## **Supplemental Online Content**

Dyrbye LN, Major-Elechi B, Thapa P, et al. Characterization of nonphysician health care workers' burnout and subsequent changes in work effort. *JAMA Netw Open*. 2021;4(8):e2121435. doi:10.1001/jamanetworkopen.2021.21435

eTable 1. Comparison of Participating and Nonparticipating Health Care Workers

**eTable 2.** Emotional Exhaustion or Depersonalization at Baseline and Subsequent Reduction in Work Effort

eTable 3. Satisfaction at Baseline and Subsequent Reduction in Work Effort

This supplemental material has been provided by the authors to give readers additional information about their work.

eTable 1. Comparison of Participating and Nonparticipating Health Care Workers

|                           | Non-responder | Responder     |         |
|---------------------------|---------------|---------------|---------|
| 2015 Survey               | (N=4963)      | (N=26292)     | p value |
| Age                       |               |               | < 0.001 |
| <35                       | 1652 (33.3%)  | 6678 (25.4%)  |         |
| 35-44                     | 1262 (25.4%)  | 6541 (24.9%)  |         |
| 45-54                     | 1150 (23.2%)  | 7298 (27.8%)  |         |
| 55-64                     | 813 (16.4%)   | 5451 (20.7%)  |         |
| ≥65                       | 86 (1.7%)     | 323 (1.2%)    |         |
| Missing                   | 0             | 1             |         |
| Length of Service         |               |               | <0.001  |
| ≤5 years                  | 1718 (34.6%)  | 8574 (32.6%)  |         |
| 6-10 years                | 1052 (21.2%)  | 5327 (20.3%)  |         |
| 11-15 years               | 856 (17.2%)   | 4273 (16.3%)  |         |
| >15 years                 | 1337 (26.9%)  | 8117 (30.9%)  |         |
| Missing                   | 0             | 1             |         |
| Gender                    |               |               | 0.635   |
| Female                    | 3810 (76.8%)  | 20265 (77.1%) |         |
| Male                      | 1153 (23.2%)  | 6027 (22.9%)  |         |
| Job Category              |               |               | <0.001  |
| Nurses                    | 1833 (36.9%)  | 6595 (25.1%)  |         |
| Admin Office Support      | 315 (6.3%)    | 2971 (11.3%)  |         |
| Business Professionals    | 268 (5.4%)    | 4953 (18.8%)  |         |
| Clinical Office Support   | 463 (9.3%)    | 2884 (11.0%)  |         |
| Healthcare Professional   | 351 (7.1%)    | 2423 (9.2%)   |         |
| Service/Support Personnel | 1025 (20.7%)  | 2968 (11.3%)  |         |
| Technician/Technologist   | 708 (14.3%)   | 3498 (13.3%)  |         |
| Assigned FTE <sup>1</sup> |               |               | <0.001  |
| <.01                      | 299 (6.0%)    | 364 (1.4%)    |         |
| .0149                     | 52 (1.0%)     | 89 (0.3%)     |         |
| .5074                     | 707 (14.2%)   | 1717 (6.5%)   |         |

| .7599                     | 1865 (37.6%)  | 6484 (24.7%)  |         |
|---------------------------|---------------|---------------|---------|
| 1                         | 2040 (41.1%)  | 17638 (67.1%) |         |
|                           |               |               |         |
|                           | Non-responder | Responder     |         |
| 2017 Survey               | (N=4855)      | (N=26303)     | p value |
| Age                       |               |               | < 0.001 |
| <35                       | 1324 (27.3%)  | 5201 (19.8%)  |         |
| 35-44                     | 1314 (27.1%)  | 6661 (25.3%)  |         |
| 45-54                     | 1132 (23.3%)  | 6926 (26.3%)  |         |
| 55-64                     | 946 (19.5%)   | 6796 (25.8%)  |         |
| >=65                      | 139 (2.9%)    | 719 (2.7%)    |         |
| Length of Service         |               |               | <0.001  |
| <=5 years                 | 1290 (26.6%)  | 6280 (23.9%)  |         |
| 6-10 years                | 1019 (21.0%)  | 5391 (20.5%)  |         |
| 11-15 years               | 887 (18.3%)   | 4622 (17.6%)  |         |
| >15 years                 | 1659 (34.2%)  | 10010 (38.1%) |         |
| Gender                    |               |               | 0.259   |
| Female                    | 3705 (76.3%)  | 20268 (77.1%) |         |
| Male                      | 1150 (23.7%)  | 6035 (22.9%)  |         |
| Job Category              |               |               | <0.001  |
| Nurses                    | 1591 (32.8%)  | 5884 (22.4%)  |         |
| Admin Office Support      | 310 (6.4%)    | 2889 (11.0%)  |         |
| Business Professionals    | 288 (5.9%)    | 5309 (20.2%)  |         |
| Clinical Office Support   | 454 (9.4%)    | 2826 (10.7%)  |         |
| Healthcare Professional   | 631 (13.0%)   | 3229 (12.3%)  |         |
| Service/Support Personnel | 892 (18.4%)   | 2656 (10.1%)  |         |
| Technician/Technologist   | 689 (14.2%)   | 3510 (13.3%)  |         |
| Assigned FTE <sup>1</sup> |               |               | <0.001  |
| <.01                      | 328 (6.8%)    | 302 (1.1%)    |         |
| .0149                     | 48 (1.0%)     | 59 (0.2%)     |         |
| .5074                     | 653 (13.5%)   | 1729 (6.6%)   |         |

| .7599 | 1801 (37.1%) | 6595 (25.1%)  |  |
|-------|--------------|---------------|--|
| 1     | 2025 (41.7%) | 17618 (67.0%) |  |

<sup>&</sup>lt;sup>1</sup> Employment status policy defines those as authorized to work 40 hours per week to be full-time (1 FTE). Those authorized to work 20-39 hours per week are classified as 0.75 to 0.99 FTE. Individuals authorized to work a regular schedule but less than 20 hours per week or 40 hours per pay period are classified as .01-.49 FTE and are part-time. Supplemental staff work a minimum of 96 hours per payroll year based on staffing needs.

**eTable 2.** Emotional Exhaustion or Depersonalization at Baseline and Subsequent Reduction in Work Effort

| Variable                               | Level                                 | Odds Ratio (95%<br>CI) | p-value | Overall p-value |
|--|---------------------------------------|------------------------|---------|-----------------|
| Emotional Exhau                        | stion                                 |                        |         |                 |
| Emotional<br>Exhaustion at<br>baseline | For every one point increase in score | 1.12 (1.10-1.16)       |         | <.001           |
| Gender                                 | Male vs. Female                       | 0.47 (0.40-0.54)       |         | <.001           |
| Age                                    | <35                                   | Reference              |         | <.001           |
|  | 35-44                                 | 0.59 (0.51-0.67)       | <.001   |                 |
|  | 45-54                                 | 0.50 (0.42-0.58)       | <.001   |                 |
|  | 55-64                                 | 0.69 (0.59-0.82)       | <.001   |                 |
|  | >=65                                  | 1.54 (1.03-2.29)       | .03     |                 |
| Duration of employment                 | ≤5 years                              | Reference              |         | <.001           |
|  | 6-10 years                            | 0.87 (0.77-0.99)       | .04     |                 |
|  | 11-15 years                           | 0.76 (0.65-0.90)       | .001    |                 |
|  | >15 years                             | 0.74 (0.64-0.86)       | <.001   |                 |
| Position                               | Nurses                                | Reference              |         | <.001           |
|  | Admin Office Support                  | 0.17 (0.14-0.22)       | <.001   |                 |
|  | <b>Business Professionals</b>         | 0.09 (0.07-0.12)       | <.001   |                 |
|  | Clinical Office Support               | 0.25 (0.21-0.30)       | <.001   |                 |
|  | Healthcare Professional               | 0.39 (0.33-0.47)       | <.001   |                 |
|  | Service/Support Personnel             | 0.55 (0.48-0.64)       | <.001   |                 |
|  | Technician/Technologist               | 0.35 (0.30-0.41)       | <.001   |                 |
| Baseline FTE                           | For every .10 increase                | 1.17 (1.13-1.21)       |         | <.001           |
| Depersonalization                      | on                                    |                        |         |                 |

| Variable                      | Level                                 | Odds Ratio (95%<br>CI) | p-value | Overall p-value |
|-------------------------------|---------------------------------------|------------------------|---------|-----------------|
| Depersonalization at baseline | For every one point increase in score | 1.10 (1.06-1.14)       |         | <.001           |
| Gender                        | Male vs. Female                       | 0.46 (0.39-0.53)       |         | <.001           |
| Age                           | <35                                   | Reference              |         | <.001           |
|                               | 35-44                                 | 0.58 (0.50-0.66)       | <.001   |                 |
|                               | 45-54                                 | 0.48 (0.41-0.56)       | <.001   |                 |
|                               | 55-64                                 | 0.68 (0.58-0.80)       | <.001   |                 |
|                               | >=65                                  | 1.54 (1.04-2.29)       | .03     |                 |
| Duration of                   | ≤ 5 years                             | Reference              |         | <.001           |
| Employment                    | 6-10 years                            | 0.88 (0.77-1.00)       | .05     |                 |
|                               | 11-15 years                           | 0.77 (0.65-0.90)       | .001    |                 |
|                               | >15 years                             | 0.75 (0.65-0.88)       | <.001   |                 |
| Position                      | Nurses                                | Reference              |         | <.001           |
|                               | Admin Office Support                  | 0.18 (0.14-0.22)       | <.001   |                 |
|                               | Business Professionals                | 0.09 (0.07-0.12)       | <.001   |                 |
|                               | Clinical Office Support               | 0.25 (0.21-0.30)       | <.001   |                 |
|                               | Healthcare Professional               | 0.40 (0.33-0.47)       | <.001   |                 |
|                               | Service/Support Personnel             | 0.55 (0.48-0.64)       | <.001   |                 |
|                               | Technician/Technologist               | 0.35 (0.30-0.41)       | <.001   |                 |
| Baseline FTE                  | For every .10 increase                | 1.18 (1.13-1.22)       |         | <.001           |

eTable 3. Satisfaction at Baseline and Subsequent Reduction in Work Effort

| Variable                 | Level                                 | Odds Ratio (95%<br>CI) | p-value | Overall p-value |
|--------------------------|---------------------------------------|------------------------|---------|-----------------|
| Satisfaction at baseline | For every one point increase in score | 0.83 (0.79-0.88)       |         | <.001           |
| Gender                   | Male vs. Female                       | 0.46 (0.39-0.53)       |         | <.001           |
| Age                      | <35                                   | Reference              |         | <.001           |
|                          | 35-44                                 | 0.57 (0.49-0.65)       | <.001   |                 |
|                          | 45-54                                 | 0.46 (0.40-0.54)       | <.001   |                 |
|                          | 55-64                                 | 0.64 (0.54-0.74)       | <.001   |                 |
|                          | >=65                                  | 1.44 (0.97-2.12)       | .07     |                 |
| Duration of Employment   | ≤ 5 years                             | Reference              |         | .003            |
| Duration of Employment   | 6-10 years                            | 0.88 (0.78-1.01)       | .06     |                 |
|                          | 11-15 years                           | 0.76 (0.65-0.90)       | <.001   |                 |
|                          | >15 years                             | 0.75 (0.65-0.88)       | <.001   |                 |
| Position                 | Nurses                                | Reference              |         | <.001           |
|                          | Admin Office Support                  | 0.17 (0.14-0.21)       | <.001   |                 |
|                          | Business Professionals                | 0.09 (0.07-0.12)       | <.001   |                 |
|                          | Clinical Office Support               | 0.25 (0.20-0.3)        | <.001   |                 |
|                          | Healthcare Professional               | 0.39 (0.33-0.47)       | <.001   |                 |
|                          | Service/Support<br>Personnel          | 0.54 (0.47-0.63)       | <.001   |                 |
|                          | Technician/Technologist               | 0.34 (0.29-0.40)       | <.001   |                 |
| Baseline FTE             | For every .10 increase                | 1.18 (1.14-1.22)       |         | <.001           |