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JOURNEY TO RECOVERY

Marie Nyswander and
Methadone Maintenance

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In her final video as ASPET President, Namandjé N. Bumpus, PhD, gives a recap of ASPET’s accomplishments during her leadership, including establishing the Annual Meeting Organizing Committee, the Family Support Fund, the digitization of *The Pharmacologist* and more!

Visit *The Pharmacologist* companion website for digital-only features and extras. thepharmacologist.org
ASPET’s Strategic Plan: Diversity

Last month, I highlighted the impact of the 2023–2027 ASPET Strategic Plan when it comes to the Society serving as the “leading voice promoting the field.” This month, I want to focus on how the Society has changed in the past year with its strategic focus on cultivating an “Inclusive and Diverse Culture.” Ultimately, ASPET is cultivating a diverse and inclusive community that creates a sense of belonging, engagement and harmony within our interdisciplinary pharmacological community.

Over the past year, ASPET established the Inclusion, Diversity, Equity and Accessibility (IDEA) Committee to ensure the Society would focus on making ASPET a place where everyone feels they belong. Since its inception, the IDEA Committee has accomplished the following:

- Hosting three webinars as part of the Focus on Pharmacology series, covering topics such as the challenges international pharmacologists in the U.S. workforce face and how to define and identify bias in the workplace.
- Conducting an IDEA Needs Survey and IDEA Focus Groups to ensure ASPET understands the current perceptions, needs and opportunities of ASPET members through an IDEA lens.
- Holding a virtual roundtable with ASPET Division Chairs to learn about the IDEA-based needs they’ve observed and heard from their division membership.
- Organizing an educational session at the ASPET 2024 Annual Meeting that explored how to incorporate IDEA within the multifaceted realm of pharmacology education.

In addition to the progress of the IDEA Committee, ASPET leadership also displayed IDEA principles in other ways. For example, at the 2024 ASPET Annual Meeting, the meeting’s theme of “Advocacy. Diversity. Discovery.” made it clear that ASPET aimed to make the meeting a diverse and inclusive event for our attendees. To help accomplish that goal:

- The first Keynote Speaker of the event was Marie A. Bernard, M.D., the Chief Officer for Scientific Workforce Diversity at the NIH, whose talk was entitled “Diverse Perspectives in Science: Why and How?”
- An IDEA Forum Luncheon was held, with a presentation entitled “Are You a Fraud or Simply Amazing? Overcoming Imposter Syndrome.”
- For the first time, ASPET launched the Family Support Fund for ASPET 2024, providing funds for dependent care for members to be able to attend the meeting.
- Closed captioning was provided at all General Sessions.
- ASPET set aside space at the meeting for both a Mother’s Room, as well as a Quiet/Prayer Room.
- IDEA elements were considered in selecting all of the Concurrent Sessions, such as ensuring gender balance, ensuring underrepresented communities were included as speakers, and ensuring representation from all career stages and work settings.

While there is still much progress to be made on ASPET’s journey toward an inclusive and diverse culture, we’re proud of the steps we have taken thus far and excited about the future.

Dave Jackson, MBA, CAE
Executive Officer, ASPET
Journey to Recovery

Marie Nyswander and Methadone Maintenance
On the bulletin board someone had posted a crude sketch of an addict injecting himself, along with the caption, “When will it ever end? Never?” Someone else crossed out the “Never” and wrote, “When you dig yourself”.¹

In 1965, psychiatrist Marie Nyswander was sitting in a storefront clinic in Harlem with a group of addicts. Some of them were there for help, but others had just come to sit and chat over a cup of coffee.¹

One addict said, “I saw that guy Sam on methadone... The cat turned down heroin last week. Free heroin. And he turned it down.” Nyswander nodded and said, “That’s the way it’s worked so far”.¹

To reach this point in her career, Marie Nyswander had meandered along a convoluted, sometimes impulsive, path of personal and professional highways and byways. But collectively those paths led her, perhaps inevitably, to that Harlem narcotics clinic and to a discovery that has transformed the way we view and treat opiate addiction.

Mary Becomes Marie

Mary Elizabeth Nyswander was born in 1919 in Reno, NV.¹⁻³ Her father, James Nyswander, was a professor of mathematics. Her parents divorced when she was two years old, and consequently, she was raised mainly by her mother, Dorothy Bird Nyswander.¹⁻³

Dorothy earned her master’s degree in mathematics from the University of Nevada. While teaching high school, she completed a PhD in psychology from UC Berkeley. She then taught advanced statistics, psychology, and
public health at various universities and was instrumental in founding the Berkeley School of Public Health.1–3

After retiring from academia, Dorothy spent 16 years with the World Health Organization, traveling widely. In India, she developed education programs on birth control and vaccination, as well as the curricula for new schools of public health.1

Dorothy was fearless and instilled in her daughter the same toughness, intellectual freedom, and devotion to serving others. She also included her daughter in discussions with her friends, anthropologist Margaret Mead and the Gestalt psychologist Max Wertheimer, among others.1,3

When Mary Elizabeth was a teenager, she decided there were too many Marys, so she changed her name to “Marie,” which she thought had more “character”.2,3

In 1933, Marie contracted tuberculosis and spent a year at a sanatorium in Monrovia, Calif. While recuperating, she read widely and nurtured her already independent, progressive views.1,3

**Seeking Surgery**

In 1936, Dorothy moved to New York City to begin a four-year research project on school health services.3 Marie accompanied her mother and enrolled in Sarah Lawrence College. She was the college’s first pre-med student, and the faculty designed a whole psychology course for her. For courses not in the curriculum, such as physical chemistry, they brought in teachers from other schools.1,2

Marie graduated in 1941 and applied to 20 medical schools. She was accepted to all of them. She chose Cornell University Medical College.1–4 Marie wanted to become a surgeon, but her rotating internship at Meadowbrook Hospital on Long Island also included training in obstetrics, orthopedics, infectious diseases and other specialties.1,2

Marie then sought a naval position, but the U.S. Navy did not take female surgeons.3 Instead, she accepted a commission as a lieutenant (junior grade) in the U.S. Public Health Service, hoping to travel and have an international adventure.1,2 Instead, she was posted to the Public Health Service Hospital in Lexington, KY.1–4

**Posting in Public Health**

The Lexington facility opened in 1935 as a federal drug rehabilitation hospital and prison. The sprawling hospital complex was surrounded by thousands of acres of farmland and old-growth trees.2
Lexington also housed a research clinic, which sought cures for drug addiction. Although informed consent regulations did not yet exist, all of the research subjects were strictly volunteers and were fully briefed on the experimental protocols.²

Some research subjects who had successfully withdrawn from drugs were “re-addicted” and put through withdrawal again.² The researchers explored drugs that might help ease withdrawal symptoms and evaluated various drugs’ relative addictive power.²

**Lexington Experience**

Nyswander arrived at Lexington for a medical residency and had no particular interest in addiction. Her assignments included surgery, withdrawal management, therapy, and parole evaluation. She said she didn’t like being responsible for deciding whether another human being should be paroled, so she never said no.¹

At 26, Nyswander was single and the only female doctor.² All of the other doctors were married with families. They branded the addicts as psychopaths, ordered them about, and subjected them to racial slurs.³ Nyswander’s progressive, Northerner manner was foreign and unwelcome. Instead, she developed a rapport with the patients, many of whom treated her kindly.¹²

But the job could be scary.¹² She was mugged a few times by addicts looking for drugs. When the female patients rioted, the guards sent her to diffuse the situation. Once, she was dispatched to the women’s dormitory, where the curtains and mattresses were ablaze. Trembling with fear, Nyswander bravely walked in, offered the women cigarettes, talked to them, and managed to calm them down, while the guards put out the fire.²

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Marie Elizabeth Nyswander

Legislation in 1924 had banned heroin for any purpose and instantly criminalized opiate addiction in the United States. Prisons soon filled up and by the late 1920s, one-third of people in federal prisons were those with drug convictions.²

In response, the federal government established Lexington, a first-of-its-kind facility. About one-third of the addicts came voluntarily for detoxification, but everyone was called a patient, whether they were there voluntarily or not.²

New patients were required to stop using drugs. The medical staff would ease their withdrawal symptoms by tapering the dose of morphine over several weeks. Then, the patients joined the general population for the rest of their stay. There was some individual and group psychotherapy, but mostly, the recovering addicts were kept busy with craft classes, work and recreation.²
A Conversation with ASPET’s Council Member Kenneth Tew, PhD

As ASPET’s Publication Committee Chair, Kenneth Tew, PhD, is an ex-officio member of the ASPET Council. Dr. Tew also served as editor in chief for the Journal of Pharmacology and Experimental Therapeutics and associate editor for Molecular Pharmacology, as well as held several other roles with editorial boards of many other journals. He earned a B.Sc. in microbiology/genetics from the University of Wales, Swansea, UK; a PhD in biochemical pharmacology; and a DSc. from the University of London. Dr. Tew’s research and teaching positions include Georgetown University School of Medicine, Lombardi Cancer Center, Fox Chase Cancer Center and the University of Pennsylvania.

Dr. Tew also currently serves as Professor and Chair of the Department of Molecular and Cellular Pharmacology and Experimental Therapeutics at the Medical University of South Carolina, Charleston, South Carolina. He is the John C. West Chair in Cancer Research and Director of the Developmental Cancer Therapeutics Program at the Hollings Cancer Center.

Dr. Tew has been an ASPET member since 1983 and served the Society in many capacities, particularly in leadership roles with ASPET journals and in the Division for Drug Discovery and Development.

How did you get started in pharmacology?
My earliest exposure to drugs was the result of childhood tuberculosis where the isoniazid/rifampicin-based therapy was curative. This (perhaps) created an appreciation that following an undergraduate degree in microbial genetics encouraged my interest in graduate work on drugs. After my undergraduate work, I switched to cancer drug studies, where a well-structured career path in graduate and post-doc efforts led to academic research. My post-graduate education was in the United Kingdom, but at that time Margaret Thatcher had instigated governmental cuts in UK science budgets, but the NIH was a viable funding agency. Thus, I took on a post-doctoral position at Georgetown University and was there at the opening of the Lombardi Cancer Center. While I never planned to remain in the USA, I was apparently destined to stay since I never returned to the UK to work. It appears to have worked out though.

How did you first get involved with ASPET?
In the early 1980s, joining ASPET required a formal nomination and two letters of support. In 1981, I sought these and unbeknown to me, one of the individuals I had asked had “fallen out” with my earlier post-doctoral advisor. As such, he provided a negative letter that meant my membership application was denied! Undeterred, I applied the next year—not using him—and was accepted as a member in 1983. It seemed an appropriate society to join and complemented my (at the time) stronger connection with the fledgling American Association for Cancer Research. Oncology was slightly underrepresented in ASPET, but many
of the other pharmacology disciplines were well covered. I began attending annual meetings in 1984 and have participated ever since.

What do you want the ASPET membership to know about you and your ideas on how to move the organization forward during your term?

Publishing has become a complex process and partnering societies with professional publishers is almost de rigueur for this period. I have worked with dedicated ASPET colleagues to facilitate organizational adaptations that will hopefully prepare the publication aspects of the society for the near-term future. In addition, I have tried to leverage my membership to encourage involvement of less-senior members to participate in leadership roles at ASPET. I am particularly keen that younger generations should enhance communication and outreach efforts, creating new platforms for continued society growth.

What has been your proudest accomplishment in your career so far?

Foremost, in science, I have a lot of good friends (and only a few enemies) after all these years I view that as an accomplishment. During that time, I hope I have helped some folks achieve goals that have forwarded their careers. I have managed to maintain continuous NIH funding from 1980 to the present, and this has permitted a lot of smart people to work with me and publish interesting, and hopefully, novel research data. As an academic, I collaborated with one of the earliest biotech companies. With this, and over the subsequent years, I have helped to discover/develop four novel drug candidates. Sadly, only one of those achieved FDA approval, but the process was both daunting and enlightening. I think I understand more now than I did at the start of my career.

Hopefully, this can continue for a few years, before I forget everything. At a more arcane level, there are a few of my published papers, the contents of which I think are quite creative.

What advice would you give young scientists who are just starting out in their careers?

For academics, stay calm and publish. The vagaries of the funding world can be off-putting to folks coming out of their post-doctoral periods. If you have good ideas, they will eventually be rewarded. I have frequently paraphrased Churchill in that, “peer review is the worst of all processes, except for all those others that have been tried from time to time.” If you are uninclined to go the academic route, remember that biotech and big pharma offer lucrative and rewarding alternatives. Moreover, humans are a drug-using species. This will not change and thus, there will always be a need for pharmacologists.

What is one thing our members should know about the ASPET journals?

I have had considerable editorial experience with ASPET journals with roles for Molecular Pharmacology and Journal of Pharmacology and Experimental Therapeutics. I have used them for numerous publications through the years and members should be proud of the scientific content of all the society journals. With so many publication options these days, I would encourage our membership to remember that ASPET journals are well read by audiences that understand pharmacology. Independent of the much-advertised impact factor values that motivate some authors, your curriculum vitae will be significantly enhanced by containing work published in the ASPET journal family.
Naunihal Zaveri, PhD, has been inducted as a Fellow into the National Academy of Osteopathic Medical Educators (NAOME) during the recent 2024 annual conference of the American Association of Colleges of Osteopathic Medicine (AACOM). NAOME is a community of outstanding educators who have met rigorous standards of academic excellence within the last five years. Dr. Zaveri’s award is within the category of “Teaching and Evaluation.”

Dr. Zaveri is trained as a pharmacologist/toxicologist and began her career 27 years ago as a research scientist and has been attending ASPET meetings since 1998. She is currently a member of ASPET’s Division of Pharmacology Education Executive Committee. She serves as Chair and Associate Professor of Pharmacology at the Arkansas Colleges of Health Education. Within the last two years, she also received her fellowship from the International Association of Medical Science Educators (IAMSE), where she serves on the Equity and Advocacy Committee to further diversity, equity and inclusion within the organization. She is committed to excellence in teaching and assessment and belongs to the National Faculty for Pharmacology for the National Board of Osteopathic Medical Examiners (NBOME), a role she has served for the past 12 years. She is passionate about teaching, assessment, mentoring and leadership training.

Help shape the programming for the ASPET 2025 Annual Meeting in Portland, Oregon. Create a session proposal that showcases the most innovative trends in pharmacology.

Deadline to submit: August 29, 2024.
Congratulations to the 2024 ASPET Family Support Fund Recipients

The ASPET Family Support Fund was established to provide financial support to help offset the cost of dependent care and enable members to present their research at the ASPET 2024 Annual Meeting. ASPET is committed to ensuring its members can overcome barriers that prevent them from continuing their careers and participating in professional development opportunities. The Family Support Fund can also be combined with the ASPET Travel Award.

Congratulations to the following recipients:

- **Mai Abouzeid**
  Al Azhar University

- **A Prajita Yadav**
  University of Washington

- **Amanda Fakira**
  Rowan University

- **Anoud Ailabouni**
  Washington State University

- **Rashmi Patil**
  Poona College of Pharmacy

- **Suchismita Roy**
  University of California San Diego
In Memoriam

Dr. V. Craig Jordan (1947–2024) was an ASPET member for 44 years. Jordan, CMG, OBE, DSc, PhD, FMedSci, FBPhS, FASPET, passed away on June 9 at the age of 77. Considered the “Father of Tamoxifen,” Dr. Jordan was a science researcher and professor at The University of Texas MD Anderson Cancer Center. Recognized for his work in breast cancer research, he held American and British citizenship status.

After coming to the United States in 1980, Dr. Jordan joined ASPET. He was named an ASPET Fellow in 2021. He also received the ASPET Award for Experimental Therapeutics (1993), the Louis S. Goodman and Alfred Gilman Award in Receptor Pharmacology (2012) and the Reynold Spector Awards in Clinical Pharmacology (2019).

Dr. Jordan was recently named the 2023 Sir Henry Wellcome Gold Medal recipient, the highest award from the British Pharmacological Society that recognizes outstanding achievement and leadership in pharmacology and therapeutics.

Dr. Jordan received numerous awards during his 50-year career for his revolutionary research in women’s health, most notably breast cancer. Dr. Jordan joined the British Pharmacological Society in 1976 and was selected as an inaugural Fellow in 2004. In addition to the Sir Henry Wellcome Gold Medal award, he was recognized by the British Pharmacological Society with the Gaddum Memorial Award (1993) and the Sir James Black Award for contributions to Drug Discover (2015).

Dr. Morris Faiman (1933–2024) was a member of ASPET for over 50 years, joining in 1972. He received his Master of Science and PhD from the University of Minnesota and began his career in 1965 as a Professor of Pharmacology and Toxicology at the University of Kansas. Dr. Faiman had the privilege of teaching thousands of students over the years and continued his tenure until 2024. In addition to teaching, he also conducted research at the Life Span Institute where he was a recognized leader in the fields of pharmaceutical chemistry and pharmacology. His research programs focused on the development of drugs to treat alcohol abuse and drug addiction, and he holds several patents related to his research.
Dr. James Halpert (1949–2024) served as President of ASPET in 2010 as well as Secretary/Treasurer on the ASPET Council, editor of the journal *Drug Metabolism and Disposition*, and had been an ASPET member since 1985. In 2010 Dr. Halpert was the recipient of ASPET’s prestigious Bernard B. Brodie Award in Drug Metabolism and in 2019 he was named an ASPET Fellow.

Dr. Halpert joined the Department of Pharmacology and Toxicology at the University of Arizona in 1983, beginning his independent research on the structural basis of cytochrome P450 selectivity. In 1998, he joined the University of Texas Medical Branch as professor and Chair of the Department of Pharmacology and Toxicology. There, Dr. Halpert built a chemical biology program, serve as director of the National Institute of Environmental Health Sciences Center and the Sealy Center for Environmental Health and Medicine, and assisted with the development of a center for addiction research.

In 2014 He joined the University of Connecticut School of Medicine as dean and professor of pharmaceutical sciences. After his retirement, he served as an adjunct professor at the University of Arizona.

Upcoming Events

**2024 ACCP Annual Meeting**
*October 12–15, 2024 · Phoenix, AZ*
Join your peers at the 2024 ACCP Annual Meeting!

**British Pharmacological Society Pharmacology 2024**
*December 10–12, 2024 · Harrogate, North Yorkshire*
Network and hear the latest developments and research in pharmacology from industry experts and emerging investigators.

**ASPET 2025 Annual Meeting**
*April 3–6, 2025 · Portland, OR*
Advancing the Science of Drugs and Therapeutics. Join us in Portland!

**ASPET 2026 Annual Meeting**
*May 17–20, 2026 · Minneapolis, MN*
Join us in Minneapolis!

**20th World Congress of Basic and Clinical Pharmacology 2026**
*July 12–17, 2026 · Melbourne/Narrm, Australia*
We will welcome the world’s pharmacology and therapeutics community to the Melbourne Convention Centre in Melbourne/Narrm, Australia.
Science Policy and Advocacy Command Attention at ASPET 2024

ASPET strives to provide opportunities for members to engage in public policy and science advocacy for pharmacology and biomedical research. During this year’s annual meeting in Arlington, Va., some attendees were able to participate in a Capitol Hill Day event, an Advocacy for Science Workshop, a session on navigating science policy and a Washington Fellows luncheon. These events and programming highlight ASPET’s commitment to strengthening the science policy conversation between its members and legislators. The goal is to open an avenue for understanding, growth and support for scientific research.

At Capitol Hill Day, 39 participants attended 64 congressional meetings. Nine of these meetings were held with members of Congress. Attendees participated in 31 Senate and 33 House meetings from 47 Democrat and 17 Republican offices. They were able to have sit-down conversations with congressional representatives from 19 states and the District of Columbia on issues ranging from encouraging support for continued funding for biomedical research, the importance of animal research in advancing scientific understanding of diseases and therapeutics, to drug research policy. ASPET will continue to offer more opportunities for members to share their stories with elected officials at future Hill Day events.

A small group of early-career scientists also convened during the annual meeting for a workshop on science advocacy. There was an introduction to the field of science policy and a discussion on the legislative process including how a bill becomes a law. A guest speaker...
led the group through topics such as local government, relationship building and message communication. They also examined various case studies covering the opioid epidemic, how health departments tackled COVID and connecting science to stakeholders in Georgia. The group also practiced navigating through their local government website to identify a local body responsible for a topic of interest to each of them. These early-career scientists received foundational information and training on not only science policy, but how to apply it to topics they hear about in the media.

Experts from government agencies, government relations and ASPET were part of a panel discussion at ASPET 2024. The panelists discussed how policy experts work with scientists, how administrators and policy makers collaborate in the rule making that impacts biomedical research and ASPET’s approach to identifying science policy priorities that advance pharmacology and biomedical research. The panelists also discussed their career journeys that transitioned from research to the policy arena.

ASPET’s Washington Fellows Program held a luncheon for alumni to network and socialize at the annual meeting. Washington Fellows commit to a year-long fellowship that introduces them to science policy and advocacy issues and culminates with a Hill Day experience to meet with congressional representatives. Learn more about the 2024–25 application process.

Being close to the Washington, DC area provided opportunities for unique experiences for ASPET members and annual meeting attendees to learn about science policy and share their stories with legislators on Capitol Hill. The Society will continue to find ways to expand this engagement to ensure that advocacy issues remain prominent in the public conversation.
On Their Way...

Each month, the editors of three of the American Society for Pharmacology and Experimental Therapeutic’s (ASPET) journals choose who they call their Highlighted Trainee Authors. These early-career scientists are recognized for their innovative research published in The Journal of Pharmacology and Experimental Therapeutics, Drug Metabolism and Disposition, and Molecular Pharmacology. This feature showcases selected young scientists, demonstrates what drives them and reveals why pharmacology is important to them.

Lindsey Galbo-Thomma

Lindsey Galbo-Thomma, PhD, grew up in rural Pennsylvania which she said has been severely impacted by the overdose epidemic. As a postdoctoral research fellow at the University of Texas Health Science Center at San Antonio, Galbo-Thomma continues to be motivated to investigate the etiology and effects of substance use disorder and potential novel medications.

“I’ve had some amazing mentors throughout my career. In undergrad I struggled with my coursework and had no intention of [pursuing] a research career, but my advisor, Dr. Rodney Clark, introduced me to behavioral pharmacology,” she explained. Galbo-Thomma was also grateful for “matching up with my incredible MS and PhD mentors—Drs. Adam Prus and Paul Czoty. They both provided me with all the tools and resources I needed to succeed and were and continue to be incredibly supportive.”

As a behavioral pharmacologist studying about substance use disorder (SUD), her overarching career and research goal is to contribute findings that improve the health and well-being of people who use drugs or are afflicted by SUD. She plans to use her knowledge and expertise to advocate for sensible science and drug policies and inspire others to, as well!

Galbo-Thomma says that ASPET almost feels like “home” and that she feels lucky to have been involved with several programs and committees over the years. “Publishing the most sophisticated experiments from my dissertation work in a prestigious ASPET journal is the cherry on top.” Read her research in the June issue of The Journal of Pharmacology and Experimental Therapeutics.
Congratulations to ASPET 2024 Award Winners!

2024 Poster Award Winners

**Division for Behavioral Pharmacology**

**Undergraduate Students**
1st place: Han Namgoong  
2nd place: B. Hunter Bielicki

**Graduate and Post-baccalaureate Students**
1st place: Jacob Ormes  
2nd place: Gwendolyn Burgess  
3rd place: Sarah Melton

**Postdoctoral Scientist**
1st place: Lindsey Galbo-Thomma  
2nd place: Cora Smiley  
3rd place: Brittany Pate

**Division for Cardiovascular Pharmacology**

**Undergraduate Students**
1st place: Maya Groff

**Graduate and Post-baccalaureate Students**
1st place: James Cornwell  
2nd place: Xingyu Zhu  
3rd place: Paul Victor Santiago Raj

**Postdoctoral Scientist**
1st place: Qianman Peng

**Division for Cancer Pharmacology**

**Undergraduate Students**
1st place: Bradley Ludington

**Graduate and Post-baccalaureate Students**
1st place: Parul Suri  
2nd place: Jingwen Zhu  
3rd place: Amber Amparo

**Postdoctoral Scientist**
1st place: Dianicha Santana

**Division for Drug Discovery and Development**

**Graduate and Post-baccalaureate Students**
1st place: Taylor Henry  
2nd place: Nathaniel McClean  
3rd place: Rhashanda Haywood

**Postdoctoral Scientist**
1st place: Michael Ippolito  
2nd place: Ashley Nilson  
3rd place: Julia Tobacyk
2024 Poster Award Winners

Division for Drug Metabolism and Disposition

Graduate and Post-baccalaureate Students
1st place: Pei-Ru Jin
2nd place: Hannah Wilkins
3rd place: Aprajita Yadav

Postdoctoral Scientist
1st place: Marie-Noëlle Paludetto
2nd place: Dilip Singh
3rd place: Kari Gaither

Division for Molecular Pharmacology

Undergraduate Students
1st place: Ananya Achanta
2nd place: Frank Mao

Graduate and Post-baccalaureate Students
1st place: Remi Janicot
2nd place: Elizabeth McDuffie
3rd place: Jenna Aumiller

Division for Neuropharmacology

Undergraduate Students
1st place: Syed Rehman
2nd place: Catharine Carfagno

Graduate and Post-baccalaureate Students
1st place: Makenzie Patarino
2nd place: Ilinca Giosan
3rd place: Mia Allen

Postdoctoral Scientist
1st place: Deborah Luessen

Division for Pharmacology Education

Undergraduate Students
1st place: Hannah Hoffmann

Graduate and Post-baccalaureate Students
1st place: Nathaniel Zhu
2nd place: Katherine Cohen
3rd place: Yezen Anabtawi

Division for Translational and Clinical Pharmacology

Graduate and Post-baccalaureate Students
1st place: Sushrut Shah
2nd place: Ankita Poojari
3rd place: Nusrat Ahmed
2024 Poster Award Winners

Division for Toxicology

Undergraduate Students
1st place: Shruti Veluru
2nd place: Jessada Pakotiprapha

Graduate and Post-baccalaureate Students
1st place: Serena Li
2nd place: Christine Kim
3rd place: Morgan Domanico

Postdoctoral Scientist
1st place: Kishore Kumaree

Dolores C. Shockley Awards

Undergraduate Students
1st place: Mariah Nguyen

Graduate and Post-baccalaureate Students
1st place: Elizabeth McDuffie
2nd place: Hannah Wilkins
3rd place: Oluwatofunmi Oteju

Postdoctoral Scientist
1st place: Yuma Ortiz
2nd place: Kari Gaither
3rd place: Dianicha Santana

2024 Oral Competition Winners

Division for Cardiovascular Pharmacology
Trainee Showcase

Graduate Students
1st place: Jeanette Einspahr
2nd place: Shatha Salameh

Postdoctoral Scientist
1st place: Weiyi Xia
2nd place: Jorge Rios Duarte

Division for Molecular Pharmacology
Postdoc Competition

Postdoctoral Scientist
1st place: Shivani Sachdev

Division for Neuropharmacology
Postdoctoral Fellow Showcase

Postdoctoral Scientist
1st place: Benjamin Clements
2nd place: Gisela Camacho Hernandez
3rd place: Adithya Gopinath
There were many things Nyswander disliked about Lexington, but her most enduring memories were the patients who looked out for her when she was feeling lonely. The experience gave her a desire to treat addicts more humanely, rather than as institutionalized criminals. By the time she left Lexington, she was no longer interested in surgery. She wanted to learn more about these patients and the pathology of the addiction.

Seeking Psychiatry

When she was discharged from the Public Health Service in 1946, she enrolled in a three-year comprehensive course in psychoanalysis at New York Medical College. She attended classes at night and served as a resident in psychiatry at Bellevue Hospital during the day. The value of interning at Bellevue, she explained, was that she saw a tremendous number and variety of mental illnesses, and she acquired “a sensitivity for diagnosis”.

In New York, the standard method for treating addiction was abrupt abstinence, a wrenching and often violent process. Whereas, at Lexington, Nyswander had seen addicts withdrawn slowly and carefully. When she faced stern resistance to the Lexington method, a Bellevue colleague encouraged her to publish a paper on her views.

The paper was a practical guide for doctors with only the resources available in the average hospital. She described how much morphine to give, how to slowly wean a patient off of it, and how to make sure they didn’t smuggle any drugs into the hospital during withdrawal.

Private Practice

In 1950, Nyswander set up a private psychiatry practice on Park Avenue. She dealt with a full range of psychiatric problems.

Having published her views on drug withdrawal, she thought she could “have nothing more to do with addicts”. But she was wrong. The medical literature on opiate addiction was sparse, and her paper marked her as an authority. She received a steady stream of inquiries.

Nyswander wanted to help, but she had few tools at her disposal. She had been trained in Freudian psychoanalysis, and medical schools did not cover addiction. No one knew much about it, including Freud. Still, she felt an obligation to “[handle] the addicts in whatever stumbling way I could”.

The Public Health Service Hospital in Lexington, KY, circa 1935, www.ncbi.nlm.nih.gov/pmc/articles/PMC1382000
In standard practice, addicted patients were hospitalized during withdrawal. But large metropolitan hospitals, including in New York, refused to admit them.\textsuperscript{7,8} Most addicts only went to hospitals to get narcotics because their street supply was exhausted, and they left when the lowered doses began triggering withdrawal symptoms. Addicts would also force nurses to open narcotics cabinets.\textsuperscript{7}

**It’s Complicated**

The first patient Nyswander supervised through a drug withdrawal was an elderly man who had become addicted to morphine following surgery.\textsuperscript{1} He was too frail to go to the Lexington facility. She dictated a withdrawal schedule to the man’s attending physician, and within 3 weeks the patient was successfully withdrawn. After that, Nyswander oversaw successful withdrawals of hundreds of home-based addicts.\textsuperscript{1}

For addicts who wanted to kick their habit and who had a supportive relative or friend, Nyswander gave the caregivers instructions over the phone.\textsuperscript{1} Unfortunately, sooner or later, most of these patients relapsed.

In 1951, New York State held a hearing about the addiction problem. Nyswander (now an acknowledged expert) testified about her experiences in Lexington. She was asked, “How many people who went to Lexington recovered?”\textsuperscript{2} She said, “I would just say 15%. And that may be very generous, very generous indeed”.\textsuperscript{2}

Lexington’s own figures at the time were closer to 25%, but it was really hard to know. She was asked if there was a specific remedy to treat drug addiction. Nyswander said, “Not that we know of now”\textsuperscript{2}

Sidney Tartikoff on the panel asked, “I know that you are a very fine practicing psychiatrist. Do you think that psychiatry in and of itself is the answer to the treatment and cure of addicts?” Nyswander said, “No. No. [It’s] far more complicated”.\textsuperscript{6}

**Applying Psychoanalysis**

In 1955, Nyswander organized her first clinical study.\textsuperscript{8} She financed this Narcotic Addiction Research Project herself and organized 30 professional psychiatrists, psychologists and social workers as the study team.

They applied the same psychoanalysis procedures that were used to treat other emotionally disturbed patients, and the addicts’ participation was voluntary.\textsuperscript{8} After a year, only 13 of the 70 patients were withdrawn and still attending psychotherapy sessions. It was a pioneering study, demonstrating that some addicts could be withdrawn as outpatients, but obviously, psychotherapy helped very few of them.\textsuperscript{8}

In parallel with this Research Project, Nyswander wrote a book, *The Drug Addict as a Patient*, which was published in 1956. It summarized her experiences and views on addiction treatment.\textsuperscript{1} Although she was still early in her career, Nyswander had tried to rehabilitate more different kinds of addicts than perhaps any other psychiatrist in the country. They ranged from a self-educated homicidal paranoid to a graduate student at MIT. She concluded that everyone had the potential for drug addiction, regardless of intelligence, social status, occupation, religion, or race.\textsuperscript{1}

**Quitting is Hard**

Despite Nyswander’s psychiatric skills, the low success rate of the Narcotic Addiction Research Project only confirmed the dismal outcomes of all abstinence-based programs.\textsuperscript{3} Patients, sick of the grind of addiction, would go through
withdrawal, cooperate in treatment, and do well for a while. Then, eventually, they would meet someone or encounter something that triggered getting a fix. Some addicts would cycle between addiction and detoxification repeatedly. Nyswander was becoming frustrated. She was losing 5–20 patients a year from drug overdoses.

Her own heavy smoking may have led her to question whether addiction was a psychiatric disorder at all. She started smoking at 14 and by the 1950s was smoking three packs a day.

Once, she managed to quit for 8 months. The craving for cigarettes remained intense. “After six months,” she said, “I still had dreams in which I’d surreptitiously cop a cigarette... If it’s that hard to stop smoking, think what it must be to stop taking a drug like heroin”.

She concluded that rehabilitation should not deprive addicts of the drugs that stabilized them. “It’s like saying, I’ll treat you for stuttering if you’ll stop stuttering”.

**The Harlem Clinic**

In the 1950s and 1960s, organized crime smuggled most of the heroin into New York City. They specifically targeted their sales in Harlem, where more than half of the nation’s narcotic addicts lived, and treatment was largely absent.

“There wasn’t anybody [else], and I just said, you can’t abandon them”.

Around 1961, Nyswander set up her makeshift office in conjunction with the East Harlem Protestant Parish. The storefront clinic was on the first floor of a tenement building. The sparse furnishings consisted of a narrow cot, a few chairs, a desk, a filing cabinet, and a single 100-watt lightbulb.

Each Tuesday and Thursday afternoon, Nyswander offered her “storefront psychiatry” to all comers. It was unlike her Park Avenue psychiatric practice, where middle-class patients completed their analysis, and typically, never returned.

In contrast, the Harlem patients, who were mostly young Black or Puerto Rican men, just dropped in. No appointment or payment required. They sat, had some coffee, and talked to her. And although they were not “cured,” they kept coming back.

By all accounts, Nyswander was an exceptionally gifted analyst, and her rapport was legendary. She adapted to each individual patient. Out of curiosity and compassion, she was able to see the world from their perspective, understand their issues, and establish a deep relationship. She was never pretentious, judgmental, or demeaning.

To build that relationship, she did things that she would never consider in her Park Avenue practice. She gave them letters of reference for their jobs and once paid an addict’s rent.

She was known for her candor, energy, honesty, and sense of humor. One Puerto Rican patient said, “I can talk to her and blow my top if I want to—and believe me, she can blow her top, too. Or, I can just light up a cigarette and talk about anything. And she’ll never turn her back on you”.

By 1962, Nyswander had exhausted every psychiatric treatment available: hypnosis, group therapy, and even moving patients to a new environment. Nothing worked. She began to wonder whether there was a better way.

Then, Vincent Dole called.
Vincent Dole was born in Chicago in 1913. He majored in mathematics at Stanford and received his MD from Harvard in 1939. After completing his internship at Massachusetts General Hospital, he joined the Rockefeller Institute in 1941. Dole served as a lieutenant commander during World War II in the Naval Medical Research Unit at Rockefeller's hospital.

In 1947, Dole was named an associate member of the Rockefeller Institute. When the Institute became Rockefeller University in 1955, he was appointed a professor.

Dole was an established expert on metabolism, hypertension, and lipid chemistry. In the early 1960s, he became interested in appetite control systems and helped his Manhattan patients lose weight. Unfortunately, they always returned to their former weight, as though their metabolism had a fixed set-point. He thought, perhaps, differences in metabolic activity explained the food craving and resulting obesity in some people but not others.

In 1962, Lewis Thomas asked Dole to temporarily take his place as chair of the New York City Health Research Council's Committee on Narcotics, while Thomas was on sabbatical. Dole had no experience with narcotics or drug addiction, but he thought he could handle this largely administrative position.

Even so, Dole wanted to understand the Committee's work and read everything he could about addiction. He soon saw a possible connection between metabolism and addiction. Perhaps drug addicts craved narcotics, like obese patients craved food.

Dole was most impressed with Nyswander's articles and her 1956 book. In addition to explaining addiction and withdrawal medically, she argued that addiction was a sickness, not a criminal matter, and that punishing people or coercing them to withdraw just didn't work.

In October 1963, after a year of exhaustive study, Dole contacted Nyswander. They had several conversations, and she impressed him as a very intense, intelligent clinician with a good heart and lots of spirit. He quickly saw her not only as an expert consultant but also as a potential collaborator.

Dole invited her to join his new research project on the biology of addictive diseases. At the same time, Dole recruited the third member of his team, Mary Jeanne Kreek. Kreek was a second-year resident in internal medicine at Cornell University-New York Hospital Medical Center. Nyswander and Kreek officially joined Rockefeller in January 1964.
Feeling “Normal”

Their first study was observational, documenting how addicts behaved while taking various narcotics.\(^3\) Nyswander served as the psychiatrist, because she had access to the patients and was the most familiar with the behavior and psychology of people with addiction. Kreek observed the patients’ pharmacological responses and monitored side effects. Dole did most of the planning and research design.\(^10\)

They interviewed hundreds of addicts in hospitals, in treatment centers, and on the street.\(^11\) After the interviews, they reconvened and discussed what they had learned.\(^10\) Ironically, the addicts said they didn’t like heroin. The initial euphoria was short, and too much heroin made them sleepy. Withdrawal symptoms began when the drug wore off. This cycle repeated 4–6 times a day. In general, the addicts were not seeking to get high. Rather, they said they didn’t feel “normal” without heroin.\(^10\)

From these observations, Dole concluded that, rather than a psychological condition, some sort of biochemical change made addicts crave drugs. But Dole could not say exactly what that metabolic change was.\(^10\)

If the problem was a biochemical disruption, then the treatment probably needed to be pharmacological.\(^10\) Viewed in this way, abstinence from opiates would never work. Nyswander and Dole often used the analogy of diabetes. Patients with diabetes need insulin, and they cannot be cured by weaning them off of insulin and asking them to live without it.

Elusive Goldilocks

To test this hypothesis, Nyswander and Dole conducted a study aimed at administering a “Goldilocks” dose of narcotics. They wanted to keep the addicts in the “normal” range and avoid the extremes of euphoria and withdrawal.\(^10\)

They admitted two research subjects to Rockefeller Hospital. One was a man in his 30s, and the other was in his 20s, both addicted to heroin. Nyswander chose the investigational narcotics.\(^10\)

She tried morphine, Dilaudid (hydromorphone), cough medicine, and even heroin, adjusting the dose and schedule to find the Goldilocks regimen that would keep them comfortable.\(^1,10,15\) Unfortunately, nothing worked. The men were comfortable for only 1–2 hours before experiencing withdrawal symptoms.\(^1\)

Even worse, after several months, the doses were so high and so frequent (day and night) that it was clear this approach was impractical.\(^1,3,10\) But Nyswander did make one important discovery. The men were extremely cooperative. They had no desire to seek heroin, because they didn’t need it.\(^1\)

Nyswander didn’t know what to do next. Then, she remembered a drug that had been used in Lexington.\(^4,10\)

Buying Ice Cream

Methadone had been developed in Germany by I. G. Farben during World War II as a powerful opioid painkiller to replace morphine.\(^2,10\) Because of its long half-life, it produced minimal withdrawal symptoms and no pronounced euphoria. In addition, it prevented euphoria if the addict injected heroin.\(^1,3,16\)

The Lexington researchers found that methadone satisfied the addicts’ craving and prevented withdrawal.\(^10,11\) Unfortunately, some
patients seemed to like methadone too much. The researchers worried that patients would surely abuse it and concluded that methadone was too risky. So, they dropped it.10

For her first methadone experiment, Nyswander made a lucky choice. The typical dose of methadone for analgesia was 15–25 mg.10 Because the two men were addicted to high narcotic doses, she administered equivalently high doses of methadone (80, 90, and 100 mg) to ward off harsh withdrawal symptoms.1,10 “What we then discovered,” she said, “might not have been apparent if those dosages had been a lot less”.1

Within a day or two, the men’s behavior markedly changed. Rather than talking endlessly about their drug experiences, they discussed baseball, politics, and other general topics. They were interested in their lives again, including going back to school. Nyswander and Dole had not seen this with any other drug.10

But the two men were living full-time in a controlled hospital environment. The real test would be how they behaved when they went out into the world.

So, they were allowed to leave the hospital during the day. Nyswander waited nervously each night for their return, and they did come back, every night.10 They told her they saw people buying drugs on the street, but they were not tempted. Instead of heroin, they bought ice cream.3,10

The Rockefeller team conducted a series of tests to characterize methadone’s pharmacologic effects.1 The drug could be taken orally, and the only opioid effect the men experienced was constipation.17 Methadone’s half-life was 24 hours, and withdrawal symptoms, which were very mild, developed slowly from 24–36 hours after dosing.1

Under continued methadone use, the younger man got his high school equivalency diploma and went to college and graduate school in aeronautical engineering.1,16 The older man also earned his high school equivalency diploma under methadone maintenance. He became interested in botany, took a two-year course in horticulture, and worked in a greenhouse.1

**Methadone Maintenance**

Nyswander and Dole wanted to expand their clinical studies, but the 50-bed Rockefeller Hospital was exclusively a research facility, not a treatment center.1 In January 1965, the city’s Hospital Commissioner allowed Dole and Nyswander to occupy an entire floor of the Manhattan General Hospital, which subsequently became the Beth Israel Medical Center.1,3,7,18 They hired a dedicated staff and recruited formerly incarcerated people who were long-term heroin users.1,13

Nyswander and Dole published the results of the first 22 patients in *JAMA* in August 1965.17 It was, in fact, the first published clinical study demonstrating the scientific rationale and procedures for methadone maintenance.15,17,19 In the series of articles that followed, they expanded their results, reporting the long-term benefit of methadone in hundreds of former addicts.18,20–22 Patients in their treatment program returned to school, obtained jobs, and reconnected with their families.17

Nyswander and Dole advocated a “comprehensive rehabilitation program” which combined methadone administration with
supportive social services. They said both components were essential for successful treatment of narcotic addiction.\textsuperscript{17}

In 1966, Dole, Nyswander, and Kreek presented their “metabolic theory” of narcotic addiction and methadone blockade.\textsuperscript{19} Their data indicated that opiate addiction was a metabolic disorder (now called opioid use disorder) in which addicts’ brains were biochemically and functionally altered.\textsuperscript{13,14,19} In explaining methadone’s efficacy, they said addicts needed narcotics the same way a diabetic needs insulin.\textsuperscript{3}

This was a major shift from the prevailing view, which classified addiction as criminal behavior or a moral failing.\textsuperscript{13,14,23} Dole invited the skeptics to visit their ward. Neither the councilmen, hospital administrators, Lexington researchers, nor even Bureau of Narcotics agents could distinguish between the patients (maintained on methadone) and the hospital staff.\textsuperscript{7,16}

Newspapers all over the country published highlights of their results, and Nyswander and Dole gave many interviews. The two investigators became even closer, both professionally and personally. In August 1965, Nyswander went to Tijuana to get a quickie divorce from her third husband and married Dole (his second marriage).\textsuperscript{16}

Nyswander’s work at Rockefeller represented a return to mainstream medicine. She largely put aside psychiatry and embraced the biomedical approach to addiction.\textsuperscript{3,16} The Methadone Maintenance Research Project was now taking up most of her time, but she continued her schedule at the Narcotics Office in Harlem. And some of those men enrolled in the methadone maintenance program.\textsuperscript{7}

**Confirming Efficacy**

When Nyswander and Dole expanded their program, they found that addicted patients with an underlying psychopathology (schizophrenia, anxiety, neurosis, etc.) responded less well to methadone. And, not surprisingly, methadone did not benefit those dependent on alcohol, barbiturates, tranquilizers, or amphetamines.\textsuperscript{20,22}

With more than 750 patients successfully maintained on methadone, Nyswander and Dole could boast a 94% success rate in ending the addicts’ criminal activity. Most of those patients became productive members of society. “The results show unequivocally that criminal addicts can be rehabilitated by a well-supervised maintenance program”.\textsuperscript{18}

Still, advocates of abstinence continued to condemn the program on moral grounds. Methadone, they said, simply substituted one addiction for another.\textsuperscript{3} Nyswander wasn’t concerned that her patients were still taking a narcotic (methadone), because they had become well-adjusted citizens, happy within themselves and socially integrated.\textsuperscript{1}
Despite the critics, methadone maintenance gained ground. By the end of the 1960s, Beth Israel Medical Center had 1,000 patients under treatment.3

The War on Drugs

Because heroin addiction was still a major contributor to crime, President Nixon declared a war on drugs in 1971 and appointed Jerome Jaffe as his “drug czar”.3,24 Federal money was allocated, and Jaffe made methadone maintenance a cornerstone of the national campaign. By October 1973, 80,000 Americans were enrolled in methadone clinics.3,11,16

Unfortunately, as the government’s methadone maintenance program grew, so did the backlash.16 Many communities prohibited methadone clinics, because they didn’t want drug users to be in close contact with their children. They also feared the clinics would attract drug dealers looking for clients.24

Some unscrupulous doctors prescribed large numbers of pills to patients, who then sold the pills on the black market.3,16 The street value of diverted methadone was less than heroin. But for addicts undergoing withdrawal on the street, a diverted methadone dose would tide them over until they could find their next heroin fix.

In response, the Bureau of Narcotics (superseded by the Drug Enforcement Agency in 1973) and FDA jointly imposed restrictions on methadone use.25 The onerous regulations specified who could be treated, for how long, and with what dose, along with stringent clinic security, reporting procedures, staffing requirements, etc.3

Any doctor or pharmacy could prescribe and dispense methadone for pain relief.24 But only physicians and staff (nurse practitioners, physician assistants and counselors) at government-licensed opioid treatment clinics could dispense methadone for addiction.25–27

Patients were required to report to the clinic each day for their oral dose of methadone and underwent frequent urine drug testing. Many patients were forced to travel long distances to reach the nearest clinic, and that was difficult for anyone with a job or children.24

Nyswander strongly criticized those regulations. She thought doctors should decide what medication, including methadone, was best for their patients. For more than a decade, she had given many stabilized patients a one-month supply of methadone, and she had seen no problems.3,16

Overly Optimistic

In 1976, Nyswander and Dole published a 10-year update of their findings.28 Methadone maintenance programs had rehabilitated thousands of former addicts across the country, but they acknowledged that their initial projections had been overly optimistic.

Many heroin addicts remained on the streets and untreated.28 Even stable, well-adjusted patients struggled to find employment. When an employer’s drug tests detected methadone, they would be fired or not hired in the first place. Some patients honestly disclosed that they were in the program but were told the employer did not hire people on methadone.16

Nyswander served on President Carter’s Advisory Board for Mental Health and continued to advocate a holistic approach: a one-stop shop, where patients could get their maintenance drug supplies and assistance with social needs, such as housing, food, and jobs.4,24

Methadone maintenance programs had rehabilitated thousands of former addicts across the country, but Nyswander and Dole acknowledged that their initial projections had been overly optimistic.
A lifetime chain-smoker, Nyswander died in 1986 at the age of 67 after a long battle with cancer.\textsuperscript{3,4} At that time, methadone maintenance (though widespread and becoming more established) was still controversial. She had freely acknowledged that methadone was not perfect and hoped that better drugs could be found.

**Enter: Buprenorphine**

In 2002, the FDA approved buprenorphine, which is now the treatment of choice for patients with opioid use disorder.\textsuperscript{27,29} Buprenorphine is a Schedule III controlled substance and is safer than methadone (a Schedule II drug) because its respiratory depressant effect has a ceiling, and it has a lower abuse potential.\textsuperscript{24,27,29}

The sublingual formulation contains naloxone to deter intravenous and intranasal use. (Sublingual naloxone is poorly absorbed and does not block the systemic effects of buprenorphine.) Maintenance treatment with sublingual buprenorphine/naloxone has been shown to improve treatment retention, reduce mortality, and have a lower abuse potential.\textsuperscript{27,29}

**New Guidelines**

Despite Nyswander’s advocacy, “take-home” methadone was restricted for decades.\textsuperscript{30} The requirements to qualify included very long treatment times, complete sobriety (based on urinalysis), and evidence of rehabilitation, such as a steady job or a dramatic improvement in the patient’s life.\textsuperscript{30}

Then, in 2020, due to the COVID-19 pandemic, state and federal officials relaxed those requirements, to minimize the risk of COVID-19 infection during clinic visits. Many more patients were permitted to take home up to 28 days of medication. Mobile clinics and telehealth procedures were also established.\textsuperscript{26,30} Critics were concerned that methadone and buprenorphine would be diverted for illicit use, or that patients would be more prone to overdosing.\textsuperscript{30} However, a review in *The Lancet* concluded that despite greater access, methadone misuse and overdosing did not increase.\textsuperscript{31}

In February 2024, the federal government published rules making those changes permanent.\textsuperscript{26,32} Since April 2024, clinicians have greater freedom to prescribe take-home methadone, which accommodates the patients’
need to attend school, hold a job, and manage their quality of life. The telehealth provision allows providers to treat addiction across the country, especially in rural areas and underserved communities.26,30,32

Dole and Kreek Carry On

After Nyswander’s death, Dole and Kreek continued to study addiction and methadone maintenance at Rockefeller.11,15 Opioid receptors were first identified in 1973, and endogenous opioid peptides were first discovered in 1973. Years earlier, Dole had conceived a lab protocol for their detection and mathematically estimated the number of receptors in the brain.23

Dole always made sure Nyswander’s name came first.30 In 1983, the New York State Division of Substance Abuse Services created the Dole-Nyswander Award, and the couple were the first recipients. In accepting the award, Dole immediately changed the name to the Nyswander-Dole Award, which is still presented annually.4,30

In 1988, Dole received the Albert Lasker Clinical Medical Research Award for the couple’s contributions to managing narcotic addiction as a medical condition.23

In the early 1970s, Mary Jeanne Kreek developed the first lab techniques for measuring methadone and similar drugs in blood and tissues.13,14 Using those methods, she was able to design studies on the physiological effects and safety of methadone. The results were crucial to the FDA’s 1972 approval of methadone maintenance. She also played a role in developing buprenorphine for treating opioid addiction.13,14

In 1985, Kreek was one of the first to document that drugs of abuse significantly alter the expression of specific genes in the brain. She went on to develop animal models for addiction and to identify the biological pathways that act together and make an individual more likely to become an addict.13,14

In the 1990s, Kreek was the first to identify injection drug use as the second major risk behavior (after unprotected sex) for HIV transmission.13,15 HIV infection rates are several-fold lower in methadone-maintained patients than in street intravenous drug users.12,15 Patients taking methadone are also about 60% less likely to die of an opioid overdose.26
Nyswander Street


Dorothy told an interviewer that naming the Hamburg Street in honor of her only child was “the most beautiful experience of her long life.” The replica hung over Dorothy’s bed until her death in 1998 at the age of 104.

References can be found on page 33.

Rebecca J. Anderson, PhD

Rebecca J. Anderson holds a bachelor’s in chemistry from Coe College and earned her doctorate in pharmacology from Georgetown University. She has 25 years of experience in pharmaceutical research and development and now works as a technical writer. Her most recent book is *Nevirapine and the Quest to End Pediatric AIDS*. 
ASPET Announces *ASPET Discovery* Editor Search

ASPET's Publications Committee is seeking its first editor in chief of a new addition to its journal portfolio, an open access journal titled *ASPET Discovery*. Nominations are open. Self-nominations are welcome. Nominations, including a brief supporting statement and the candidate's CV, should be sent to Maria Pasho, ASPET Director of Publications, at mpasho@aspet.org by July 1, 2024. Receipt of confirmation will be forthcoming.

**Scope of journal:** This bi-monthly open access journal publishes a range of article types, including original research articles, mini-reviews and viewpoints that address all areas of pharmacology and experimental therapeutics. These areas include, but are not limited to, topics on interactions of chemicals with biological systems; drug absorption, distribution, metabolism and disposition; drug delivery; mechanisms of drug actions; pharmacokinetics and pharmacodynamics; toxicology and adverse drug responses; behavioral pharmacology and drugs of abuse; and preclinical, translational, and clinical pharmacology. The journal will cover all types of therapeutic indications, such as cardiovascular, infectious, neurological and cancerous; all forms of therapeutics, such as small molecules, biologics and cells; and all research approaches, such as molecular, cellular and systems pharmacology.

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The selection process will include telephone or online interviews with the top candidates and is expected to be completed no later than mid-July 2024. The incoming editor will begin working with current ASPET Editors in Chief and ASPET staff during the late summer and fall and will assume the full responsibilities as Editor effective January 1, 2025.

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References

Marie Nyswander and Methadone Maintenance


References: Marie Nyswander and Methadone Maintenance


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