The prevalence of chronic pain has been estimated between 12% - 30% in the general population across European countries, with higher prevalence observed in older age groups (12). Thus, chronic pain management is a significant burden for patients and healthcare systems alike (13). The management of chronic pain involves a stepwise approach similar to the World Health Organization’s (WHO) pain relief ladder (14). The first step starts with a non-opioid approach, followed by weak opioids for mild pain and stronger opioids and non-opioids for moderate to severe pain (15). Chronic pain is treated with a stepwise therapeutic approach, similar to the WHO’s pain relief ladder. The first step starts with a non-opioid approach, followed by weak opioids for mild pain and stronger opioids and non-opioids for moderate to severe pain (15).

The Delphi panel estimated the same monthly physician visits for analgesic treatment monitoring among all opioids as 20.2 visits. Medical resource costs were obtained from the ISS manual for the public health system in Colombia (16). Resources used to treat AEs were estimated by the Delphi panel and consisted of drug prescriptions, additional physician visits and emergency visits. Medical resource costs were obtained from the ISS manual for the public health system in Colombia (16). To estimate the equivalent doses of the other opioids, an equianalgesic rate of 3.3:1 was used to convert tapentadol PR doses to morphine (30). Then, from morphine, the conversion rate to oxycodone CR was 30:20; to hydromorphone was 20:15; to fentanyl was 75:50; to tramadol was 1.7:1; and to tapentadol extended release (TR) was 0.35:0.28. This was based on a survey performed among 9 pharmacies in Bogotá, Colombia (31). Treatment discontinuation was considered for Palexis® (tapentadol PR) (Table 3).

The AEs included were nausea, vomiting, constipation, pruritus, somnolence and headache. AE rates for tapentadol were obtained from clinical trials and observational studies (29). AE rates for tramadol were assumed to be similar to those for tapentadol. A Delphi panel was developed; eight experts answered an e-mail questionnaire regarding treatment patterns and resource use for the management of moderate to severe chronic pain in healthcare institutions in Colombia. Statistical analyses were performed in R version 3.1.3 (32). The simulations were performed using the rstan package in R (33,34), and the results were postprocessed using the bayesplot package (35). The 3rd and 97th percentiles of the posterior distributions were used as plausible lower and upper bounds, respectively, to represent uncertainty in the results. The models were run for 4000 iterations with 1000 warm-up iterations, and the chains were combined into a single Markov chain. Probabilistic sensitivity analyses were performed, and the results were reported as the posterior distributions of the endpoint measures of interest. A total of 38,000 simulations were run for each model, with 10,000 burn-in iterations to ensure that the models had reached convergence. The 1st line lack of efficacy discontinuation was 7.1%, 2nd line treatment no AE was 17.6%, and 3rd line treatment was the mean cost of all treatment states without AE (except Palexis® [tapentadol PR]) (13).

The 3rd line treatment was the mean cost of all treatment states without AE (except Palexis® [tapentadol PR]) (13). Probabilistic sensitivity analyses were performed, and the results were reported as the posterior distributions of the endpoint measures of interest. A total of 38,000 simulations were run for each model, with 10,000 burn-in iterations to ensure that the models had reached convergence. The 1st line lack of efficacy discontinuation was 7.1%, 2nd line treatment no AE was 17.6%, and 3rd line treatment was the mean cost of all treatment states without AE (except Palexis® [tapentadol PR]) (13). Probabilistic sensitivity analyses were performed, and the results were reported as the posterior distributions of the endpoint measures of interest. A total of 38,000 simulations were run for each model, with 10,000 burn-in iterations to ensure that the models had reached convergence. The 1st line lack of efficacy discontinuation was 7.1%, 2nd line treatment no AE was 17.6%, and 3rd line treatment was the mean cost of all treatment states without AE (except Palexis® [tapentadol PR]) (13). Probabilistic sensitivity analyses were performed, and the results were reported as the posterior distributions of the endpoint measures of interest. A total of 38,000 simulations were run for each model, with 10,000 burn-in iterations to ensure that the models had reached convergence. The 1st line lack of efficacy discontinuation was 7.1%, 2nd line treatment no AE was 17.6%, and 3rd line treatment was the mean cost of all treatment states without AE (except Palexis® [tapentadol PR]) (13). Probabilistic sensitivity analyses were performed, and the results were reported as the posterior distributions of the endpoint measures of interest. A total of 38,000 simulations were run for each model, with 10,000 burn-in iterations to ensure that the models had reached convergence. The 1st line lack of efficacy discontinuation was 7.1%, 2nd line treatment no AE was 17.6%, and 3rd line treatment was the mean cost of all treatment states without AE (except Palexis® [tapentadol PR]) (13).