Access to higher education in Portugal is governed by a quota system (*numerus clausus*). The purpose of this article is to answer two questions: First, how does the *numerus clausus* system shape the demand for medical studies? Second, how do non-enrolled medical candidates influence the global allocation system and generate waves of dissatisfaction? The results show that students who do not succeed in entering medicine register in other programmes, such as pharmacy, veterinary medicine and dental studies, generating a first wave of dissatisfaction. Because students who are not placed in medicine occupy a large share of the places available in those other programmes, the wave of dissatisfaction propagates, with students being pushed to other programmes, especially biology and biochemistry. This process has also been analysed from a spatial perspective. Apparently, when students are competing to obtain a study place in a programme with prestige and good professional career perspectives such as medicine moving to a more peripheral region becomes more frequent.