Ophthalmic drugs are almost always delivered via eye drops in spite of many deficiencies including low bioavailability and poor compliance, particularly in patients requiring multiple eye drops daily such as cystinosis.  Only about 1-5% of the drug in eye drops diffuses into the cornea and the remaining 95-99% enters systemic circulation through multiple pathways including tear drainage and conjunctival absorption.  Contact lenses are placed directly on the cornea with a thin 5-10 micron thick post-lens tear film (POLTF) layer in between, which makes contacts a natural choice for delivering drugs to the cornea. Commercial contacts are, however, not ideal for drug delivery due to the short release durations which may necessitate wearing multiple lenses each day, reducing the viability of this approach. In this talk, I will cover our efforts on designing contacts that retain all critical properties while increasing the release duration of cysteamine from a few minutes for control lenses to a few hours. We have developed an approach based on incorporating vitamin E into silicone hydrogel contact lenses to create diffusion barriers to increase release duration of drugs including cysteamine.  This approach significantly increases release duration about 20 to 200-fold depending on the vitamin E loading, while retaining all key properties.  We will include recent updates o in vivo testing of the cysteamine and vitamin E loaded lenses specifically focusing on method development, in vitro release and ex vivo transport.