A search for baryon and lepton number violation in B decays using the BaBar dataset

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From 1999-2008, the BaBar experiment collected data from e^+e^- collisions running at the $\Upsilon(4S)$ resonance. This provided analysts with 1 billion B mesons with which to probe a wide variety of physics. This talk will present the results of a search for a B meson decaying to a baryon and a lepton, where the baryon is either a Λ_c or Λ, and the lepton is a muon or an electron. This is the first search for these processes and observation of a signal would indicate new physics beyond the standard model. The search is performed using a blind analysis technique, whereby the signal region of interest is hidden from the analysts until the very end. No significant signal is observed in any of the decay modes, and upper limits in the range $(3.2 - 520) \times 10^{-8}$ are set on the branching fractions at the 90% confidence level.