We consider a scenario in which a large equipment manufacturer wishes to outsource the work involved in repairing purchased goods while under warranty. Several external service vendors are available for this work. We develop models and analyses to support decisions concerning how responsibility for the warranty population should be divided between them. These also allow the manufacturer to resolve related questions concerning, for example, whether the server capacities of the contracted vendors are sufficient to deliver an effective post sales service. Static allocation models yield information concerning the proportions of the warranty population for which the vendors should be responsible overall. Dynamic allocation models enable consideration of how such overall workloads might be delivered to the vendors over time in a way which avoids excessive variability in the repair burden. We apply DP policy improvement to develop an effective dynamic allocation heuristic. This is evaluated numerically and is also used as a yardstick to assess simpler heuristics suggested by static models. A dynamic greedy allocation heuristic is found to perform well. It is clear that dividing the workload equally among vendors with different service capacities can lead to serious losses.