

11TH APAC DAEWG SESSION

“THE IMPORTANCE OF REAL WORLD DATA IN THE ERA OF PRECISION MEDICINE”

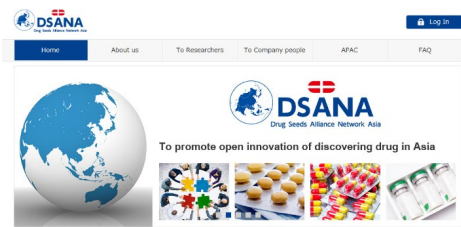
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Mission

Promote cross-border open innovation to develop innovative medicines for patients in Asia

DSANA: Drug Seeds Alliance Network in Asia

- Asian-wide information sharing platform
- Information hub helping find the best partner in Asia to develop innovative drugs
- Leader: OCCI (Osaka Chamber of Commerce and Industry) and Taiwan BPIPO (Biotechnology and Pharmaceutical Industries Promotion Office)



ANPDC: APAC Natural Product Drug Discovery Consortium

- Collaboration platform to promote the use of natural product in drug discovery
- Multinational collaboration between Taiwan, Thailand and Japan
- Evaluation of natural products by taking “Two-Step Process”
 - ✓ Internship of young Thai researcher at Japanese pharma company
 - ✓ Screening of natural products in Thailand



Mission

Promote cross-border open innovation to develop innovative medicines for patients in Asia

DSANA: Drug Seeds Alliance Network in Asia

- Taiwanese bio-ventures shared their drug seeds with Japanese pharmaceutical companies
 - ✓ FY2020: 27 drug seeds shared
 - ✓ FY2021: 8 drug seeds shared

ANPDC: APAC Natural Product Drug Discovery Consortium

- Completed internships of two Thai researchers in Japan
- Carried out screenings of natural products in Thailand and found hit compounds
- Started an online consultation in the COVID19 outbreak



Mission

Promote cross-border open innovation to develop innovative medicines for patients in Asia



RWD



PRECISION MEDICINE

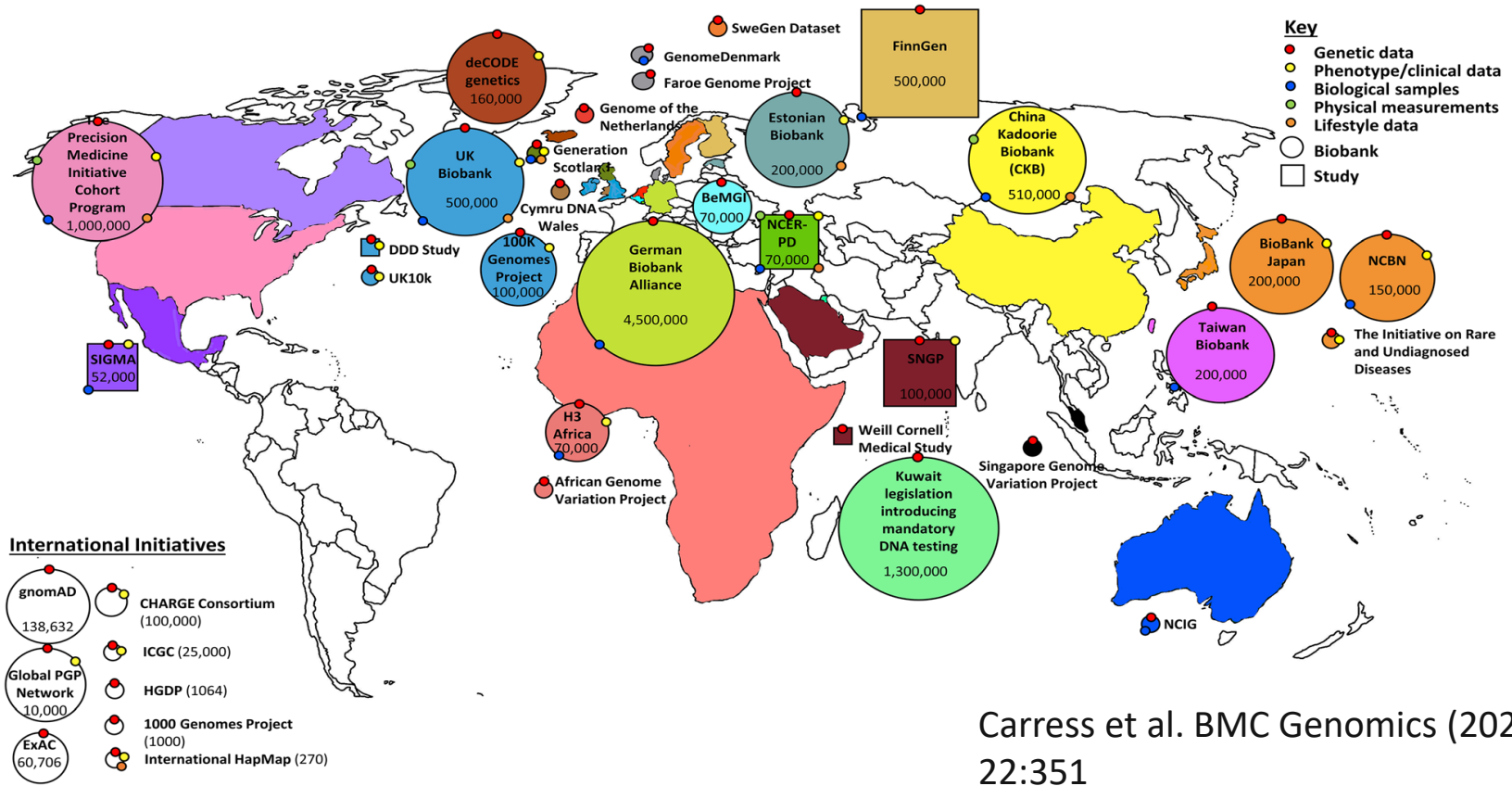
“As a result of this “one-size-fits-all” approach, treatments can be very successful for some patients but not for others. Precision Medicine, on the other hand, is an innovative approach that takes into account individual differences in people’s genes, environments, and lifestyles”

State of the Union address by the former President Obama in 2015

<https://obamawhitehouse.archives.gov/precision-medicine>



Global genomic biobanks (circles) and studies (squares)



Carress et al. BMC Genomics (2021) 22:351

Why initiatives for Precision Medicine in Asia important?

Genomics is failing on diversity

An analysis by Alice B. Popejoy and Stephanie M. Fullerton indicates that some populations are still being left behind on the road to precision medicine.

A 2009 analysis revealed that 96% of participants in genome-wide association studies (GWAS) were of European descent¹. Such studies scan the genomes of thousands of people to find vari-

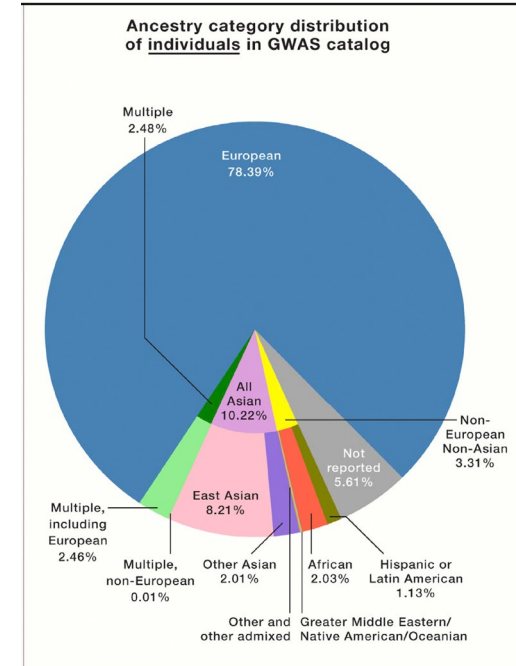
analysis. Our findings indicate that the proportion of individuals included in GWAS who are not of European descent has increased to nearly 20%. Much of this rise, however, is a result of more studies

US National Institutes of Health (NIH) mandated the inclusion of diverse participants in the biomedical research it funds, GWAS funded by the NIH and other sources are continuing to miss a vast portion of the

“Certain drugs may be less effective, or even unsafe, in some populations because of genetic differences”

- Main participants in genome-wide association study (GWAS) have been Europeans

Popejoy, A. B. & Fullerton, S. M.. *Nature* 538, 161–164 (2016)



“Number of individuals included in GWAS based on ethnicity, 78% are European, 10% are Asian, 2% are African, 1% are Hispanic, and all other ethnicities represent < 1% of GWAS”

Giorgio Sirugo, et al. *Cell* 177, 26-31 (2019)

Objectives of today's session

- ✓ Understand on-going initiatives toward Precision Medicine in Asia
- ✓ Discuss how those initiatives would affect our future path of Precision Medicine

- **Dr. Masayuki Yamamoto:** Executive Director, The Tohoku University Tohoku Medical Megabank Organization (ToMMo)
- **Dr. Pui-Yan Kwok:** Director, The Institute of Biomedical Sciences, Academia Sinica
- **Mr. Tatsuhiko Sunouchi:** Director, South Asia Division 1, South Asia Department, Japan International Cooperation Agency (JICA)
- **Mr. Ugyen Tashi:** Chief Planning Officer, Essential Medicines & Technology Division of the Department of Medical Services, The Ministry of Health, Bhutan
- **Dr. Bruno Jolain:** Chief Medical Officer, Roche Products (India) Pvt. Ltd

