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Increasing SDoH Data Code Capture Across Healthcare Systems

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Introduction

Social determinants of health (SDoH) are social and economic conditions that account for 50% of health outcomes (U.S. Office of Health Policy, HP-20222-12). Z-codes are a subset of ICD-10-CM diagnosis codes that provide a standardized way to capture SDoH factors affecting health, such as housing instability, food insecurity, education, employment, and social support systems. Solventum's Computer Assisted Coding (CAC) utilizes natural language processing (NLP) to automate identification of SDoH Z-codes from diverse clinical documentation for review by medical coders. CAC has traditionally focused on provider (physician/NP/PA) documentation. We configured CAC on an expanded set of non-physician ancillary medical documentation (e.g. social work, case management, flowsheets) which serve as a data-rich narratives that encapsulate the patient's story. We deployed and monitored the impact of CAC with expanded documentation on SDoH code capture from medical charts at scale across multiple healthcare delivery systems.

Methods

Solventum's CAC NLP was expanded with non-physician ancillary documentation containing health-related social needs assessment inputs. CAC NLP was implemented in Solventum 360e Revenue Cycle Management Software in pilot implementations in 3 healthcare systems. We compared three healthcare systems that used CAC with provider only (Group 1, Standard CAC) to three similarly sized healthcare systems that used CAC with provider and expanded ancillary documentation (Group 2, Expanded CAC). Final claims SDoH codes determined by healthcare delivery system medical coders were analysed for both Groups in Amazon Web Services (AWS) Quicksight. Data aggregated by Group and analysed in Microsoft Excel v.2411.

Results

A total of 44,165 codes submitted by medical coders as final coded (SDoH Code Capture) were analysed. There was a 95% increase in SDoH Code Capture in health care systems with Expanded CAC compared to Standard CAC. In addition, there was a 13% decrease in SDoH Code Capture not identified by expanded CAC and required medical coder CAC independent coding, compared to Standard CAC. The most common Z-code class (Z59) representing Housing & Economic Circumstances. Expanded CAC demonstrated a 118% code capture increase (29,686 codes) compared to Standard CAC.

Discussion/Conclusions

Our real-world implementation of Solventum CAC with expanded documentation demonstrates improved SDoH Code Capture. Post-deployment of Expanded CAC, medical coders reported a reduction in their SDoH identification workload. They also highlighted that it ensured SDoH codes are not missed. We suggest, this type of comprehensive SDoH Code Capture program plays an important role for patient outcomes, resource distribution, and healthcare equity.

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