## Additional file 1

Table 1 a, b and c: Proportion of people with one or more segmental levels in Subgroup 1 for each of the three pain measures 'LBP past year', 'LBP past month' and 'Non-trivial LBP'

Table 1a

| Subgroup 1 | No LBP past month; $n$ <br> $(\%)$ | LBP past month; $n(\%)$ | Total |
| :--- | :--- | :--- | :--- |
| No | $3(1 \%)$ | $4(2 \%)$ | $7(2 \%)$ |
| Yes | $234(99 \%)$ | $171(98 \%)$ | $405(98 \%)$ |
| Total | 237 | 175 | 412 |

Table 1b

| Subgroup 1 | No LBP past year; $\mathrm{n}(\%)$ | LBP past year; $\mathrm{n}(\%)$ | Total |
| :--- | :--- | :--- | :--- |
| No | $0(0 \%)$ | $7(2 \%)$ | $7(2 \%)$ |
| Yes | $128(100 \%)$ | $277(98 \%)$ | $405(98 \%)$ |
| Total | 128 | 284 | 412 |

Table 1c

| Subgroup 1 | No non-trivial LBP; $n(\%)$ | Non-trivial LBP; $n(\%)$ | Total |
| :--- | :--- | :--- | :--- |
| No | $5(1 \%)$ | $2(3 \%)$ | $7(2 \%)$ |
| Yes | $332(99 \%)$ | $73(97 \%)$ | $405(98 \%)$ |
| Total | 337 | 75 | 412 |

Table 2 a, b and c: Proportion of people with one or more segmental levels in Subgroup 2 for each of the three pain measures 'LBP past year', 'LBP past month' and 'Non-trivial LBP'

Table 2a

| Subgroup 2 | No LBP past month; $n$ <br> $(\%)$ | LBP past month; $n(\%)$ | Total |
| :--- | :--- | :--- | :--- |
| No | $81(34 \%)$ | $50(29 \%)$ | $131(32 \%)$ |
| Yes | $156(66 \%)$ | $125(71 \%)$ | $281(68 \%)$ |
| Total | 237 | 175 | 412 |

Table 2b

| Subgroup 2 | No LBP past year; $n(\%)$ | LBP past year; $n(\%)$ | Total |
| :--- | :--- | :--- | :--- |
| No | $49(38 \%)$ | $82(29 \%)$ | $131(32 \%)$ |
| Yes | $79(62 \%)$ | $202(71 \%)$ | $281(68 \%)$ |
| Total | 128 | 284 | 412 |

Table 2c

| Subgroup 2 | No non-trivial LBP; $\mathrm{n}(\%)$ | Non-trivial LBP; $\mathrm{n}(\%)$ | Total |
| :--- | :--- | :--- | :--- |
| No | $113(34 \%)$ | $18(24 \%)$ | $131(32 \%)$ |
| Yes | $224(66 \%)$ | $57(76 \%)$ | $281(68 \%)$ |
| Total | 337 | 75 | 412 |

## Additional file 1

Table 3 a, b and c: Proportion of people with one or more segmental levels in Subgroup 3 for each of the three pain measures 'LBP past year', 'LBP past month' and 'Non-trivial LBP'

Table 3a

| Subgroup 3 | No LBP past month; $n$ <br> $(\%)$ | LBP past month; $n(\%)$ | Total |
| :--- | :--- | :--- | :--- |
| No | $209(88 \%)$ | $157(90 \%)$ | $366(89 \%)$ |
| Yes | $28(12 \%)$ | $18(10 \%)$ | $46(11 \%)$ |
| Total | 237 | 175 | 412 |

Table 3b

| Subgroup 3 | No LBP past year; $n(\%)$ | LBP past year; $n(\%)$ | Total |
| :--- | :--- | :--- | :--- |
| No | $114(89 \%)$ | $252(89 \%)$ | $366(89 \%)$ |
| Yes | $14(11 \%)$ | $32(11 \%)$ | $46(11 \%)$ |
| Total | 128 | 284 | 412 |

Table 3c

| Subgroup 3 | No non-trivial LBP; $n(\%)$ | Non-trivial LBP; $n(\%)$ | Total |
| :--- | :--- | :--- | :--- |
| No | $301(89 \%)$ | $65(87 \%)$ | $366(89 \%)$ |
| Yes | $36(11 \%)$ | $10(13 \%)$ | $46(11 \%)$ |
| Total | 337 | 75 | 412 |

Table 4 a, b and c: Proportion of people with one or more segmental levels in Subgroup 4 for each of the three pain measures 'LBP past year', 'LBP past month' and 'Non-trivial LBP'

Table 4a

| Subgroup 4 | No LBP past month; $n$ <br> $(\%)$ | LBP past month; $n(\%)$ | Total |
| :--- | :--- | :--- | :--- |
| No | $173(73 \%)$ | $127(73 \%)$ | $300(73 \%)$ |
| Yes | $64(27 \%)$ | $48(27 \%)$ | $112(27 \%)$ |
| Total | 237 | 175 | 412 |

Table 4b

| Subgroup 4 | No LBP past year; $n(\%)$ | LBP past year; $n(\%)$ | Total |
| :--- | :--- | :--- | :--- |
| No | $107(84 \%)$ | $193(68 \%)$ | $300(73 \%)$ |
| Yes | $21(16 \%)$ | $91(32 \%)$ | $112(27 \%)$ |
| Total | 128 | 284 | 412 |

Table 4c

| Subgroup 4 | No non-trivial LBP; $n(\%)$ | Non-trivial LBP; $n(\%)$ | Total |
| :--- | :--- | :--- | :--- |
| No | $247(73 \%)$ | $53(71 \%)$ | $300(73 \%)$ |
| Yes | $90(27 \%)$ | $22(29 \%)$ | $112(27 \%)$ |
| Total | 337 | 75 | 412 |

## Additional file 1

Table 5 a, b and c: Proportion of people with one or more segmental levels in Subgroup 5 for each of the three pain measures 'LBP past year', 'LBP past month' and 'Non-trivial LBP'

Table 5a

| Subgroup 5 | No LBP past month; $n$ <br> $(\%)$ | LBP past month; $n(\%)$ | Total |
| :--- | :--- | :--- | :--- |
| No | $231(97 \%)$ | $163(93 \%)$ | $394(96 \%)$ |
| Yes | $6(3 \%)$ | $12(7 \%)$ | $18(4 \%)$ |
| Total | 237 | 175 | 412 |

Table 5b

| Subgroup 5 | No LBP past year; $\mathrm{n}(\%)$ | LBP past year; $\mathrm{n}(\%)$ | Total |
| :--- | :--- | :--- | :--- |
| No | $127(99 \%)$ | $267(94 \%)$ | $394(96 \%)$ |
| Yes | $1(1 \%)$ | $17(6 \%)$ | $18(3 \%)$ |
| Total | 128 | 284 | 412 |

Table 5c

| Subgroup 5 | No non-trivial LBP; $n(\%)$ | Non-trivial LBP; $n(\%)$ | Total |
| :--- | :--- | :--- | :--- |
| No | $328(97 \%)$ | $66(88 \%)$ | $394(96 \%)$ |
| Yes | $9(3 \%)$ | $9(12 \%)$ | $18(4 \%)$ |
| Total | 337 | 75 | 412 |

Table 6 a, b and c: Proportion of people with one or more segmental levels in Subgroup 6 for each of the three pain measures 'LBP past year', 'LBP past month' and 'Non-trivial LBP'

Table 6a

| Subgroup 6 | No LBP past month; $n$ <br> $(\%)$ | LBP past month; $n(\%)$ | Total |
| :--- | :--- | :--- | :--- |
| No | $207(87 \%)$ | $158(90 \%)$ | $365(89 \%)$ |
| Yes | $30(13 \%)$ | $17(10 \%)$ | $47(11 \%)$ |
| Total | 237 | 175 | 412 |

Table 6b

| Subgroup 6 | No LBP past year; $n(\%)$ | LBP past year; $n(\%)$ | Total |
| :--- | :--- | :--- | :--- |
| No | $113(88 \%)$ | $252(89 \%)$ | $365(89 \%)$ |
| Yes | $15(12 \%)$ | $32(11 \%)$ | $47(11 \%)$ |
| Total | 128 | 284 | 412 |

Table 6c

| Subgroup 6 | No non-trivial LBP; $\mathrm{n}(\%)$ | Non-trivial LBP; $\mathrm{n}(\%)$ | Total |
| :--- | :--- | :--- | :--- |
| No | $297(88 \%)$ | $68(91 \%)$ | $365(89 \%)$ |
| Yes | $40(12 \%)$ | $7(9 \%)$ | $47(11 \%)$ |
| Total | 337 | 75 | 412 |

## Additional file 1

Table 7a, b and c: Proportion of people with all segments in Subgroup 1 vs. one or more segments in Subgroup 5 for each of the three pain measures 'LBP past year', 'LBP past month' and 'Non-trivial LBP'


Table 7a

| All 5 levels in Subgroup <br> $\mathbf{1}$ vs min. one level in <br> Subgroup 5 | No LBP past month; $n$ <br> $(\%)$ | LBP past month; $n(\%)$ | Total |
| :--- | :--- | :--- | :--- |
| Subgroup 1 <br> Subgroup 5 <br> All | $40(87 \%)$ | $32(73 \%)$ | $72(80 \%)$ |
|  | $6(13 \%)$ | $12(27 \%)$ | $18(20 \%)$ |

Table 7b

| All 5 levels in Subgroup <br> $\mathbf{1}$ vs min. one level in <br> Subgroup 5 | No LBP past year; $n(\%)$ | LBP past year; $n(\%)$ | Total |
| :--- | :--- | :--- | :--- |
| Subgroup 1 <br> Subgroup 5 <br> All | $29(97 \%)$ | $43(72 \%)$ | $72(80 \%)$ |
|  | $1(3 \%)$ | $17(28 \%)$ | $18(20 \%)$ |

Table 7c

| All 5 levels in Subgroup <br> 1 vs min. one level in <br> Subgroup 5 | No non-trivial LBP; n (\%) | Non-trivial LBP; n (\%) | Total |
| :--- | :--- | :--- | :--- |
| Subgroup 1 <br> Subgroup 5 <br> All | $61(87 \%)$ | $11(55 \%)$ |  |
| 9 (13\%) | $9(45 \%)$ | $18(80 \%)$ |  |

## Additional file 1

Table 8a, b and c: Proportion of people with all segments in Subgroup 1 vs. one or more segments in Subgroup 4 but no segments in Subgroup 5 for each of the three pain measures ‘LBP past year', 'LBP past month' and 'Non-trivial LBP'


Table 8a

| All 5 levels in Subgroup <br> $\mathbf{1}$ vs min. one level in <br> Subgroup 4 but not <br> Subgroup 5 | No LBP past month; $n$ <br> $(\%)$ | LBP past month; $n(\%)$ | Total |
| :--- | :--- | :--- | :--- |
| Subgroup 1 <br> Subgroup 4 <br> All | $40(40 \%)$ | $32(40 \%)$ | $72(40 \%)$ |
| $61(60 \%)$ | $48(60 \%)$ | $109(60 \%)$ |  |

Table 8b

| All 5 levels in Subgroup | No LBP past year; $n(\%)$ | LBP past year; $n(\%)$ | Total |
| :--- | :--- | :--- | :--- |
| 1 vs min. one level in <br> Subgroup 4 but not <br> Subgroup 5 |  |  |  |
| Subgroup 1 <br> Subgroup 4 <br> All | $29(59 \%)$ | $43(33 \%)$ | $72(40 \%)$ |
| $20(41 \%)$ | $89(67 \%)$ | $109(60 \%)$ |  |

Table 8c

| All 5 levels in Subgroup 1 vs min. one level in Subgroup 4 but not Subgroup 5 | No non-trivial LBP; n (\%) | Non-trivial LBP; n (\%) | Total |
| :---: | :---: | :---: | :---: |
| Subgroup 1 | 61 (41\%) | 11 (33\%) | 72 (40\%) |
| Subgroup 4 | 87 (59\%) | 22 (67\%) | 109 (60\%) |
| All | 148 | 33 | 181 |

## Additional file 1

Table 9a, b and c: Proportion of people with all segments in Subgroup 1 vs. one or more segments in Subgroup 4 or Subgroup 5 for each of the three pain measures 'LBP past year', 'LBP past month' and 'Non-trivial LBP'


Table 9a

| All 5 levels in Subgroup <br> $\mathbf{1}$ vs min. one level in <br> Subgroup 4 or in <br> Subgroup 5 | No LBP past month; $n$ <br> $(\%)$ | LBP past month; $n(\%)$ | Total |
| :--- | :--- | :--- | :--- |
| Subgroup 1 <br> Subgroup 4 or 5 <br> All | $40(37 \%)$ | $67(63 \%)$ | $32(35 \%)$ |
| 107 | $60(65 \%)$ | $72(36 \%)$ |  |

Table 9b

| All 5 levels in Subgroup <br> $\mathbf{1}$ vs min. one level in <br> Subgroup 4 or in <br> Subgroup 5 | No LBP past year; $n(\%)$ | LBP past year; $n(\%)$ | Total |
| :--- | :--- | :--- | :--- |
| Subgroup 1 <br> Subgroup 4 or 5 <br> All | $29(58 \%)$ | $43(29 \%)$ | $72(36 \%)$ |

Table 9c

| All 5 levels in Subgroup <br> $\mathbf{1}$ vs min. one level in <br> Subgroup 4 or in <br> Subgroup 5 | No non-trivial LBP; $n$ <br> $(\%)$ | Non-trivial LBP; n (\%) | Total |
| :--- | :--- | :--- | :--- |
| Subgroup 1 <br> Subgroup 4 or 5 <br> All | $61(39 \%)$ | $96(61 \%)$ | $11(26 \%)$ |
| 157 | $31(74 \%)$ | $72(36 \%)$ |  |

## Additional file 1

Table 10a, b and c: Proportion of people with all segments in Subgroup 1 vs. one or more segments in Subgroup 2 but no segments in Subgroup 4 or Subgroup 5 for each of the three pain measures 'LBP past year', 'LBP past month' and 'Nontrivial LBP'


Table 10a

| All 5 levels in Subgroup <br> $\mathbf{1}$ vs min. one level in <br> Subgroup 2 but no levels <br> in Subgroup 4 or <br> Subgroup 5 | No LBP past month; $n$ <br> n | LBP past month; n (\%) | Total |
| :--- | :--- | :--- | :--- |
| Subgroup 1 <br> Subgroup 2 <br> All | $40(25 \%)$ | $32(29 \%)$ | $72(27 \%)$ |

Table 10b

| All 5 levels in Subgroup <br> 1 vs min. one level in <br> Subgroup 2 but no levels <br> in Subgroup 4 or <br> Subgroup 5 | No LBP past year; n (\%) | LBP past year; n (\%) | Total |
| :--- | :--- | :--- | :--- |
| Subgroup 1 <br> Subgroup 2 <br> All | $29(30 \%)$ | $43(25 \%)$ | $72(27 \%)$ |
| $69(70 \%)$ | $127(75 \%)$ | $196(73 \%)$ |  |

Table 10c

| All 5 levels in Subgroup <br> 1 vs min. one level in Subgroup 2 but no levels in Subgroup 4 or Subgroup 5 | No non-trivial LBP; n (\%) | Non-trivial LBP; n (\%) | Total |
| :---: | :---: | :---: | :---: |
| Subgroup 1 | 61 (27\%) | 11 (26\%) | 72 (27\%) |
| Subgroup 2 | 165 (73\%) | 31 (74\%) | 196 (73\%) |
| All | 226 | 42 | 268 |

## Additional file 1

Table 11a, b and c: Proportion of people with all segments in Subgroup 1 vs. one or more segments in Subgroup 3 but no segments in Subgroup 4 or Subgroup 5 for each of the three pain measures 'LBP past year', 'LBP past month' and 'Nontrivial LBP'


Table 11a

| All 5 levels in Subgroup <br> $\mathbf{1}$ vs min. one level in <br> Subgroup 3 but no <br> levels in Subgroup 4 or <br> 5 | No LBP past month; $n$ <br> $(\%)$ | LBP past month; $n(\%)$ | Total |
| :--- | :--- | :--- | :--- |
| Subgroup 1 <br> Subgroup 3 <br> All | $40(70 \%)$ | $32(71 \%)$ | $72(71 \%)$ |
| $17(30 \%)$ | $13(29 \%)$ | $30(29 \%)$ |  |

## Table 11b

| All 5 levels in Subgroup <br> $\mathbf{1}$ vs min. one level in <br> Subgroup 3 but no <br> levels in Subgroup 4 or <br> 5 | No LBP past year; $\mathrm{n}(\%)$ | LBP past year; $\mathrm{n}(\%)$ | Total |
| :--- | :--- | :--- | :--- |
| Subgroup 1 <br> Subgroup 3 <br> All | $29(76 \%)$ | $43(67 \%)$ | $72(71 \%)$ |
| $9(24 \%)$ | $21(33 \%)$ | $30(29 \%)$ |  |
| 38 | 64 | 102 |  |

Table 11c

| All 5 levels in Subgroup <br> $\mathbf{1}$ vs min. one level in <br> Subgroup 3 but no <br> levels in Subgroup 4 or <br> 5 | No Non-trivial LBP n (\%) | LBP non-trival; n (\%) | Total |
| :--- | :--- | :--- | :--- |
| Subgroup 1 <br> Subgroup 3 <br> All | $61(73 \%)$ | $11(61 \%)$ | $72(71 \%)$ |
|  | $23(27 \%)$ | $7(39 \%)$ | $30(29 \%)$ |

## Additional file 1

Table 12a, b and c: Proportion of people with all segments in Subgroup 1 vs. one or more segments in Subgroup 6 but no segments in Subgroup 3, Subgroup 4 or Subgroup 5 for each of the three pain measures 'LBP past year', 'LBP past month' and 'Non-trivial LBP'


Table 12a

| All 5 levels in Subgroup <br> 1 vs min. one level in <br> Subgroup 6 but no levels <br> in Subgroup 4, 5 or 3 | No LBP past month; $n$ <br> $(\%)$ | LBP past month; $n(\%)$ | Total |
| :--- | :--- | :--- | :--- |
| Subgroup 1 <br> Subgroup 6 <br> All | $40(65 \%)$ | $32(78 \%)$ | $72(70 \%)$ |
| $22(35 \%)$ | $9(22 \%)$ | $31(30 \%)$ |  |

Table 12b

| All 5 levels in Subgroup | No LBP past year; $n(\%)$ | LBP past year; $n(\%)$ | Total |
| :--- | :--- | :--- | :--- |
| 1 vs min. one level in <br> Subgroup 6 but no levels <br> in Subgroup 4, 5 or 3 |  | $43(69 \%)$ | $72(70 \%)$ |
| Subgroup 1 <br> Subgroup 6 <br> All | $29(71 \%)$ | $19(31 \%)$ | $31(30 \%)$ |
|  | $12(29 \%)$ | 62 | 103 |

Table 12c

| All 5 levels in Subgroup | No non-trivial LBP; n <br> $\mathbf{1}$ vs min. one level in <br> Subgroup 6 but no levels <br> in Subgroup 4, 5 or 3 |  | Non-trivial LBP; n (\%) |
| :--- | :--- | :--- | :--- | Total | (\%) |
| :--- |

## Additional file 1

Table 13a, b and c: Proportion of people with all segments in Subgroup 1 vs. one or more segments in Subgroup 6 and Subgroup 3 but no segments in Subgroup 4 or Subgroup 5 for each of the three pain measures 'LBP past year', 'LBP past month' and 'Non-trivial LBP'


Table 13a

| All 5 levels in Subgroup <br> 1 vs min. one level in Subgroup 3 or 6 but no levels in Subgroup 4 or 5 | No LBP past month; $n$ (\%) | LBP past month; n (\%) | Total |
| :---: | :---: | :---: | :---: |
| Subgroup 1 | 40 (51\%) | 32 (59\%) | 72 (54\%) |
| Subgroup 3 or 6 | 39 (49\%) | 22 (41\%) | 61 (46\%) |
| All | 79 | 54 | 133 |

Table 13b

| All 5 levels in Subgroup | No LBP past year; n (\%) | LBP past year; n (\%) | Total |
| :--- | :--- | :--- | :--- |
| 1 vs min. one level in <br> Subgroup 3 or 6 but no <br> levels in Subgroup 4 or 5 |  |  |  |
| Subgroup 1 <br> Subgroup 3 or 6 <br> All | $29(58 \%)$ | $43(52 \%)$ | $72(54 \%)$ |
| $21(42 \%)$ | $40(48 \%)$ | $61(46 \%)$ |  |

Table 13c

| All 5 levels in Subgroup 1 vs min. one level in Subgroup 3 or 6 but no levels in Subgroup 4 or 5 | No non-trivial LBP; n (\%) | Non-trivial LBP; n (\%) | Total |
| :---: | :---: | :---: | :---: |
| Subgroup 1 | 61 (54\%) | 11 (52\%) | 72 (54\%) |
| Subgroup 3 or 6 | 51 (46\%) | 10 (48\%) | 61 (46\%) |
| All | 112 | 21 | 133 |

