Two curricula were created to prepare medical librarians to teach research data management to researchers. The first is a web-based curriculum that uses interactive educational technologies to provide librarians with a better understanding of research data management, as well as the practice and culture of research. A second curriculum was designed as a toolkit to be used by librarians for in-person teaching of researchers and consists of slides, scripts, evaluation tools, and instructions. All educational materials were reviewed based on evidence-based instructional design and cognitive learning theories. Several modules in the toolkit allow for guided customization on topics where institution specific material is important (e.g. data storage). Evaluation of educational materials includes pre- and post-assessments of knowledge gain, satisfaction, comfort level with material, and intent to use. For the online modules, assessments are incorporated into the modules and for the teaching toolkit, a centralized online survey will be delivered before and after the in-person class. For both curricula, six month follow-up surveys will be conducted. Prior to broad dissemination, the online curricula was piloted to assess the quality of the modules and receive feedback from community. Future piloting will include visiting library sites and observing librarians teach researchers in-person. Following piloting, these curricula will be disseminated to the broader medical librarian community, for use at institutions across the United States to facilitate biomedical data management, sharing, and reuse.