# NEWZ

English Ver.

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August 2023



Differences Between Japanese And Foreign Healthcare Systems

From The Perspective Of University Students Studying Abroad







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**AUGUST 2023 VOL.10** 

**English Ver.** 

About The NewZ



Location: Jardins de Gandhi, Spain Photographer: Kanna Yamazaki

# Differences Between Japanes

And Foreign Healthcare Systems

From The Perspective Of University Students Studying Abroad

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# About The NewZ

The Japanese have had opportunities to enjoy medical care under the universal health insurance system. However, with the declining birthrate and aging population, the burden of social security costs on the younger generation is expected to increase, and the corona disaster has revealed the weak points of Japan's healthcare system. Therefore, there is a growing need to review it. In addition, the voices of patients are less likely to be reflected in healthcare policies and the number of young people who desire to participate in the design of the healthcare system is increasing.

Considering the current situation, Institute for New Era Strategy (INES) and Japan Counselors (JC) have decided to publish a monthly report to provide an opportunity for young people to think about the future of the social security, medical insurance system, and the healthcare system. Students studying abroad will gather information on episodes that symbolize the differences between the local healthcare system and the Japanese healthcare system, and write reports in both Japanese and English.

The title, "The NewZ," was created with the "Generation Z" in mind. The NewZ is a newsletter whose entire process, from project launch to writing and editing, has been performed by "Generation Z" college students. We hope that you will have an interest in the healthcare system of your generation and the future.



Japanese Ver

# Cannabis in the U.S

#### Natsuki Kanaya

University of Minnesota, United States



Hello everyone! I just graduated from the University of Minnesota. I am enjoying my last summer break and getting ready to move to Chicago for my new job.

In May, Minnesota became one of the 23 states that have legalized recreational use of cannabis. Although

almost half of the 50 states have legalized the recreational use of cannabis, legalization of cannabis has been a controversial political topic for many reasons. In this NewZletter, I would like to talk about the uses of cannabis, benefits and risks, and reasons for legalization.

#### Uses of Cannabis

There are two main uses of cannabis: medical use and recreational use. Currently, the medical use of cannabis has been legalized in 40 states, and qualifying medical conditions for cannabis differ by state. In Minnesota, medical cannabis can be used for conditions such as cancer, HIV/AIDS, epilepsy, chronic pain, and terminal illnesses with less than one year to live, as medical cannabis has been scientifically proven to be helpful in treating and/or alleviating those illnesses or their symptoms. Additionally, 23 states legalize the use of cannabis for recreational use. At many college parties, I have seen a lot of people consume cannabis socially. When you consume cannabis, you get "high", a sense of euphoria. Many people argue that unlike the stereotypes, cannabis is less addictive than alcohol and cigarettes. Some claim that alcohol and cigarettes pose higher danger to the body than cannabis does. There are different forms of recreational cannabis, and two main forms used frequently among college students are smoking and edibles. Smoking leaves, stems and buds is the classic way of consuming cannabis. However, inhaling cannabis smoke can be harmful to the lungs. Edibles are food products infused with cannabis, and oftentimes, they look like regular snacks and candies. It is legal for adults to consume them recreationally, however, many underaged students consume them at school due to their looks which disguise them as regular snacks and candies. It has been a huge issue













BC NEWS

[Edibles: Cannabis infused snacks and candies]

in elementary, middle, and high schools, and the police and government warn about edibles so that parents and kids can take precautions. Even before the legalization, many people had been using cannabis recreationally. In my high school, a drug sniffing dog came occasionally to check students' lockers and belongings. When going on a school trip to a remote place, we had to have our luggage checked to make sure that we did not possess any drugs including cannabis before getting on the bus. In general, cannabis has become more destigmatized and considered one of the soft drugs along with psilocybin, aka "the Magic Mushroom".

#### Benefits and Risks

Like many substances, there are benefits and risks of cannabis. One of the benefits includes alleviation of pain in patients struggling with chronic pain and terminal illnesses. It also helps some people battling mental health conditions such as PTSD. Another medical benefit is that it may ease side effects from chemotherapy in cancer patients and improve their sleep quality. As mentioned previously, some research suggests that cannabis is safer and healthier compared to alcohol and cigarettes. Some research claims, however, that cannabis worsens one's mental health conditions and increases suicidal ideation. It could also increase risks of triggering psychotic disorders such as schizophrenia. Furthermore, use of cannabis

is linked with impaired memory and lower cognitive function, as well as reduced white and gray matter in the brain. As the brain is not fully matured when a person is 21 years old, many researchers warn of the adverse effects of cannabis on the underdeveloped brain of teenagers and young adults in their 20's. More research will be needed to assess whether the benefits outweigh the risks in many different cases in diversified patient groups. Personally, I would not use it recreationally, unless I would need it for medical purposes, as I would like to evaluate its benefits and risks after more research is done.

#### Reasons for legalization

There are many factors that have led many states to legalize cannabis. First, legalizing cannabis is beneficial to the economy, as cannabis could be heavily taxed along with alcohol and cigarettes. Without legalizing cannabis, it would be harder to regulate the market and tax on cannabis, as many people purchase cannabis illegally without paying taxes. According to a new analysis from the Tax Foundation, the government is throwing away 28 billion dollars in yearly tax revenue as a result of not legalizing cannabis. Another reason for legalization is racial disparities in cannabis possession arrests. According to the American Civil Liberties Union, Black people are 3.6 times more likely than white people to get arrested for cannabis possession although both ethnicities consume cannabis at similar rates. There are huge racial disparities in many aspects, and I hope decriminalization of cannabis possession can be a step forward for racial equality. Third, legalization of cannabis protects people from getting exposed to dangerous drugs such as fentanyl. Fentanyl is a synthetic opioid which is up to 50 times stronger than heroin. Because of its potency, many people develop addiction and lose their lives. Therefore, legalizing cannabis will protect people from addiction and deaths from illegal drugs. The question of whether cannabis should be legalized for

## Legal Medical & Recreational Marijuana State



[Map of the states with legal marijana and states with legal medical & recreational marijuana]

medical and recreational uses is controversial and political. When you look at the map attached below, you can see the trend that liberal states are the ones that have legalized cannabis for medical use, recreational use, or both, and conservative states are the ones that have yet to legalize cannabis. I am currently in Los Angeles where cannabis is legal for both medical and recreational purposes. It was a culture shock for me to see many cannabis stores and dispensaries on streets.

# Challenges and Concerns in LGBTQ+ Healthcare

#### Momoka Nakamura

University of California, Los Angeles



Hi everyone! I hope everything is going well for you. LGBTQ+ Pride celebrations. Living in LA, I have become Last month, June, was Pride Month, and activities were conducted worldwide to raise awareness about LGBTQ+ rights. California has the largest total number of LGBTQ+ individuals in healthcare, both in the United States and people, with 1,615,000 individuals. The Los Angeles Pride Parade is one of the nation's oldest and largest

more aware of the LGBTQ+ population and would love to share some insights into the experiences of LGBTQ+



**[LA Pride Parade 2023]** 

#### Population and Culture

In both the US and Japan, the LGBTQ+ population and culture have seen significant developments, albeit with distinct nuances. In the US, there is a diverse and prominent LGBTQ+ population. Recent data reveals that the percentage of individuals identifying as LGBT in the United States has remained steady at 7.2%, but 7% chose not to answer the question about their sexual orientation, highlighting the complexity and sensitivity surrounding this topic. The country has witnessed a growing acceptance of LGBTQ+ individuals in various regions, with notable legal advancements and protections for LGBTQ+ rights. In Japan, the LGBTQ+ community has experienced a gradual emergence and recognition in recent years. Interestingly, several statistics are revealing a range of LGBTQ+ population percentages. According to one survey conducted by Dentsu Diversity Lab in 2018, the estimated percentage was approximately 8.9%. Furthermore, various surveys and studies conducted in Japan indicate that the

LGBTQ+ population percentage ranges from 1.6% up to 10%. These statistics reflect the diverse nature of the LGBTQ+ community and highlight the hesitance to reveal their identity in different situations.

While cultural factors, such as traditional values and conservative attitudes, have historically posed challenges to LGBTQ+ acceptance in Japan, there have been positive shifts in societal perceptions. However, Japan lags behind many developed nations in terms of legal progress to protect LGBTQ+ rights, making it one of the countries with the fewest advancements in this regard. Despite ongoing challenges and discrimination, Japan's popular culture has seen an increase in LGBTQ+ representation, contributing to broader awareness and understanding of diverse sexual orientations and gender identities. These developments reflect a growing recognition and controversial acceptance of the LGBTQ+ community in Japanese society.

#### Healthcare

In both countries, there are numerous challenges that LGBTQ+ face when it comes to receiving and seeking healthcare. In the US, one major issue is the shortage of healthcare providers who are knowledgeable and culturally competent in LGBTQ+ health. This lack of expertise can discourage LGBTQ+ individuals from seeking care and hinder their access to appropriate treatment. Moreover, there is a limited amount of medical research specifically focused on LGBTQ+ health, which hampers the development of tailored treatments and interventions for this population. Additionally, the fear of discrimination poses a significant barrier for LGBTQ+ individuals in accessing healthcare. Discrimination experienced by this community has been linked to an increased risk of health problems, such as heart disease. Shockingly, studies have found that 57% of LGBTQ+ individuals have faced anti-LGBTQ+ slurs. and 53% have encountered offensive comments about their identity. Discrimination is a pervasive aspect of their lives and can have detrimental effects on their overall well-being.

In Japan, LGBTQ+ individuals are hesitant to visit healthcare facilities due to several reasons. One concern is being called by their legal name at the reception of medical institutions or experiencing strong discomfort

from the gender designation on medical questionnaires, which makes it difficult for them to seek medical care. Additionally, the lack of legal recognition as a partner's family member creates challenges in engaging during hospitalization and making decisions on behalf of their loved ones. Similar to the US, Japan also grapples with prejudice and a lack of understanding from medical practitioners, resulting in subpar quality of care for LGBTQ+. Real-life instances have highlighted issues such as the denial of visits from LGB families or friends in elderly care facilities, restrictions on same-sex partners sharing rooms, and exclusion from decision-making processes regarding treatment plans.

To address these challenges, it is crucial to increase the number of healthcare providers who are knowledgeable and culturally competent in LGBTQ+ health. This can be achieved by promoting LGBTQ+ inclusivity in medical education and providing ongoing training to healthcare professionals. Additionally, implementing policies and practices that safeguard against discrimination in healthcare settings is essential to create a safe and welcoming environment for LGBTQ+. By addressing these concerns, healthcare systems can better meet the needs of the LGBTQ+ community and ensure equitable access to quality care.

# Health conscious and Healthy diet

Takumi Ota

University of British Columbia, Canada



In Vancouver, there is a strong emphasis on promoting "mental well-being" rather than solely focusing on a health-oriented "diet" for many individuals. The residents are generally known to have a high level of health consciousness. One notable difference I have observed in recent years is the significant contrast in dietary habits compared to Japan. There is a noticeable increase in the population of vegans and vegetarians.

A survey conducted on over 1,000 residents in British Columbia revealed that 8.6% identify as vegetarian and 3.9% as vegan. This indicates that people in the region, including Vancouver, are 35% more likely to opt for meat-free menus.

Vitamin stores and specialty juice shops in the city offer a variety of smoothies and fresh juices that are considered beneficial for the body. These establishments have a wide selection of health-focused



smoothies, setting them apart from regular smoothie shops. Similarly, specialty juice shops sell freshly squeezed, 100% vegetable and fruit juices that are prepared with care. These health-conscious beverages have gained popularity among customers.

### Why do people turn vegan or vegetarian?

Many Canadians are conscious of animal welfare and choose vegetarian or vegan diets to avoid cruelty towards animals. They prioritize minimizing animal suffering and respecting animal rights. Additionally, vegan and vegetarian dietary choices are also made to reduce environmental impact. The livestock industry is associated with environmental issues such as greenhouse gas emissions and deforestation, making plant-based diets a means to alleviate environmental burdens. Furthermore, vegan and vegetarian diets are believed to reduce the risk of lifestyle diseases such as cardiovascular diseases, diabetes, and obesity. Health-conscious Canadians may opt for plant-based diets to support their well-being. In recent years, there has been a shift in the mindset of young Canadians, reflecting the prevalence of health consciousness in the country. The younger generation is increasingly

recognizing the connection between food choices and climate change, understanding that reducing meat consumption can significantly mitigate greenhouse gas emissions. The trend of young Canadians choosing vegetarian or vegan diets is seen as a manifestation of their desire to have a positive impact on the environment and contribute to a more sustainable future. Emphasizing the potential role of food choices in addressing climate change, there is a call for policymakers and stakeholders in the food industry to take note of this trend and offer a greater variety of plant-based options.

Beyond Burger is popular among individuals who don't consume meat or opt for plant-based diets as a meat substitute. It is made from plant proteins, primarily sourced from soy, peas, and microprotein, and was developed as an alternative to meat. What sets it apart

is that despite using plant-based ingredients, it is known for its resemblance to heart in terms of appearance and texture. This is achieved by processing plant-based proteins using proprietary techniques to recreate the texture and juiciness found in beef.

#### Advantages of being vegan or vegetarian / what is good?

The major benefits of being vegan or vegetarian can be seen in their contribution to the environment. The livestock industry has negative impacts on the environment through greenhouse gas emissions, water consumption, and deforestation, so there is an urgent need to take countermeasures, but no effective measures have been taken at this stage. By reducing the consumption of meat and dairy products, vegetarian and vegan diets help

alleviate these burdens and become sustainable choices for the environment. Adopting vegetarian or vegan diets can contribute to building a sustainable food system, promoting a sustainable future. Plant-based diets require fewer resources compared to animal agriculture and can make efficient use of land and water. This increases the potential to provide a sustainable food supply for future generations.





# Patient Centricity Activities of the Regulatory Authority in the United Kingdom

Miyu Miura

University of Sheffield, United Kingdom

In Japan, medical ethics have been emphasised in recent years, and the importance of respecting the patient's wishes and primary care has been highlighted. However, in the design of the Japanese healthcare system, the voices of the public, the beneficiaries of healthcare services, are not reflected as often as in the West. In particular, the activities of patient and citizen groups are still not as well developed in Japan as in Western countries. One of the factors that make it difficult for the voices of patients to be reflected is that patient groups have limited opportunities and resources to be actively involved in the design of the healthcare

system and its policies. In fact, in Japan, no guidelines or guidance related to Patient Centricity activities have been issued, and no specific opportunities for patient groups to be involved in the drug approval process have been identified, as is the case in Europe and the United States. In contrast, medical ethics and the medical decision-making process in the United Kingdom place more emphasis on the patient's right to self-determination and patient-centred care than in Japan. In this issue, we will discuss Patient Centricity activities in drug development in the United Kingdom.

#### What are Patient Centricity activities?

Patient Centricity activities by regulatory authorities are efforts to emphasise the interests and involvement of patients in the review and monitoring of drugs and medical devices. Specific activities include promoting patient participation, providing patient information, facilitating adverse drug reaction reporting, considering patient opinions, and patient education and empowerment. Through these efforts, regulators place the highest priority on patient safety and involvement and promote a patientcentred approach in the development, review, and use of medical products. To date, pharmaceutical companies, health care professionals (physicians, pharmacists, etc.) and regulators have taken the lead role in drug development. When it comes to obtaining patient feedback, pharmaceutical companies have typically gathered information through healthcare

professionals, and opportunities to incorporate direct patient feedback have been limited. As a result, the patient's voice may not have been fully utilised in drug development. However, given the fact that patients are the ultimate users of pharmaceuticals, the importance of directly incorporating the patient's voice, or in other words, their actual experience, into drug development has been increasingly recognised in recent years. Such Patient Centricity activities have the following advantages for patients: their experiences are utilised in drug development, they contribute to society, clinical trials are planned to make it easier for patients to participate, and better drugs may be made available earlier. It also provides new perspectives for pharmaceutical companies and improves the quality of drug development.

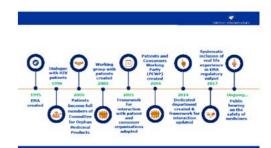
### **EU Regulatory Activities**

Since the establishment of the European Medicines Agency in 1995, the EU has been actively promoting Patient Centricity activities. The Agency has repeatedly established organisations to improve the rights of patients and to make use of their voices, such as patient participation in the Committee for Orphan

Medicinal Products (COMP), which reviews applications for orphan disease designation, and the establishment of working groups with patients, and has worked to improve the quality of healthcare services provided to patients. One of the major factors that stimulated patient centricity activities was the establishment of

the Patients and Consumers Working Party (PCWP) by the EMA in 2006. The PCWP is an organisation established within the EMA (European Medicines Agency) that brings together representatives and experts from patients, patient groups, and consumer organisations to provide a forum for considering patients' perspectives and needs in decision-making regarding drug development and review. Since its establishment, the PCWP has established procedures for patient involvement in EMA activities, and has achieved patient involvement from the drug development stage through the approval review and post-marketing processes. Guidance and guidelines related to Patient Centricity activities in the United Kingdom

Several agencies and organisations have provided guidance and direction related to Patient Centricity activities in the UK. The Medicines and Healthcare products Regulatory Agency (MHRA) The Medicines and Healthcare products Regulatory Agency (MHRA) published its Patient Engagement Strategy in October 2021. Through this



[Timeline of EMA's work with patients]

guidance, The Agency has defined how it will engage and involve the public and patients in its work.

In addition, there is Patient and Public Involvement in Health and Social Care Research (PPI), an organisation dedicated to promoting patient and public involvement in health and social care research in the UK, which is patient-centred. It provides guidelines and tools to support the use of patient views and experiences in research.

#### MHRA's system of incorporating the voices of patients and patient groups

As is the case with various public-private partnerships in Europe, the MHRA's Patient Centricity initiative in the United Kingdom includes a system to incorporate the views of patients and patient groups. MHRA is committed to actively incorporating patient experiences and opinions in the development and review of new drugs and medical devices. Patient groups and patient representatives are

invited to participate in review meetings and decision-making processes, and their perspectives are reflected to improve the safety and efficacy of medical products. In fact, the UK government website also states that MHRA meetings may include a variety of contributors, including outside experts and lay or patient representatives.

#### Yellow Card System

The MHRA accepts reports of adverse drug reactions from patients and healthcare professionals through the Yellow Card System. The information reported is used for safety monitoring and risk assessment of drugs and medical devices, and the MHRA also conducts educational activities on the Yellow Card System to raise awareness of reporting. This type of system is similar to Japan's "Adverse Reaction and Accident Reporting System," though, the MHRA sends reporting forms, handbooks, and posters to community pharmacies to raise public awareness of the Yellow Card Scheme. The Yellow Card Scheme in the UK is more widely publicised and actively promoted by the NHS and MHRA.



[The Yellow Card Scheme]

#### Conclusion

In Japan, the activities of patient groups are still in their infancy. Therefore, it is necessary to support patient groups and actively incorporate their voices and opinions into the policy-making process. Considering the differences

in the medical environment between Japan and the Western countries, it is necessary to explore Patient Centricity activities that are suited to Japan's national character and medical environment.

# Pharmaceutical Supply Issues

Arisa Isoya

NEOMA Business School, France



Hello. My name is Arisa Isoya and I am a student in the International Business Management Department of NEOMA Business School in France as a part of the double degree program with Ritsumeikan Asia Pacific University. I specialize in supply chain and international business development.

The standard of medical care in France, where I live, is comparatively high, and in most cases, I can receive

medical attention and prescriptions for medicine when I am sick or injured. This year (2023) in France, it has become difficult to obtain some medicines. Medicines play an important role in the treatment of illness and injury, and supply disruptions can cause serious issues. This month, I would like to discuss the causes of the shortage of medicines in France and the current status of the supply of medicines in Japan.

#### **Pharmaceutical Supply Problem**

According to a survey conducted in March 2023 by France Assos Santé, 37% of respondents reported that they could not obtain the medicines. Moreover, 45% of these patients were forced to change their treatment plan or give up taking their medications. Medicines short in supply include antiepileptic medicines, antiparkinsonian medicines, anti-infectives, and medicines for diabetes and cardiovascular diseases, with as many as 3,000 medicines facing severe shortages in 2022, according to the Agence nationale de sécurité du

médicament et des produits de santé, ANSM.

The shortage of medicines has been a problem over several years; in 2019, 25% of patients faced the problem of not having access to medicines; in 2008, there was a shortage problem of 43 different medicines, and in 2018, there was a shortage of 871 different medicines. The supply shortage of medicines, which had been occurring for many years, has rapidly worsened in recent years.

#### **Background of the Pharmaceutical Supply Shortage**

Why has the shortage of pharmaceuticals worsened? There are three main reasons: intense price competition, low domestic production rates, and increased demand and stagnation in the supply chain.

#### [Price competition]

The first cause cited is the intense price competition. Governments in many European countries place a high priority on price quotations when selecting manufacturers of pharmaceuticals, and usually sign a contract with the manufacturer that offers the lowest

price. This system of government contracting with the manufacturer with the lowest offer puts pressure on European medicine makers to compete on price. Consequently, they are losing out in price competition to Asian manufacturers who can offer relatively low prices.

#### [Low domestic production rates]

This intense price competition has forced many small and medium-sized European manufacturers out of business, and 80% of the medicines used in France are produced or imported from outside the EU, mainly from

China and India. While this reliance on foreign suppliers reduces costs, it also carries the risk of delivery delays and shortages due to supply chain disruptions.

#### [Increased Demand and Stagnant Supply Chains]

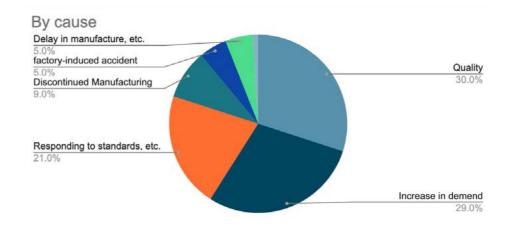
In recent years, the Covid-19 pandemic and Ukraine wars have interrupted and stalled the supply chain, disrupting the supply of pharmaceutical packaging materials from Ukraine and medicines from China and India. Furthermore, the demand for medicines increased

due to the increasing number of patients suffering from Covid-19 and influenza, which reduced domestic stocks in France and exacerbated the problem of patients not being able to obtain the medicines they needed.

#### **Medicine Supply in Japan**

However, this problem of insufficient supply of medicines is not a problem that has occurred only in France; there are medicines that are in short supply in Japan as well. According to a survey conducted in August 2022 by the Ministry of Health, Labor and Welfare, 28.2% of medicines have been suspended or have limited shipments, and the

main causes, accounting for approximately 60% of the total, are" quality" and "increase in demand." "Quality" corresponds to quality issues such as adulteration and deviations from planning, while "increase in demand" corresponds to the inability to manufacture in time due to a sudden increase in demand.



[Graph] Status of Pharmaceutical Supply (1) by Cause (53 cases in FY 2008 and 58 cases in FY 2019 reported to MHLW)

"Quality" may suggest a decrease in the production of pharmaceuticals caused by the revelation of quality problems among Japanese generic drug manufacturers. In Japan, 13 generic drug manufacturers were disciplined nationwide by 2022 due to quality problems, and drugs from the disciplined companies were not supplied, reducing the number of medicines on the market.

On the other hand, "increased demand" may have a lot to do with the dependence on foreign countries. Japan relies heavily on imports of active pharmaceutical ingredients for its ethical drugs from abroad, and the supply chain was cut off due to the Covid-19 pandemic, which led to a medicine supply shortage.

#### Conclusion

In this article, I have discussed the shortage in the supply of medicines. Pharmaceuticals are indispensable for our daily lives, and shortages of these medicines have occurred in France, other European countries, and Japan. One of the common causes of this shortage is the dependence on foreign countries for both France and Japan. While importing products from overseas allows

for the purchase of goods at low prices, it also increases the risk of supply shortages by weakening domestic production capacity due to intensified price competition. In order to suppress this price competition and increase domestic production capacity, not only the government but also we, as consumers, need to understand the problem.

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# [ Members ]



Natsuki Kanaya University of Minnesota

I'm happy to be a part of the JC NewsLetter Project!

# Momoka Nakamura

University of California, Los Angeles (UCLA)

In this newsletter, I would love to discuss the differences between American and Japanese healthcare systems I noticed throughout my life.





**Takumi Ota** University of British Columbia

I'd like to help someone would grab the opportunity to do something, with this newsletter we publish.

# Miyu Miura University of Sheffield, UK

I hope that through this newsletter, many people will become in terested in the differences in the healthcare system and healthcare issues in Japan.







I would like to write articles that are enjoyable and easy to read. I hope you will enjoy reading them.

# [ Editor Members ]



## **Moe Okagawa**

**Hakodate University** 

I am pleased to be involved in The NewZ project as an editorial staff member. I hope this newsletter will spark your interest in the healthcare system in Japan and around the world.

# Miu Sukegawa

**Sciences Po Paris** 

The two souvenirs from Japan that were most appreciated by other Japanese students living in France were heat pads and cooling gel sheet. Dear producers of heat pads and cooling gel sheet, could you please export more to the EU?





## Kanna Yamazaki

Working in London (Taking gap from Kanazawa University)

I am also in volved in the layout and design of THE NewZ. Please read the next issue as I tell you about the differences in healthcare between the UK and Japan.

## References

Natsuki Kanaya

#### Medical Cannabis Qualifying Medical Conditions

https://www.health.state.mn.us/people/cannabis/patients/conditions.html

#### **Extreme Racial Disparities**

https://graphics.aclu.org/marijuana-arrest-report/

#### Study: States are losing out on billions of dollars by keeping pot illegal

https://www.washingtonpost.com/news/wonk/wp/2016/05/16/study-states-are-losing-out-on-billions-by-keeping-pot-illegal/

#### Brain atrophy and first episode psychosis in chronic cannabis use: case report

 $https://journals.via medica.pl/psychiatria/article/download/43651/30013\#:\sim:text=The\%20 relation\%20 of\%20 grey\%20 and, cannabinoid\%20 CB1\%20 receptors\%20\%5B14\%5D.$ 

#### Cannabis use may be associated with suicidality in young adults

https://www.nih.gov/news-events/news-releases/cannabis-use-may-be-associated-suicidality-young-adults

#### Lung Health

 $https://www.cdc.gov/marijuana/health-effects/lung-health.html \#: \sim text=Smoked \% 20 marijuana \% 20 \% 20 how, damage \% 20 to \% 20 small \% 20 blood \% 20 vessels. \& text=Smoke \% 20 from \% 20 marijuana \% 20 has \% 20 many, causing \% 20 chemicals) \% 20 as \% 20 to bacco \% 20 smoke.$ 

#### Cannabis and the adolescent brain

https://www.pnas.org/doi/10.1073/pnas.1920325116

Takumi Ota

#### LIVEKINDLY

 $https://www.livekindly.com/40-percent-of-british-columbians-under-35-are-vegan-or-veggie/\#:\sim:text=The\%20poll\%20 of\%20more\%20than, for\%20a\%20meat\%2Dfree\%20menu.$ 

#### CANADA'S NATIONAL OBSERVER

https://www.national observer.com/2020/02/18/news/young-canadians-are-becoming-vegetarian-or-vegan-fight-climate-change

Miyu Miura

患者の声を活かした医薬品開発 - 製薬企業による Patient Centricity https://www.jpma.or.jp/information/evaluation/results/allotment/lofurc0000005m95-att/patient\_centricity.pdf

#### Medicines: get scientific advice from MHRA

https://www.gov.uk/guidance/medicines-get-scientific-advice-from-mhra

**Patient involvement strategy**: one year on https://www.gov.uk/government/publications/patient-involvement-strategy-one-year-on/patient-involvement-strategy-one-year-on

Arisa Isoya

Ovni navi https://ovninavi.com/penurie-medicaments/

Answers News https://answers.ten-navi.com/pharmanews/24979/

**The Connexion** https://www.connexionfrance.com/article/French-news/Health/How-France-plans-to-fix-its-medicine-shortages-and-the-drugs-worst-hit

**NHK** https://www3.nhk.or.jp/news/html/20221205/k10013913331000.html

厚生労働省 https://www.mhlw.go.jp/content/10807000/001074100.pdf

ニッセイ基礎研究所 https://www.nli-research.co.jp/report/detail/id=68017?pno=2&site=nli