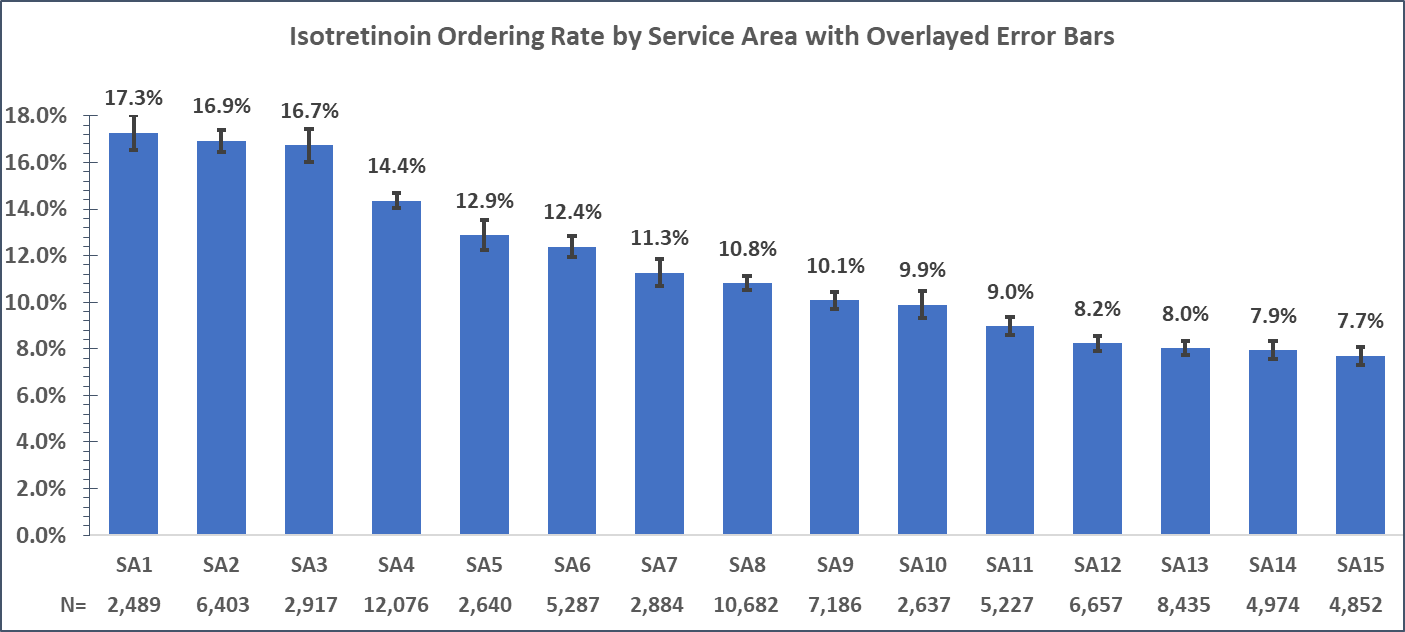
Three variables significantly associated with oral isotretinoin prescription variability for acne patients within KPNC Veena Vanchinathan, MD; Michael Hartmann, MS; Noah M. Contreras, BS; Andrew L. Avins, MD, MPH; Amara A. Lieberman, MD

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| Challenge | **Isotretinoin is an oral, highly effective and resource-intensive prescription for severe acne. Our understanding of the variation in isotretinoin prescribing patterns is limited.** |
| Existing Evidence | Isotretinoin is widely recognized as a highly effective, FDA-approved treatment for severe acne. Due to the known highly teratogenic nature of this medication, there are stringent FDA-mandated requirements for isotretinoin patients. There can be wide variability as to when a patient may be started on the medication, if at all, for their acne treatment. |
| Target Population | Members aged 13-40 with at least two visits with an acne diagnosis between 2016-2020, and 12 months of continuous enrollment prior to and after the index date. |
| Intervention or Exposure | Multiple exposures analyzed across all Service Areas (ecological study). |
| **Outcomes/Key Findings** | **Our data revealed a *more* than 2-fold difference in isotretinoin prescription rates between the lowest prescribing Service Area (7.6%) and the highest prescribing Service Area (17.3%).** Three variables were significantly and independently associated with higher isotretinoin prescription rates. They were (1) mean number of years between the index date and first isotretinoin prescription (inverse relationship) (2) percentage of patients who were previously prescribed oral antibiotics for acne treatment (direct relationship) and (3) percentage of initial isotretinoin prescriptions written by an advanced practice provider (APP) (direct relationship). |
| **Resulting Action/Change** | **This ecological study highlights isotretinoin prescription variability at the Service Area level. We recommend additional analyses, ideally at the patient level, to better understand this variability and further review the three significant covariates associated with isotretinoin prescription rates.** |
| Additional Recommendations | Advanced practice provider utilization in a care teams approach for acne patients, virtual and in-office, may be considered to help decrease barriers in prescribing isotretinoin. We may also consider if healthcare IT infrastructure could support creating an “antibiotic snapshot” for acne patients, to better identify patients with high cumulative antibiotic use who could benefit from treatment change. At a service line and individual provider level, it may be helpful to have a low threshold to discuss oral isotretinoin with potentially qualifying acne patients. |
| Implementation Tools | Ongoing manuscription development to JAMA Dermatology (impact factor 10.9); present findings to relevant organization leadership; develop EMR dotphrase for future analyses that could help us better understand isotretinoin prescription variation; submit data for presentation to regional and national dermatology conferences. |
| Implementation Measurement | Re-examine isotretinoin prescription rates at the Service Area level in 1-2 years and re-assess covariates from original study. |
| Reference | Please see below. |

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