To evaluate patterns of care as well as effectiveness and side effects of palliative treatment in four German radiation oncology departments. All referrals in four German radiation oncology departments (two university hospitals, one academic hospital, one private practice) were prospective documented for 1 month in 2008 (2 months at one of the university hospitals). In palliatively irradiated patients, treatment aims and indications as well as treated sites and fractionation schedules were recorded. In addition, symptoms and side effects were analyzed with standardized questionnaires before and at the end of radiotherapy. During the observation period, 603 patients underwent radiation therapy in the four centers and 153 (24%, study population) were treated with palliative intent. Within the study, patients were most frequently treated for bone (34%) or brain (27%) metastases. 62 patients reported severe or very severe pain, 12 patients reported severe or very severe dyspnea, 27 patients reported neurological deficits or signs of cranial pressure, and 43 patients reported a poor or very poor sense of well-being. The most frequent goals were symptom relief (53%) or prevention of symptoms (46%). Life prolongation was intended in 37% of cases. A wide range of fractionation schedules was applied with total doses ranging from 3-61.2 Gy. Of the patients, 73% received a slightly hypofractionated treatment schedule with doses of >2.0 Gy to 3.0
Gy to 8.0 Gy. Radiation therapy led to a significant improvement of well-being (35% of patients) and reduction of symptoms, especially with regard to pain (66%), dyspnea (61%), and neurological deficits (60%). Therapy was very well tolerated with only 4.5% grade I or II acute toxicities being observed. Unscheduled termination was observed in 19 patients (12%). Palliative radiation therapy is effective in reducing symptoms, increases subjective well-being, and has minimal side effects. More studies are necessary for subgroup analyses and for clarifying the different goals in palliative radiotherapy.