-c2 | c2-c3 | i1-i2 | i2-i3 |
|-----------|-------|-------|-------|-------|-------|-------|-------|
| EQSDVAS   | 0.261 | 0.723 | 0.26  | 1.724 | -0.609| 2.186 | -1.072|
|           | (-2.297 | (-2.907 | (-2.801 | (-0.874 | (-3.48 | (-0.345 | (-3.875 | (-1.731 |
|           | 2.82)  | 4.354) | 3.322) | 4.321) | 2.262) | 4.717) | 1.731) |
| NMQ       | 0.065 | -0.066| 0.056 | 0.115*| -0.566| -0.016| -0.443***|
|           | (-0.063 | (-0.226 | (-0.11 | (-0.002 | (-0.705 | (-0.131 | (-0.581 | (-0.306 |
|           | 0.192) | 0.093) | 0.222) | 0.233) | 0.426) | 0.099) | 0.306) |
| Stress    | -0.02 | 0.27  | 0.19  | -0.462**| -0.02 | -0.172 | -0.1 |
|           | (-0.517 | (-0.344 | (-0.351 | (-0.912 | (-0.486 | (-0.611 | (-0.553 | (-0.353) |
|           | 0.476) | 0.884) | 0.732) | 0.013) | 0.447) | 0.268) | 0.353) |
| Burnout   | -0.134| 0.121 | 0.436 | -0.586*| -0.102| -0.332 | 0.213 |
|           | (-0.858 | (-0.774 | (-0.397 | (-1.232 | (-0.803 | (-0.964 | (-0.471 | (-0.897) |
|           | 0.591) | 1.016) | 1.268) | 0.599) | 0.299) | 0.299) | 0.897) |
| Sleep Problems | -0.361 | -0.092| 0.173 | -0.07 | -0.455| 0.199 | -0.191 |
|           | (-1.088 | (-0.964 | (-0.681 | (-0.669 | (-1.151 | (-0.387 | (-0.873 | (-0.491) |
|           | 0.366) | 0.78) | 1.026) | 0.529) | 0.24) | 0.785) | 0.491) |
| GHQ       | -0.075| 0.028 | 0.076 | -0.078| -0.091| 0.024 | -0.042 |
|           | (-0.241 | (-0.192 | (-0.124 | (-0.248 | (-0.275 | (-0.143 | (-0.223 | (-0.138) |
|           | 0.092) | 0.248) | 0.277) | 0.092) | 0.093) | 0.191) | 0.138) |
| NFR       | -0.001| 0.077 | 0.091 | -0.041| -0.036| 0.036 | -0.022 |
|           | (-0.126 | (-0.074 | (-0.054 | (-0.15 | (-0.159 | (-0.07 | (-0.143 | (-0.099) |
|           | 0.125) | 0.227) | 0.236) | 0.067) | 0.087) | 0.141) | 0.099) |
| HLS       | 0.97 | -0.582| 1.333 | 1.314 | -2.532** | -0.239 | -0.617 |
|           | (-1.167 | (-3.152 | (-1.321 | (-0.605 | (-4.769 | (-2.109 | (-2.825 | (-1.592) |
|           | 3.107) | 1.987) | 3.987) | 3.232) | 3.295) | 1.631) | 1.592) |
| Trust     | 0.936 | 0.617 | 0.172 | 0.318 | -0.282 | -0.001 | -0.727 |
|           | (-0.293 | (-0.84 | (-1.265 | (-1.668 | (-1.469 | (-0.95 | (-1.9 | (-0.446) |
|           | 2.166) | 2.075) | 1.609) | 1.305) | 0.906) | 0.949) | 0.446) |
| Job Satisfaction | 0.065 | -0.015| 0.013 | 0.086 | -0.023| 0.005 | 0.005 |
|           | (-0.399 | (-0.603 | (-0.507 | (-0.294 | (-0.48 | (-0.364 | (-0.444 | (-0.444) |
|           | 0.53) | 0.573) | 0.532) | 0.465) | 0.435) | 0.375) | 0.453) |
| contrasts                      | c1-i1 | c2-i2 | c3-i3 | c1-c2 | c2-c3 | i1-i2 | i2-i3 |
|-------------------------------|-------|-------|-------|-------|-------|-------|-------|
| Role conflicts                | -0.299| -0.032| -0.082| -0.162| 0.033 | 0.105 | -0.018|
|                               | (-0.796−0.197) | (-0.637−0.572) | (-0.658−0.493) | (-0.593−0.268) | (-0.459−0.524) | (-0.316−0.525) | (-0.499−0.464) |
| Turnover intention            | 0.023 | 0.206 | -0.126| -0.187*| 0.335***| -0.003| 0.003 |
|                               | (-0.196−0.242) | (-0.083−0.496) | (-0.378−0.126) | (-0.382−0.008) | (0.115−0.555) | (-0.194−0.187) | (-0.213−0.218) |
| Absenteeism (gen poisson)     | 0.527 | 0.206 | -0.117| -0.37  | 0.556 | -0.691| 0.232 |
|                               | (-0.164−1.219) | (-0.551−0.964) | (-0.874−0.64)  | (-1.038−0.299) | (-0.194−1.306) | (-1.469−0.088) | (-0.532−0.997) |
| Absenteeism last 4 weeks (gen poisson) | 1.207** | -0.206 | 0.122 | -0.309 | -0.016 | -1.723*** | 0.312 |
|                               | (0.13−2.283) | (-0.895−0.482) | (-0.79−1.034)  | (-1.198−0.58)  | (-0.846−0.814) | (-2.759−0.686) | (-0.451−1.075) |
| Presenteeism weighted (gen poisson)  | -0.138 | -0.103 | -0.011 | 0.019 | -0.086 | 0.053 | 0.007 |
|                               | (-0.416−0.14) | (-0.505−0.298) | (-0.337−0.315) | (-0.338−0.375) | (-0.455−0.284) | (-0.284−0.39)  | (-0.359−0.372) |
| HC Work-related (binom)       | 0.375 | 0.193 | -0.172| 0.222 | 0.248 | 0.04  | -0.117|
|                               | (-0.17−0.92) | (-0.554−0.94) | (-0.812−0.468) | (-0.397−0.842) | (-0.418−0.914) | (-0.573−0.653) | (-0.774−0.54)  |
| HC Referrals (nbinom)         | 0.772** | 0.626 | 0.195 | 0.547 | 0.181 | 0.401 | -0.25 |
|                               | (0.057−1.488) | (-0.535−1.787) | (-0.738−1.127) | (-0.256−1.35)  | (-0.752−1.115) | (-0.661−1.462) | (-1.402−0.902) |
| HC Spontaneous (nbinom)       | 1.038*** | 0.117 | 0.132 | 0.62* | -0.086 | -0.3  | -0.071|
|                               | (0.411−1.664) | (-0.763−0.998) | (-0.586−0.849) | (-0.065−1.305) | (-0.856−0.685) | (-1.135−0.535) | (-0.906−0.764) |
| Prescribed Medication (binom) | -0.424 | 0.147 | -0.369| -0.261| 0.386 | 0.31  | -0.13 |
|                               | (-1.141−0.294) | (-0.8−1.095) | (-1.193−0.456) | (-1.006−1.186) | (-0.414−1.186) | (-0.423−1.044) | (-0.914−0.654) |
| contrasts | c1-i1 | c2-i2 | c3-i3 | c1-c2 | c2-c3 | i1-i2 | i2-i3 |
|-----------|-------|-------|-------|-------|-------|-------|-------|
| Non-Prescribed Medication (binom) | -0.206 | -0.18 | -0.443 | -0.41 | 0.131 | -0.384 | -0.132 |
| | (-0.774 – 0.361) | (-0.934 – 0.575) | (-1.088 – 0.202) | (-1.05 – 0.229) | (-0.541 – 0.803) | (-1.004 – 0.237) | (-0.788 – 0.525) |
Supplemental Figure S1. Predicted effects plots of mixed models with 95% confidence intervals, blue = control group, orange = intervention group. X-axis=measurement moment (1, 2, 3). The post-hoc linear predicted means of each outcome are based on the regression estimates, with their confidence intervals, for each measurement moment (x-axis) and by group (colour).
Supplemental Table S13. Posthoc estimations with contrasts of within (one group over time) and between (same time different groups) group, with p-value of non-inferiority and non-superiority tests. The estimates and non-inferiority and non-superiority tests for the post-hoc estimations are in reversed direction (intervention – control) and the relevant differences (delta) above or below which non-inferiority or non-superiority applies are stated. The estimates for which there is no indication for non-inferiority or non-superiority are formatted in bold. For each variable, estimates are on the first line, and p-values on the second.

| contrasts     | delta    | direction | i1-c1  | i2-c2  | i3-c3  | i2-i1  | i3-i2  | c2-c1  | c3-c2  |
|---------------|----------|-----------|--------|--------|--------|--------|--------|--------|--------|
| EQ5DVAS       | 5        | noninferior | -0.261 | -0.723 | -0.26  | **     | **     | -2.186 | 1.072  | -1.724 | 0.609  |
|               |          |           |        |        |        |        |        |        |        |
|               |          |           | 0      | 0.006  | 0.0001 | 0.012  | 0      | 0.003  | 0      |
| NMQ           | log(0.45)| nonsuperior| -0.065 | 0.066  | -0.056 | **     | **     | 0.016  | 0.443  | -0.115 | 0.566  |
|               |          |           |        |        |        |        |        |        |        |
|               |          |           | 0      | 0      | 0      | 0      | 0      | 0      | 0.00002|
| Stress        | 0.6      | nonsuperior| 0.02   | -0.27  | -0.19  | **     | **     | 0.172  | 0.1     | 0.462  | 0.02   |
|               |          |           |        |        |        |        |        |        |        |
|               |          |           | 0.007  | 0.0004 | 0.0003 | 0.041  | 0.013  | 0.959  | 0.003  |
| Burnout       | 0.8      | nonsuperior| 0.134  | -0.121 | -0.436 | **     | **     | 0.332  | -0.213 | 0.586  | 0.102  |
|               |          |           |        |        |        |        |        |        |        |
|               |          |           | 0.064  | 0.025  | 0.0002 | 0.23   | 0.0002 | 0.941  | 0.034  |
| Sleep Problems| 0.8      | nonsuperior| 0.361  | 0.092  | -0.173 | **     | **     | -0.199 | 0.191  | 0.07   | 0.455  |
|               |          |           |        |        |        |        |        |        |
|               |          |           | 0.478  | 0.144  | 0.009  | 0.00001| 0.079  | 0.004  | 0.707  |
| GHQ           | log(0.6) | nonsuperior| 0.075  | -0.028 | -0.076 | **     | **     | -0.024 | 0.042  | 0.078  | 0.091  |
|               |          |           |        |        |        |        |        |        |
|               |          |           | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| NFR           | log(0.6) | nonsuperior| 0.001  | -0.077 | -0.091 | **     | **     | -0.036 | 0.022  | 0.041  | 0.036  |
|               |          |           |        |        |        |        |        |        |
|               |          |           | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| HLS           | 5        | noninferior| -0.97  | 0.582  | -1.333 | **     | **     | 0.239  | 0.617  | -1.314 | 2.532  |
|               |          |           |        |        |        |        |        |        |
|               |          |           | 0      | 0.00001| 0      | 0      | 0      | 0      | 0.013  |
| Trust         | 2.75     | noninferior| -0.936 | -0.617 | -0.172 | **     | **     | 0.001  | 0.727  | -0.318 | 0.282  |
|               |          |           |        |        |        |        |        |        |
|               |          |           | 0.0002 | 0.0002 | 0      | 0      | 0      | 0      | 0      |
|                          | B (95% CI)       |     | B (95% CI)       |     |
|--------------------------|------------------|-----|------------------|-----|
| Job Satisfaction noninferior | -0.065 **        | 0.015 ** | -0.013 **       | 0.005 ** |
| Role conflicts noninferior | 0.299            | 0.032 * | 0.082 **        | -0.105 ** |
| Turnover intention noninferior | -0.023 **       | -0.206 ** | 0.126 **       | 0.003 ** |
| Absenteeism (gen poisson) noninferior | -0.527 **        | -0.206 ** | 0.117 **       | 0.691 ** |
| Absenteeism last 4 weeks (gen poisson) noninferior | -1.207 **        | 0.206 ** | -0.122 **       | 1.723 ** |
| HC Work-related (binom) noninferior | -0.375 **        | -0.193 ** | 0.172 **       | -0.04 ** |
| HC Referrals (nbinom) noninferior | -0.772 **        | -0.626 ** | -0.195 **       | -0.401 ** |
| HC Spontaneous (nbinom) noninferior | -1.038 **        | -0.117 ** | -0.132 **       | 0.3 ** |
| Prescribed Medication (binom) noninferior | 0.424 **         | -0.147 ** | 0.369 **       | -0.31 ** |
| Non-Prescribed Medication (binom) noninferior | 0.206 **         | 0.18 * | 0.443 **       | 0.384 ** |

*Significant at 0.05 level. **Significant at 0.01 level.*
Supplement G: Outcome variables

**Health outcomes:**

Self-perceived health: using the EQ5D visual analog score: 0-100 (from worst health the employee can imagine to the best health the employee can imagine)

Incidence of musculoskeletal health functioning problems: Count of how many respondents indicated to have musculoskeletal health functioning problems (Nordic Musculoskeletal Questionnaire)

Stress: Score that represents the risk of stress using the Copenhagen Psychosocial Questionnaire: 0-12 (from low to high risk of stress)

Burnout: Score that represents the risk of burnout using the Copenhagen Psychosocial Questionnaire: 0-16 (from low to high risk of burnout)

Sleep problems: Score that represents the risk of sleep problems using the Copenhagen Psychosocial Questionnaire: 0-16 (from low to high risk of burnout)

General mental health: Score that represents the general mental health using the General Health Questionnaire: 0-12 (from worst to best mental health)

Need for recovery after: Score that represents the need for recovery after work, using the Need for Recovery scale: 0-11 (from lowest to highest need for recovery after work)

Role conflicts: Score that represents the occurrence of role conflicts or problems using the Copenhagen Psychosocial Questionnaire: 0-16 (from low to high risk of burnout)

**Productivity outcomes:**

Absenteeism: Absenteeism in days absent using the IMTA Productivity Cost Questionnaire (iPCQ)

Presenteeism: Presenteeism using the IMTA Productivity Cost Questionnaire (iPCQ), which uses a visual analog score to indicate how much work the employee could perform compared to a normal working day

**Healthcare outcomes:**

Spontaneous consultations with the occupational physician: Self-reported number of spontaneous consultations the employee had with the occupational physician
Referrals to other health providers: Number of contact moments with other healthcare providers based on a referral by the occupational physician

Work-related consultations with other healthcare providers: Self-reported number of work-related consultations the employee had with other healthcare providers

Prescribed medication: self-reported use of prescribed medication (no-yes)

Non-prescribed medication: self-reported use of non-prescribed medication (no-yes)

**Secondary outcomes:**

Health literacy: Score representing the health literacy of the employee, based on an adapted version of the European Health Literacy Survey (EU-HLS): 0-64 (low to high health literacy)

Trust in Physician: Score representing the trust of the employee in his occupational physician, based on an adapted version of the Trust in Physician Scale: 0-55 (low to high trust)

Job Satisfaction: Score that represents job satisfaction, using the Copenhagen Psychosocial Questionnaire: 0-20 (from low to high job satisfaction)

Turnover intention: Score that represents turnover intention, using VBBA: 0-4 (from low to high turnover intention)

Worry about health: Score that represents worry about health, using custom questions on intensity 1-4 (how worried are you about your health), frequency 1-5 (how often do you worry about your health), and a combination of both questions 0-1.55