

Supplementary Table S1. Pre-IMMRP situation for patients reporting their outcomes at 12-m FU and those not reporting their outcomes at 12-m FU.

| Variables | Report at 12-m FU | | No report at 12-m FU | |
|--------------------------|-------------------|-------|----------------------|-------|
| | Mean | SD | Mean | SD |
| Women (%) | 77.1 | | 74.6 | |
| Outside-Europe (%) | 9.3 | | 12.8 | |
| University (%) | 25.5 | | 24.8 | |
| | Mean | SD | Mean | SD |
| Age (years) | 43.64 | 10.81 | 42.79 | 10.64 |
| Days no work | 1106 ^a | 2540 | 1006 ^c | 2320 |
| Pain duration | 3086 | 3429 | 2984 | 3195 |
| Persistent pain duration | 2393 ^b | 3168 | 2300 ^d | 2661 |
| PRI | 14.29 | 8.27 | 14.09 | 8.55 |
| NRS-7days | 6.83 | 1.71 | 6.91 | 1.74 |
| HADS-A | 8.73 | 4.69 | 9.37 | 4.83 |
| HADS-D | 8.19 | 4.37 | 8.86 | 4.50 |
| MPI-Pain-severity | 4.36 | 0.91 | 4.43 | 0.96 |
| MPI-Pain-interfer | 4.34 | 1.02 | 4.43 | 1.04 |
| MPI-LifeCon | 2.78 | 1.10 | 2.65 | 1.11 |
| MPI-Distress | 3.42 | 1.27 | 3.52 | 1.27 |
| MPI-Socsupp | 4.17 | 1.33 | 4.15 | 1.37 |
| MPI-punish | 1.70 | 1.35 | 1.79 | 1.40 |
| MPI-protect | 2.93 | 1.39 | 2.99 | 1.42 |
| MPI-distract | 2.51 | 1.18 | 2.57 | 1.22 |
| MPI -GAI | 2.47 | 0.83 | 2.39 | 0.85 |
| EQ-5D-index | 0.27 | 0.31 | 0.24 | 0.30 |
| EQ-VAS | 41.76 | 19.29 | 40.57 | 19.18 |
| sf36-pf | 53.03 | 20.29 | 52.07 | 21.07 |
| sf36-rp | 13.08 | 24.96 | 11.80 | 23.69 |
| sf36-bp | 24.59 | 14.06 | 23.93 | 15.03 |
| sf36-gh | 42.54 | 20.47 | 40.34 | 20.14 |
| sf36-vt | 24.94 | 18.78 | 22.87 | 18.23 |
| sf36-sf | 48.92 | 25.46 | 45.11 | 24.82 |
| sf36-re | 44.58 | 43.18 | 39.88 | 42.41 |
| sf36-mh | 56.30 | 21.13 | 53.20 | 21.67 |

^a:n=3125, ^b:n=6779, ^c:n=2694, ^d:n=5060

NRS-7days = Pain intensity as measured by a numeric rating scale for the previous 7 days; HADS = Hospital Anxiety and Depression Scale; MPI = Multidimensional Pain Inventory; EQ-5D-index = The index of the European quality of life instrument; EQ-VAS = The European quality of life instrument thermometer-like scale; sf36 = The Short Form (36) Health Survey; PRI = Pain Region Index. For explanations of the subscale abbreviations see Methods.

Supplementary Table S2. OPLS regressions of MIS at post IMMRP in the three clusters; variables in bold type are significant

| Cluster 1 | | | Cluster 2 | | | Cluster 3 | | |
|--------------------------|-------------|--------------|--------------------------|-------------|--------------|--------------------------|-------------|--------------|
| Variables pre IMMRP | VIP | p(corr) | Variables pre IMMRP | VIP | p(corr) | Variables pre IMMRP | VIP | p(corr) |
| sf36-mh | 1.59 | -0.73 | sf36-mh | 1.84 | -0.84 | sf36-mh | 1.54 | -0.75 |
| MPI-Distress | 1.53 | 0.70 | MPI-Distress | 1.79 | 0.81 | HADS-D | 1.54 | 0.75 |
| MPI-Pain-interfer | 1.50 | 0.69 | HADS-D | 1.70 | 0.76 | MPI-Pain-interfer | 1.51 | 0.73 |
| HADS-D | 1.48 | 0.68 | HADS-A | 1.63 | 0.73 | sf36-sf | 1.48 | -0.72 |
| MPI-LifeCon | 1.48 | -0.68 | sf36-sf | 1.55 | -0.71 | MPI-Distress | 1.47 | 0.72 |
| sf36-sf | 1.47 | -0.67 | MPI-LifeCon | 1.54 | -0.69 | MPI-LifeCon | 1.41 | -0.68 |
| EQ-5D-index | 1.41 | -0.65 | sf36-re | 1.41 | -0.65 | sf36-vt | 1.31 | -0.64 |
| HADS-A | 1.34 | 0.62 | MPI-Pain-interfer | 1.35 | 0.61 | sf36-bp | 1.30 | -0.64 |
| sf36-bp | 1.34 | -0.62 | sf36-vt | 1.32 | -0.60 | EQ-5D-index | 1.29 | -0.63 |
| MPI-Pain-severity | 1.33 | 0.61 | EQ-5D-index | 1.17 | -0.54 | HADS-A | 1.28 | 0.62 |
| EQ-VAS | 1.25 | -0.58 | sf36-bp | 1.03 | -0.47 | MPI-Pain-severity | 1.24 | 0.60 |
| sf36-vt | 1.18 | -0.54 | MPI-Pain-severity | 1.01 | 0.45 | EQ-VAS | 1.20 | -0.58 |
| sf36-re | 1.09 | -0.50 | EQ-VAS | 1.00 | -0.47 | sf36-gh | 1.19 | -0.58 |
| sf36-gh | 1.09 | -0.50 | sf36-gh | 0.99 | -0.46 | sf36-re | 1.19 | -0.58 |
| NRS-7days | 1.05 | 0.49 | sf36-rp | 0.83 | -0.38 | sf36-pf | 1.08 | -0.52 |
| MPI-GAI | 0.90 | -0.41 | NRS-7days | 0.77 | 0.35 | NRS-7days | 1.07 | 0.52 |
| sf36-pf | 0.90 | -0.42 | MPI-GAI | 0.66 | -0.30 | sf36-rp | 0.93 | -0.45 |
| sf36-rp | 0.75 | -0.34 | sf36-pf | 0.55 | -0.25 | MPI-GAI | 0.82 | -0.40 |
| MPI-punish | 0.48 | 0.22 | MPI-punish | 0.54 | 0.26 | MPI-punish | 0.61 | 0.29 |
| PRI | 0.45 | 0.21 | Age | 0.43 | -0.19 | PRI | 0.58 | 0.28 |
| Outside-Europe | 0.43 | 0.20 | Outside-Europe | 0.40 | 0.18 | Outside-Europe | 0.34 | 0.16 |
| MPI-protect | 0.35 | 0.16 | Pain duration | 0.26 | -0.13 | MPI-protect | 0.22 | 0.10 |
| MPI-Socsupp | 0.27 | 0.12 | Persistent Pain duration | 0.25 | -0.15 | MPI-distract | 0.19 | 0.09 |
| MPI-distract | 0.26 | 0.12 | MPI-distract | 0.20 | 0.10 | University | 0.18 | -0.09 |
| Age | 0.25 | -0.11 | MPI-protect | 0.19 | 0.09 | Pain duration | 0.15 | 0.07 |
| University | 0.18 | -0.09 | PRI | 0.19 | 0.08 | MPI-Socsupp | 0.14 | 0.07 |
| Pain duration | 0.14 | -0.07 | University | 0.07 | 0.03 | Persistent Pain duration | 0.12 | 0.06 |
| Gender | 0.06 | -0.03 | MPI-Socsupp | 0.05 | 0.03 | Gender | 0.05 | 0.03 |
| Days no work | 0.05 | -0.02 | Days no work | 0.05 | -0.06 | Age | 0.04 | 0.02 |
| Persistent Pain duration | 0.04 | -0.03 | Gender | 0.00 | 0.00 | Days no work | 0.01 | 0.01 |
| R ² | 0.06 | | R ² | 0.01 | | R ² | 0.04 | |
| Q ² | 0.05 | | Q ² | 0.01 | | Q ² | 0.04 | |
| n | 2205 | | n | 7932 | | n | 4523 | |
| CV ANOVA | <0.001 | | CV ANOVA | <0.001 | | CV ANOVA | <0.001 | |

VIP (VIP>1.0 is significant) and p(corr) are reported for each regressor. The sign of p(corr) indicates the direction of the correlation with the dependent variable (+ = positive correlation; - = negative correlation). The four bottom rows of each regression report R², Q², and P-value of the CV-ANOVA, and number of patients included in the regression (n). NRS-7days = Pain intensity as measured by a numeric rating scale for the previous 7 days; HADS = Hospital Anxiety and Depression Scale; MPI = Multidimensional Pain Inventory; EQ-5D-index = The index of the European quality of life instrument; EQ-VAS = The European quality of life instrument thermometer-like scale; sf36 = The Short Form (36) Health Survey; PRI = Pain Region Index. For explanations of the subscale abbreviations see Methods.

Supplementary Table S3. OPLS regressions of MIS at 12-month FU in the three clusters; variables in bold type are significant.

| Cluster 1 | | | Cluster 2 | | | Cluster 3 | | |
|--------------------------|-------------|--------------|---------------------------------|-------------|--------------|--------------------------|-------------|--------------|
| Variables pre IMMRP | VIP | p(corr) | Variables pre IMMRP | VIP | p(corr) | Variables pre IMMRP | VIP | p(corr) |
| MPI-Pain-interfer | 1.58 | 0.73 | MPI-Pain-severity | 1.75 | -0.61 | sf36-mh | 1.57 | -0.78 |
| sf36-mh | 1.52 | -0.70 | sf36-pf | 1.71 | 0.59 | HADS-D | 1.55 | 0.77 |
| MPI-Distress | 1.52 | 0.70 | NRS-7days | 1.60 | -0.56 | MPI-Distress | 1.52 | 0.76 |
| sf36-sf | 1.52 | -0.70 | sf36-bp | 1.51 | 0.52 | MPI-Pain-interfer | 1.47 | 0.73 |
| MPI-LifeCon | 1.47 | -0.68 | Persistent Pain duration | 1.46 | -0.47 | sf36-sf | 1.46 | -0.73 |
| EQ-5D-index | 1.44 | -0.66 | MPI-Pain-interfer | 1.41 | -0.49 | MPI-LifeCon | 1.45 | -0.72 |
| MPI-Pain-severity | 1.40 | 0.64 | PRI | 1.34 | -0.46 | HADS-A | 1.35 | 0.67 |
| HADS-D | 1.39 | 0.64 | MPI-protect | 1.27 | -0.44 | sf36-bp | 1.28 | -0.64 |
| sf36-bp | 1.38 | -0.64 | sf36-gh | 1.21 | 0.42 | EQ-5D-index | 1.27 | -0.63 |
| HADS-A | 1.29 | 0.60 | EQ-5D-index | 1.17 | 0.40 | sf36-vt | 1.26 | -0.62 |
| sf36-vt | 1.19 | -0.55 | EQ-VAS | 1.14 | 0.39 | MPI-Pain-severity | 1.24 | 0.62 |
| EQ-VAS | 1.17 | -0.54 | Pain duration | 1.13 | -0.39 | EQ-VAS | 1.18 | -0.59 |
| NRS-7days | 1.15 | 0.53 | Days no work | 1.03 | -0.38 | sf36-re | 1.18 | -0.59 |
| sf36-re | 1.00 | -0.46 | MPI-distract | 1.02 | -0.35 | sf36-gh | 1.17 | -0.58 |
| sf36-gh | 0.98 | -0.45 | MPI-Socsupp | 0.98 | -0.34 | NRS-7days | 1.04 | 0.52 |
| sf36-pf | 0.93 | -0.43 | sf36-vt | 0.78 | 0.27 | sf36-pf | 1.01 | -0.51 |
| MPI-GAI | 0.85 | -0.39 | University | 0.77 | 0.27 | sf36-rp | 0.92 | -0.46 |
| sf36-rp | 0.71 | -0.32 | sf36-sf | 0.75 | 0.26 | MPI-GAI | 0.88 | -0.44 |
| PRI | 0.58 | 0.27 | sf36-rp | 0.71 | 0.25 | MPI-punish | 0.72 | 0.35 |
| Outside-Europe | 0.51 | 0.24 | Outside-Europe | 0.66 | -0.23 | PRI | 0.54 | 0.27 |
| MPI-protect | 0.48 | 0.22 | Age | 0.55 | -0.19 | Outside-Europe | 0.37 | 0.19 |
| MPI-distract | 0.40 | 0.19 | MPI-GAI | 0.51 | 0.18 | University | 0.18 | -0.09 |
| MPI-punish | 0.39 | 0.18 | MPI-LifeCon | 0.42 | 0.15 | MPI-protect | 0.17 | 0.09 |
| MPI-Socsupp | 0.29 | 0.14 | HADS-D | 0.40 | -0.14 | days-no-work | 0.11 | 0.06 |
| Age | 0.27 | -0.13 | MPI-Distress | 0.23 | -0.08 | MPI-distract | 0.09 | 0.05 |
| Days no work | 0.14 | 0.06 | HADS-A | 0.13 | -0.05 | MPI-punish | 0.06 | -0.03 |
| Pain duration | 0.12 | -0.05 | MPI-punish | 0.10 | 0.03 | MPI-Socsupp | 0.05 | 0.03 |
| Gender | 0.09 | -0.04 | Gender | 0.09 | 0.03 | Age | 0.05 | -0.02 |
| University | 0.09 | -0.04 | sf36-re | 0.08 | -0.02 | Persistent Pain duration | 0.02 | -0.01 |
| Persist Pain duration | 0.07 | -0.03 | sf36-mh | 0.05 | 0.02 | Pain duration | 0.01 | 0.01 |
| R ² | 0.07 | | R ² | 0.02 | | R ² | 0.05 | |
| Q ² | 0.07 | | Q ² | 0.01 | | Q ² | 0.05 | |
| n | 1099 | | n | 4123 | | n | 3629 | |
| CV ANOVA | <0.001 | | CV ANOVA | <0.001 | | CV ANOVA | <0.001 | |

VIP (VIP>1.0 is significant) and p(corr) are reported for each regressor. The sign of p(corr) indicates the direction of the correlation with the dependent variable (+ = positive correlation; - = negative correlation). The four bottom rows of each regression report R², Q², and P-value of the CV-ANOVA, and number of patients included in the regression (n). NRS-7days = Pain intensity as measured by a numeric rating scale for the previous 7 days; HADS = Hospital Anxiety and Depression Scale; MPI = Multidimensional Pain Inventory; EQ-5D-index = The index of the European quality of life instrument; EQ-VAS = The European quality of life instrument thermometer-like scale; sf36 = The Short Form (36) Health Survey; PRI = Pain Region Index. For explanations of the subscale abbreviations see Methods.