

FORCE-TJR: INNOVATIVE DESIGN FOR A NATIONAL TJR COMPARATIVE EFFECTIVENESS RESEARCH DATABASE

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BACKGROUND: Joint replacement (TJR) registries have traditionally focused on collecting implant data and analyzing time-to-revision. Sub-optimal outcomes short of revision are important to surgeons and patients. In 2010, the US federal Agency for Healthcare Research and Quality funded Function and Outcomes Research for Comparative Effectiveness in TJR (FORCE-TJR), a research consortium and database to collect comprehensive TJR outcomes, including patient-reported pain and function and post-operative sequelae. This \$12 million research award will provide new information about post-TJR adverse events, patient-reported functional gain, and implant longevity. We developed novel methods to assure critical data collection and sustainability.

METHODS: FORCE-TJR developed methods to (1) assemble a research consortium that includes a national sample of diverse surgeons and practices who agree to invite all patients to participate, (2) implement a virtual model for patient consent and data entry of consistent, validated patient-reported surveys, (3) conduct efficient screening for post-TJR sequelae and validated chart review and adjudication, and (4) document implant details.

RESULTS: In the first 8 months, FORCE-TJR enrolled more than 90 surgeons in urban and rural settings, across 21 states; with academic, private, and HMO ownership; performing varied annual volumes of TJR surgery. Across practices, 80-95% of patients enrolled and more than 3250 patients consented to complete standardized surveys. More than 150 patients are enrolled each week, and enrollment rates will grow as additional surgeons join.

CONCLUSION: FORCE-TJR employs innovative strategies to collect comprehensive post-TJR data from a national cohort of more than 30,000 patients. Comparative effectiveness research emerging from these data will include patient, implant, health system predictors of post-TJR adverse events, pain relief, functional gain, and revision. These TJR analyses will offer novel and important new evidence to guide patient and surgeon decisions, and are possible only because of this comprehensive research design.