ABSTRACTS | Patient Population Research

376 Suitability of clinical workflows for automation

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There is a need to improve workflow efficiency. Using information from electronic health records, we developed extra-precise digital workflows; however not all workflows are suitable for automation. We developed two metrics, enacted complexity (EC) and contextual dependence (CD), to identify and rank clinic workflows on their amenability for automation. EC is a function of the number of paths in a workflow; more paths indicate greater complexity. CD is a function of how much a workflow is influenced by contextual specifics. High CD indicates that a workflow greatly depends on when, where, and by whom it is performed. EC and CD are indicators that a workflow may be difficult to map, monitor, and control. The objective of this study was to determine the target for automation. For this study, we computed EC and CD using clinical documentation data from the electronic medical record (EMR) for 143,347 visits from 24 different outpatient clinics (Dermatology, Orthopedic Surgery, and Pediatric Oncology). Surgical Pathology data were included as a simple workflow comparator. We identified top rank clinical workflows to analyze. EC and CD showed strong correlation (Spearman r = 0.55, p < 0.05). Surgical Pathology workflow consisted of a handful of paths and is very nearly context dependent. In contrast, Dermatology clinics had over 167,000 paths and Orthopedic Surgery clinic had millions of paths. Both Dermatology and Orthopedic Surgery workflows were highly context dependent. Although Dermatology clinics were extremely complex, they appeared more amenable to automation because other outpatient clinic workflows, EC, and CD, can identify healthcare workflows that are suitable for and may benefit from automation. This research was supported by NSF (SES-1734237), University of Rochester CTSU (UL1 TR002001).

377 Using artificial intelligence (AI) to compare patient perspective of PD-1 and BRAF inhibitors for melanoma treatment

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Due to side effects and adverse psychosocial factors, there can often be a disconnect between clinical impression and the patient perspective of treatment. Melanoma patients frequently use social media to discuss their disease sentiments and outcomes. We analyzed social media on melanoma treatments, PD-1 inhibitors (pembrolizumab/Keytruda, nivolumab) and BRAF inhibitors (dabrafenib, vemurafenib), associated with Patient Global Impression of Change (PGIC) terms to compare and identify patient burden. 12,599,313 publicly available online social media posts were extracted and run through an automated content-scoring database to categorize treatment-specific posts with PGIC terms associated with sentiment. Out of 52,962 posts related to a select list of melanoma treatments, we identified Keytruda (6,080), nivolumab (1,614), dabrafenib (529), and vemurafenib (329) posts. The top ten types of posts by volume for each treatment were predominantly positive for patient impression of change of treatment (improving, well) in contrast with associated negative emotions (fear and sad).

378 Impact of pregnancy on hidradenitis suppurativa: A systematic review and meta-analysis

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The impact of pregnancy on hidradenitis suppurativa (HS) is unclear. Pregnancy is associated with heterogeneous effects on HS, including improvement and (2) HS worsening during pregnancy; heterogeneity was assessed using the I² statistic in R version 3.6.3. 8,637 ICI patients and 8,637 matched controls were included in the study. The proportion of patients with HS improved, worsened, or remained unchanged was estimated for each treatment using Mantel-Haenszel methods. A total of 2253 articles were identified. Inclusion criteria were as follows: English literature, observational studies, randomized controlled trials, and non-randomized controlled trials. Exclusion criteria were as follows: studies using immunosuppressants, monoclonal antibodies, or vaccines. A variety of dermatoses have been reported in patients treated with immune checkpoint inhibitors (ICIs), but current understanding of cutaneous immune-related adverse events (cirAEs) is limited. The objective of this study was to determine the incidence, distribution, risk factors, and cirAEs using population-level data from the US. Using a national insurance claims database, cancer patient receiving an ICI therapy were identified. A variety of dermatoses have been reported in patients treated with immune checkpoint inhibitors (ICIs), but current understanding of cutaneous immune-related adverse events (cirAEs) is limited. The objectives of this study were to: (1) characterize the incidence and distribution of cirAEs among a large population of melanoma patients; and (2) identify factors associated with increased risk of cirAEs. We analyzed 11,201,958 posts related to the five melanoma treatments, we identified Keytruda (6,080), nivolumab (1,614), dabrafenib (529), and vemurafenib (329) posts. The top ten types of posts by volume for each treatment were predominantly positive for patient impression of change of treatment (improving, well) in contrast with associated negative emotions (fear and sad).

379 Epidemiology and risk factors for the development of cutaneous toxicities in patients treated with immune checkpoint inhibitors: A United States population-level analysis

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Epidemiology and risk factors for the development of cutaneous toxicities in patients treated with immune checkpoint inhibitors: A United States population-level analysis

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380 The role of illness perception in patients with cutaneous t-cell lymphoma

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Illness perception describes patient's internal beliefs about their illness and their resulting psychosocial impact. This concept is important because it can give healthcare providers a tool to determine what may need to be addressed. However, very few studies have looked into illness perception in cutaneous T-cell lymphomas (CTCLs). CTCL is a chronic, and at times debilitating group of malignancies that can have an indolent but remitting course. Treatment options can also be burdensome to the patient. It is therefore important to gain an understanding of not only what CTCL patients believe about their disease but also how those beliefs impact their quality of life (QOL). Moreover, the current COVID-19 pandemic offers a unique opportunity to investigate how significant disruptions in access to healthcare for patients with CTCL may impact their perceived disease and patient understanding of CTCL, with the goal of clearing common patient misconceptions about the disease. A total of 410 patients with cutaneous T-cell lymphoma were surveyed via an online survey. Of these, 642 (45.7%) had PSQ only and 677 (48.2%) had Psa and PsaQ, 690 (52.5%). Overall, 336 (21.9%) were somewhat to very unlikely to receive a COVID-19 vaccine when it becomes available, 167 (11.9%) were neither likely nor unlikely to receive a COVID-19 vaccine and 900 (64.2%) were somewhat to very likely to receive a vaccine. Results for receiving the flu vaccine in the last 12 months resembled likelihood of receiving a COVID-19 vaccine; 591 (45.0%) had received a flu vaccine in the last 12 months and 491 (35.0%) had not. Chi-square tests for independence were conducted to assess if likelihood of receiving COVID-19 vaccination was associated with race (p < 0.108), vaccine type (p < 0.108), and having received the flu vaccine in the last 12 months (p < 0.001). The is the first population-level study to characterize the incidence and distribution of cirAEs. Only 10 of the 42 literature-reported dermatoses were significantly associated with ICI use.

381 Perspective of psoriatic disease patients on novel COVID-19 vaccines

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The National Psoriasis Foundation surveyed a stratified sample of 1,405 individuals with psoriatic disease in the United States. Participants were asked questions about the likelihood of receiving a vaccine for COVID-19, history of receiving vaccination for the flu in the last 12 months, current therapies used to treat their psoriasis and demographic questions. A total of 1,405 participants completed the survey. Of these, 642 (45.7%) had PSQ only, 86 (6.1%) had Psa only and 677 (48.2%) had Psa and PsaQ. 690 (52.5%). Overall, 336 (21.9%) were somewhat to very unlikely to receive a COVID-19 vaccine when it becomes available, 167 (11.9%) were neither likely nor unlikely to receive a COVID-19 vaccine and 900 (64.2%) were somewhat to very likely to receive a vaccine. Results for receiving the flu vaccine in the last 12 months resembled likelihood of receiving a COVID-19 vaccine; 591 (45.0%) had received a flu vaccine in the last 12 months and 491 (35.0%) had not. Chi-square tests for independence were conducted to assess if likelihood of receiving COVID-19 vaccination was associated with race (p < 0.001), gender (p < 0.001), age (p < 0.001) and having received the flu vaccine in the last 12 months (p < 0.001).

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