In this talk I will consider some families of varieties with actions of certain finite reflection groups – varieties such as the hyperplane complements or complex flag manifolds associated to these groups. The cohomology groups of these families stabilize in a precise representation-theoretic sense. I will explain these stability patterns and how to combine them with results of Grothendieck and Lehrer to establish asymptotic stability of certain point-counts over finite fields. This is joint work with Jennifer Wilson.