

Additional file 1 A

Articles identified as concerning 'patient preferences for treatment outcome' (n=22) during the manual search of the 27 journals for the year 2011 ('gold standard' subset)

- Begum, S., Grunfeld, E. A., Ho-Asjoe, M., & Farhadi, J. (2011). An exploration of patient decision-making for autologous breast reconstructive surgery following a mastectomy. *Patient Educ Couns*, *84*(1), 105-110. doi: 10.1016/j.pec.2010.07.004
- Bogelund, M., Vilsboll, T., Faber, J., Henriksen, J. E., Gjesing, R. P., & Lammert, M. (2011). Patient preferences for diabetes management among people with type 2 diabetes in Denmark - a discrete choice experiment. *Curr Med Res Opin*, *27*(11), 2175-2183. doi: 10.1185/03007995.2011.625404
- Bonnichsen, O. (2011). Elicitation of ostomy pouch preferences: a discrete-choice experiment. *Patient*, *4*(3), 163-175. doi: 10.2165/11586430-000000000-00000
- Brinkman, W. B., & Epstein, J. N. (2011). Treatment planning for children with attention-deficit/hyperactivity disorder: treatment utilization and family preferences. *Patient Prefer Adherence*, *5*, 45-56. doi: 10.2147/ppa.s10647
- Danner, M., Hummel, J. M., Volz, F., van Manen, J. G., Wiegard, B., Dintsios, C. M., . . . Ijzerman, M. J. (2011). Integrating patients' views into health technology assessment: Analytic hierarchy process (AHP) as a method to elicit patient preferences. *Int J Technol Assess Health Care*, *27*(4), 369-375. doi: 10.1017/s0266462311000523
- Downar, J., Luk, T., Sibbald, R. W., Santini, T., Mikhael, J., Berman, H., & Hawryluck, L. (2011). Why do patients agree to a "Do not resuscitate" or "Full code" order? Perspectives of medical inpatients. *J Gen Intern Med*, *26*(6), 582-587. doi: 10.1007/s11606-010-1616-2
- Fiebig, D. G., Knox, S., Viney, R., Haas, M., & Street, D. J. (2011). Preferences for new and existing contraceptive products. *Health Econ*, *20 Suppl 1*, 35-52. doi: 10.1002/hec.1686
- Fried, T. R., Tinetti, M. E., Towle, V., O'Leary, J. R., & Iannone, L. (2011). Effects of benefits and harms on older persons' willingness to take medication for primary cardiovascular prevention. *Arch Intern Med*, *171*(10), 923-928. doi: 10.1001/archinternmed.2011.32
- Guo, N., Marra, C. A., FitzGerald, J. M., Elwood, R. K., Anis, A. H., & Marra, F. (2011). Patient preference for latent tuberculosis infection preventive treatment: a discrete choice experiment. *Value Health*, *14*(6), 937-943. doi: 10.1016/j.jval.2011.05.003
- Hauber, A. B., Gonzalez, J. M., Coombs, J., Sirulnik, A., Palacios, D., & Scherzer, N. (2011). Patient preferences for reducing toxicities of treatments for gastrointestinal stromal tumor (GIST). *Patient Prefer Adherence*, *5*, 307-314. doi: 10.2147/ppa.s20445
- Jewell, E. L., Smrtka, M., Broadwater, G., Valea, F., Davis, D. M., Nolte, K. C., . . . Havrilesky, L. J. (2011). Utility scores and treatment preferences for clinical early-stage cervical cancer. *Value Health*, *14*(4), 582-586. doi: 10.1016/j.jval.2010.11.017

- McCaffery, K. J., Turner, R., Macaskill, P., Walter, S. D., Chan, S. F., & Irwig, L. (2011). Determining the impact of informed choice: separating treatment effects from the effects of choice and selection in randomized trials. *Med Decis Making*, *31*(2), 229-236. doi: 10.1177/0272989x10379919
- Muller-Schwefe, G. H. (2011). European survey of chronic pain patients: results for Germany. *Curr Med Res Opin*, *27*(11), 2099-2106. doi: 10.1185/03007995.2011.621935
- Murad, M. H., Shah, N. D., Van Houten, H. K., Ziegenfuss, J. Y., Deming, J. R., Beebe, T. J., . . . Montori, V. M. (2011). Individuals with diabetes preferred that future trials use patient-important outcomes and provide pragmatic inferences. *J Clin Epidemiol*, *64*(7), 743-748. doi: 10.1016/j.jclinepi.2010.08.005
- Ross, S. A., Tildesley, H. D., & Ashkenas, J. (2011). Barriers to effective insulin treatment: the persistence of poor glycemic control in type 2 diabetes. *Curr Med Res Opin*, *27 Suppl 3*, 13-20. doi: 10.1185/03007995.2011.621416
- Schousboe, J. T., Davison, M. L., Dowd, B., Thiede Call, K., Johnson, P., & Kane, R. L. (2011). Predictors of patients' perceived need for medication to prevent fracture. *Med Care*, *49*(3), 273-280. doi: 10.1097/MLR.0b013e318202915e
- Sivell, S., Edwards, A., Elwyn, G., & Manstead, A. S. (2011). Understanding surgery choices for breast cancer: how might the Theory of Planned Behaviour and the Common Sense Model contribute to decision support interventions? *Health Expect*, *14 Suppl 1*, 6-19. doi: 10.1111/j.1369-7625.2009.00558.x
- Sweeting, K. R., Whitty, J. A., Scuffham, P. A., & Yelland, M. J. (2011). Patient preferences for treatment of achilles tendon pain: results from a discrete-choice experiment. *Patient*, *4*(1), 45-54. doi: 10.2165/11532830-000000000-00000
- Van Brunt, K., Matza, L. S., Classi, P. M., & Johnston, J. A. (2011). Preferences related to attention-deficit/hyperactivity disorder and its treatment. *Patient Prefer Adherence*, *5*, 33-43. doi: 10.2147/ppa.s6389
- Williams, B., Steven, K., & Sullivan, F. M. (2011). Tacit and transitional: an exploration of patients' and primary care health professionals' goals in relation to asthma. *Soc Sci Med*, *72*(8), 1359-1366. doi: 10.1016/j.socscimed.2011.02.038
- Wirostko, B., Beusterien, K., Grinspan, J., Ciulla, T., Gonder, J., Barsdorf, A., & Pleil, A. (2011). Patient preferences in the treatment of diabetic retinopathy. *Patient Prefer Adherence*, *5*, 229-237. doi: 10.2147/ppa.s11972
- Zwijnenberg, N. C., Damman, O. C., Spreeuwenberg, P., Hendriks, M., & Rademakers, J. J. (2011). Different patient subgroup, different ranking? Which quality indicators do patients find important when choosing a hospital for hip- or knee arthroplasty? *BMC Health Serv Res*, *11*, 299. doi: 10.1186/1472-6963-11-299

B

The results below are from an analysis similar to the main article, except that for this analysis four additional Rheumatology journals are included in the set of abstracts. This resulted in the following additional abstracts included in the analysis (table 1):

Table 1: Additional abstracts in the analysis

| | Development set (relevant) | Validation set (relevant) | Total (relevant) |
|----------------------------------|-----------------------------------|----------------------------------|-------------------------|
| Annals of the Rheumatic Diseases | 200 (0) | 240 (2) | 440 (2) |
| Arthritis care & research | 144 (2) | 134 (0) | 278 (2) |
| Arthritis research & therapy | 162 (0) | 152 (0) | 314 (0) |
| Arthritis and rheumatism | 273 (0) | 253 (0) | 526 (0) |
| Total | 779 (2) | 779 (2) | 1558 (4) |

Four additional papers were identified that were considered relevant:

Bodar, E. J., Kuijk, L. M., Drenth, J. P., van der Meer, J. W., Simon, A., & Frenkel, J. (2011). On- demand anakinra treatment is effective in mevalonate kinase deficiency. *Ann Rheum Dis*, 70(12), 2155-2158. doi: 10.1136/ard.2011.149922

Heiberg, T., Lie, E., van der Heijde, D., & Kvien, T. K. (2011). Sleep problems are of higher priority for improvement for patients with ankylosing spondylitis than for patients with other inflammatory arthropathies. *Ann Rheum Dis*, 70(5), 872-873. doi: 10.1136/ard.2010.133793

Mann, C., & Gooberman-Hill, R. (2011). Health care provision for osteoarthritis: concordance between what patients would like and what health professionals think they should have. *Arthritis Care Res (Hoboken)*, 63(7), 963-972. doi: 10.1002/acr.20459

van Hulst, L. T., Kievit, W., van Bommel, R., van Riel, P. L., & Fraenkel, L. (2011). Rheumatoid arthritis patients and rheumatologists approach the decision to escalate care differently: results of a maximum difference scaling experiment. *Arthritis Care Res (Hoboken)*, 63(10), 1407-1414. doi: 10.1002/acr.20551

Table 2 and 3 show the results of the methods to create optimal filters using both single terms and combinations thereof including the abstracts mentioned above.

Table 2. Single term with the best sensitivity, best specificity, and lowest NNR for detecting articles reporting on patient preferences on treatment outcomes.

| Search term | Se (%) [95% CI] | Sp (%) [95% CI] | Ac (%) | NNR |
|---------------------------------|------------------------|------------------------|---------------|------------|
| Best sensitivity* | | | | |
| "Delivery of Health Care"[mesh] | 78.6 [77.4 - 79.7] | 76.7 [75.6 - 77.9] | 76.7 | 104.4 |
| Healthcare[mh] | 78.6 [77.4 - 79.7] | 76.7 [75.6 - 77.9] | 76.7 | 104.4 |
| Relat*[tiab] | 71.4 [70.2 - 72.7] | 79.0 [77.8 - 80.1] | 79.0 | 103.7 |
| Best specificity* | | | | |
| Logit | 28.6 [27.3 - 29.8] | 99.8 [99.7 - 99.9] | 99.6 | 3.0 |
| "Patient Preference"[mesh] | 42.9 [41.5 - 44.2] | 99.4 [99.2 - 99.6] | 99.3 | 5.7 |
| Preferen*[ti] | 42.9 [41.5 - 44.2] | 99.4 [99.2 - 99.6] | 99.3 | 5.7 |
| Best accuracy* | | | | |
| Logit | 28.6 [27.3 - 29.8] | 99.8 [99.7 - 99.9] | 99.6 | 3.0 |
| "Patient Preference"[mesh] | 42.9 [41.5 - 44.2] | 99.4 [99.2 - 99.6] | 99.3 | 5.7 |
| Preferen*[ti] | 42.9 [41.5 - 44.2] | 99.4 [99.2 - 99.6] | 99.3 | 5.7 |
| Lowest NNR* | | | | |
| Logit | 28.6 [27.3 - 29.8] | 99.8 [99.7 - 99.9] | 99.6 | 3.0 |
| "Patient Preference"[mesh] | 42.9 [41.5 - 44.2] | 99.4 [99.2 - 99.6] | 99.3 | 5.7 |
| Preferen*[ti] | 42.9 [41.5 - 44.2] | 99.4 [99.2 - 99.6] | 99.3 | 5.7 |

Se: Sensitivity, Sp: Specificity, Ac: Accuracy, NNR: Number Needed to Read, [tiab] = title/abstract, words and numbers included in the title, collection title, abstract, and other abstract of a citation, [ti] = title, words and numbers included in the title or collection title.
 *Keeping sensitivity $\geq 25\%$, specificity $\geq 75\%$, and accuracy $\geq 75\%$.

Table 3. Combinations of search terms with the best sensitivity, best specificity, and lowest NNR for detecting articles reporting on patient preferences on treatment outcomes (keeping sensitivity > 75%, specificity > 50%, and accuracy > 75%)

| Search term | Development set | | | | Validation set | | | |
|--|--------------------|--------------------|--------|------|--------------------|--------------------|--------|------|
| | Se (%) [95% CI] | Sp (%) [95% CI] | Ac (%) | NNR | Se (%) [95% CI] | Sp (%) [95% CI] | Ac (%) | NNR |
| Best sensitivity | | | | | | | | |
| "Patient Satisfaction"[mesh] OR prescrib*[tiab] OR experiment*[tiab] OR preferen*[ti] choice* OR practitioner*[tiab] OR preferen*[ti] OR prescrib*[tiab] | 100.0 [100 - 100] | 93.8 [93.2 - 94.5] | 93.8 | 22.5 | 75.0 [73.8 - 76.2] | 93.3 [92.6 - 94.0] | 93.3 | 37.1 |
| "Patient Satisfaction"[mesh] OR ask*[tiab] OR preferen*[ti] OR prescrib*[tiab] | 100.0 [100 - 100] | 93.8 [93.1 - 94.5] | 93.8 | 22.6 | 83.3 [82.3 - 84.4] | 93.6 [92.9 - 94.3] | 93.5 | 32.6 |
| "Patient Satisfaction"[mesh] OR ask*[tiab] OR preferen*[ti] OR prescrib*[tiab] | 100.0 [100 - 100] | 93.6 [92.9 - 94.2] | 93.8 | 23.5 | 75.0 [73.8 - 76.2] | 94.0 [93.3 - 94.7] | 94.0 | 33.3 |
| Best specificity | | | | | | | | |
| "Patient Preference"[mesh] OR adheren*[tw] choice* OR practitioner*[tiab] | 78.6 [77.4 - 79.7] | 96.3 [95.8 - 96.9] | 96.3 | 17.3 | 58.3 [57.0 - 59.7] | 95.7 [95.2 - 96.3] | 95.6 | 31.0 |
| "Patient Preference"[mesh] OR adheren*[tw] choice* OR practitioner*[tiab] | 78.6 [77.4 - 79.7] | 96.0 [95.5 - 96.6] | 96.0 | 18.6 | 58.3 [57.0 - 59.7] | 95.6 [95.0 - 96.2] | 95.5 | 31.7 |
| "Patient Satisfaction"[mesh] OR preferen*[tiab] | 78.6 [77.4 - 79.7] | 95.9 [95.4 - 96.5] | 95.9 | 19.0 | 75.0 [73.8 - 76.2] | 96.0 [95.4 - 96.5] | 95.9 | 23.0 |
| Best accuracy | | | | | | | | |
| "Patient Preference"[mesh] OR adheren*[tw] choice* OR practitioner*[tiab] | 78.6 [77.4 - 79.7] | 96.3 [95.8 - 96.9] | 96.3 | 17.3 | 58.3 [57.0 - 59.7] | 95.7 [95.2 - 96.3] | 95.6 | 31.0 |
| "Patient Preference"[mesh] OR adheren*[tw] choice* OR practitioner*[tiab] | 78.6 [77.4 - 79.7] | 96.0 [95.5 - 96.6] | 96.0 | 18.6 | 58.3 [57.0 - 59.7] | 95.6 [95.0 - 96.2] | 95.5 | 31.7 |
| "Patient Satisfaction"[mesh] OR preferen*[tiab] | 78.6 [77.4 - 79.7] | 95.9 [95.4 - 96.5] | 95.9 | 19.0 | 75.0 [73.8 - 76.2] | 96.0 [95.4 - 96.5] | 95.9 | 23.0 |
| Lowest NNR | | | | | | | | |
| "Patient Preference"[mesh] OR adheren*[tw] "Patient Satisfaction"[mesh] OR prescrib*[tiab] OR preferen*[ti] | 78.6 [77.4 - 79.7] | 96.3 [95.8 - 96.9] | 96.3 | 17.3 | 58.3 [57.0 - 59.7] | 95.7 [95.2 - 96.3] | 95.6 | 31.0 |
| "Patient Preference"[mesh] OR adheren*[tw] "Patient Satisfaction"[mesh] OR prescrib*[tiab] OR preferen*[ti] | 92.9 [92.1 - 93.6] | 95.3 [94.7 - 95.9] | 95.3 | 18.7 | 75.0 [73.8 - 76.2] | 95.4 [94.8 - 96.0] | 95.4 | 25.7 |
| Choice* or practitioner*[tiab] | 78.6 [77.4 - 79.7] | 96.0 [95.5 - 96.6] | 96.0 | 18.6 | 58.3 [57.0 - 59.7] | 95.6 [95.0 - 96.2] | 95.5 | 31.7 |

Se: Sensitivity, Sp: Specificity, Ac: Accuracy, NNR: Number needed to read, [tw]: text word field, [sh]: MeSH subheading field, [tiab]: title or abstract field, [mesh]: MeSH term field