examines the association between informal caregiving and marijuana use and whether this association varies by age. Julie Bobitt shares findings from 32 interviews with older Veteran cannabis users. Alton Croker examines cannabis use as a complement or alternative to palliative care. HyoJung Kang clusters negative outcomes experienced by older persons who use cannabis. Brian Kaskie compares cannabis use among persons with Multiple Sclerosis (N=135) and persons diagnosed with arthritis (N=582) or cancer (N=622). While we certainly find reason to remain concerned that cannabis use alone and co-occurring use with prescription opioids may contribute to increased rates of substance misuse and other undesirable outcomes among older adults, we find it increasingly difficult to overlook the benefits many persons derive when taking cannabis as a method to manage pain or address other medical conditions. At this point, public policy officials and program administrator should strive to strike a balance between addressing cannabis harms relative to promoting benefits such as opioid reduction and diversion.

COMPARING CANNABIS USE ACROSS DIAGNOSED CONDITIONS: APPLES AND ORANGES?

Brian Kaskie, *University of Iowa, Iowa City, Iowa, United States*

Although researchers have identified medications that relieve symptoms of Multiple Sclerosis (MS), none are entirely effective and some persons with multiple sclerosis (PwMS) use alternatives. Our study compared cannabis use among PwMS (N=135) and persons diagnosed with arthritis (N=582) or cancer (N=622) who participated in the Illinois medical cannabis program. We tested for significant differences across psychological well-being, quality of life and three behavioral outcomes, and also considered effects of co-occurring prescription opioid use. A majority of all individuals used cannabis to address pain and improve quality of sleep. PwMS reported lower levels of productivity, exercise and social activity, and cannabis was less helpful with improving these particular outcomes. Most persons used cannabis for sleep or digestive problems and we found no differences across groups in terms of well-being and quality of life. This comparative evaluation suggests cannabis mechanisms are not specific as much as they impact common processes.

CAREGIVERS' CANNABIS USE: DOES BURDEN LEAD TO BLUNTS?

Kanika Arora, *University of Iowa, Iowa city, Iowa, United States*

Research on risky health behaviors among caregivers is limited. In this paper, we examine the association between informal caregiving and marijuana use and whether this association varies by age. Using data from Behavioral Risk Factor Surveillance System (2016-2019), a multivariable logistic regression model compared marijuana use in "caregivers" and "expectant caregivers." We stratified the analyses by age and also assessed the association between caregiving intensity and marijuana use. Among younger individuals (18-49 years), informal caregiving was associated with higher odds of marijuana use. In this group, higher prevalence of marijuana use was positively associated with care intensity. There was no detectable association between caregiving and marijuana use among older individuals (50 years or older). Health behaviors among caregivers differ by age. Combined exposure to informal caregiving and marijuana in young adulthood may lead to adverse long-term health consequences. Immediate effects of marijuana use may negatively influence care recipient outcomes.

CANNABIS USE AMONG VETERANS: IT SHOULD BE EASIER TO GET SOME

Julie Bobitt, *Center for Dissemination and Implementation Science, University of Illinois at Chicago, Illinois, United States*

and PTSD. From December 2020 – February 2021 we conducted 32 semi-structured interviews with Veterans who responded to our initial and follow-up surveys and agreed to discuss their cannabis use. We coded and themed the interviews using inductive thematic analysis. We found that many Veterans are using cannabis in place of other medications such as opioids and benzodiazepines and often do so to avoid the negative side effects. However, barriers such as Veterans Administration policies and cost of medical cannabis affect Veterans ability to obtain medical cannabis. Our results inform clinicians and policy makers on the use of cannabis as an alternative to prescription medications for treating chronic pain and other conditions in older Veterans.

CANNABIS AT THE END OF LIFE: A ROAD MORE TRAVELED

J Alton Croker, *CTCRE, CVRI, UCSF, Chicago, Illinois, United States*

This study examines medical cannabis as a complement or alternative to palliative care (PC). Using cross-sectional survey data from 708 terminal patients in the Illinois Medical Cannabis Program, we compare those in PC (n = 115) to those who are not (n = 593). Increased odds of PC utilization were observed for prior military service, cancer diagnosis, low psychological wellbeing, and medical complexity. PC was positively associated with improvement scores for pain, and ability to manage health status. Higher pain levels were also observed for PC patients who indicated concurrent use of cannabis and opioids, compared to those not using opioids. While most terminal patients use cannabis as an alternative to PC, medical cannabis does operate as a therapeutic complement for individuals in PC to help manage pain and overall health status, and is used at higher levels of pain when patients are also using opioids.

NEGATIVE CLUSTERS ASSOCIATED WITH CANNABIS USE: TANGLED UP IN BLUES

Hyojung Kang, *University of Illinois, University of Illinois, Illinois, United States*

Previous studies concerning older adults have focused on whether cannabis use leads to positive or negative outcomes. In this study, we identified clusters of negative health outcomes associated with medical cannabis use. In total, we examined eight health outcomes: pain, sleep, falls, memory, digestive issues, mental health conditions, exercise, and general productivity reported by 2,968 persons over 60 who participated in the Illinois Medical Cannabis Program. We used association analysis to simultaneously identify groups of negative outcomes reported by participants. The distribution

of non-positive outcomes shows a bell-shaped curve: 1.4% of participants responded that cannabis use improved all outcomes, while 4.1% of participants answered that cannabis use did not. When looking at negative outcomes, 86% of participants reported none worsened, and 11% reported one of the outcomes was affected. Only a small fraction of the participants (3%) claimed more than one negative outcomes after cannabis use.

Session 4315 (Symposium)

THE HALLMARKS OF AGING: LEVERAGING ON THEIR INTERACTIONS

Chair: Ana Maria Cuervo
Co-Chair: Ronald Kohanski
Co-Chair: Viviana Perez

SELECTIVE AUTOPHAGY: A LINK ACROSS THE HALLMARKS OF AGING

Ana Maria Cuervo, *Albert Einstein College of Medicine, Bronx, New York, United States*

Autophagy function has been closely linked with the loss of proteostasis that characterizes most old organisms and tissues. However, the cellular functions of selective types of autophagy such as chaperone-mediated autophagy (CMA) go beyond cellular quality control. CMA can degrade fully functional proteins to terminate their function and thus contribute to regulation of multiple cellular processes. To fully understand the consequences of loss of CMA function with age, we have developed genetic and pharmacological ways to modulate this pathway in old mice. Our data supports involvement of CMA in other hallmarks of aging such as metabolism, senescence, cellular response to stress, epigenetics and cellular stemness. This interconnection among the cellular processes that drive aging highlights the potential of acting on only some of them with geroprotective effects.

ANTI-AGING INTERVENTIONS TARGETING THE HALLMARKS OF AGING

Brian Kennedy, *National University of Singapore, Singapore*

EFFECTS OF CALORIC RESTRICTION ON THE EPIGENETIC LANDSCAPE OF HEMATOPOIETIC STEM CELLS

Isabel Beerman, *NIA, Baltimore, Maryland, United States*

During aging, alterations of hematopoietic stem cells are associated with functional decline of the blood system. Caloric restriction (CR) interventions have been reported to improve adult stem cells in other tissue types during aging so we sought to evaluate the effects of CR on the aged HSC compartment. We find significant epigenetic alterations in HSCs isolated from aged mice after life-long CR compared to ad libitum fed aged mice. We further evaluated the epigenetic landscapes and functional potential of aged HSCs shortly after allowing life-long CR mice access to ad libitum food. We uncover epigenetic modification associated with functional alterations of the HSCs, defining potential mechanisms by which restrictions in food consumption affect the aging hematopoietic compartment.

CALORIC RESTRICTION MIMETICS ATTENUATE THE HALLMARKS OF AGING

Guido Kroemer, *University of Paris, Villejuif/Paris, Ile-de-France, France*

Nutrient depletion, which is one of the physiological triggers of autophagy, results in the depletion of intracellular acetyl coenzyme A (AcCoA) coupled to the deacetylation of cellular proteins. We found that there are at least 4 possibilities to mimic these effects, namely (i) the depletion of cytosolic AcCoA by interfering with its biosynthesis, (ii) the stimulation cytosolic AcCoA consumption, (iii) the inhibition of protein acetyltransferases, or (iii) the stimulation of protein deacetylases. Thus, AcCoA depleting agents, AcCoA-consuming agents, acetyltransferase inhibitors or deacetylase activators are highly efficient inducers of autophagy and reduce aging-associated diseases including diabetes, obesity, cardiac failure and failing cancer immunosurveillance. Hence, we classify them as "caloric restriction mimetics" (CRM). We have initiated the systematic search for CRMs based on their cellular effects in vitro. We built screening assays amenable to high-throughput technology for the identification of CRMs. These results will be discussed.

Session 4320 (Symposium)

WELL-BEING DURING THE COVID-19 PANDEMIC: THE ROLES OF AGE, RACE, AND GENDER

Chair: Nicky Newton
Discussant: Jennifer Lodi-Smith

In the early months of COVID-19, behavioral modifications (i.e., social distancing) were the only means available to ameliorate contagion. These had widespread ramifications for well-being, although older adults showed relatively less disruption and high resilience than their younger counterparts (Carney et al., 2021). Early findings highlight the need for a life course perspective when examining reactions to COVID-19, based on social structure, personal agency, and individual differences such as age, gender, and personality (Settersten et al., 2020). The presentations in this symposium contribute to a developing body of research that delves deeper into individual lived experiences during COVID-19. Using data from the Health and Retirement Study, Ryan examines cohort and age differences in pandemic-related social contact, communication, loneliness, and well-being for women in the US, revealing that the impact of pandemic-attributed psychosocial experiences on well-being differed by age group. Newton et al. examine associations between perceptions of future time, COVID-19 disruption, and psychological well-being among older Canadian women, finding that COVID-19 disruption moderated the relationship between constrained time horizons and well-being. Birditt and colleagues assessed racial disparities in relationships between COVID-related stress, social isolation, and depression among adults aged 18-97 from the Survey of Consumers, and found ethnic/racial minorities reported greater pandemic-related stress and that stress and social isolation had detrimental effects on well-being. A discussion by Lodi-Smith will emphasize the necessity to include individual differences – age, race, gender, cohort, cultural context –when examining pandemic-related well-being in order to provide a more nuanced body of research.