

Genetics and Addiction: The Community Treatment Perspective

Louise Haynes

**Director of Research, Lexington/Richland Alcohol and Drug
Abuse Council
(LRADAC)**

Allan J. Cohen

**Director of Research and Training
Bay Area Addiction Research and Treatment
(BAART)**



Genetics and Addictions

The thoughts, understandings
and misunderstandings of two
community treatment providers

Today

- Science – Mary Jeanne Kreek
- The CTN- getting started in genetics studies
– Louise Haynes
- The START Genetics Study – Allan Cohen

PLATYPUS



**Decoded Platypus Genome
Spells Out 'Hybrid'
2008**

NIDA Clinical Trials Network

In the beginning there was
Research (Scientists, laboratories and stuff)



...and there was Treatment
(counselors, groups, urine and stuff)

But, as you have heard, there was
a problem

Research Meets Treatment

Mission of the CTN

- **Develop dialogue between the research and treatment communities:**
- **Bring state-of-the-art treatments from the laboratory to the clinic**
- **Rigorous investigation of existing treatment practices/systems**

Community Treatment Programs in the CTN

- **There are 16 “nodes” in CTN**
- **Node = University + 5-10 CTPs**
- **More than 100 CTPs affiliated with the CTN**
- **All shapes, sizes and flavors**



Therapeutic Communities

Narcotic Treatment Programs

VA Center

Drug Free Intensive Outpatient

Short-term and Long-term Residential Care

Small Community Clinics

Large Urban Clinics

Hospital Based

University Based Programs

Genetics Studies in the CTN

- Special Interest Group- Andy Saxon, Mary Jeanne Kreek, Tom Crowley, John Rotrosen, Allan Cohen, Louise Haynes
- NIDA Genetics Consortium – Joni Rutter
- The START Genetics Study – collaborative effort

One of the questions we discussed in
the Genetics Special Interest Group:

What is the Role of Community
Treatment Programs in Genetics
Research?

Genetics and the CTN

- Detroit Blending Meeting
- Mary Jeanne Kreek
- Introduction and Overview Workshop
- Engage community treatment programs
- Seattle Blending Mtg
- Laura Bierut- Workshop on Nicotine Addiction and Genetics
- Plenary – Mary Jeanne Kreek

Brings us to the 2008 Blending Meeting

Review with you some of what we
have heard at this meeting about
genetics and addiction

Its not simple

The role of genetics in the
development of addiction



Although genetic characteristics may predispose individuals to be more or less susceptible to becoming addicted, genes do not doom one to become and addict.

Many Factors Influence the Development of Addiction

- Not just a matter of nature vs. nurture
- Agent - variability in addictive potential
- Host – individual genetics
- Environment – culture, norms
- Behavior
- Life experience – ie. early childhood trauma
- Life experiences/environmental stressors may change genetic expression

Theories of a single addiction gene have been replaced by current understanding that multiple genes are at work

“Addiction has one of the highest hereditary interactions of any of the diseases we treat”

Charles O’Brien MD

NIDA Blending Meeting 2008

CTN: A natural resource for genetics research

- **Geographical diversity**
- **Large populations of SUD**
- **Variety of different treatments**
- **Different drugs**
- **Staff/Patient education**

What might genetics bring to addictions treatment/community treatment programs in the future?

- **Knowledge and understanding of our patients and the addiction process**
- **Prevention**
- **Ability to predict treatment effects**
- **Ability to “fit” treatment to the individual**
- **Significant reductions in “treatment non-responders”**

“The ability to pinpoint genes in the human genome responsible for disease has the potential to revolutionize our ability to treat and even prevent diseases.”

Elias A. Zerhouni
Director, Nat'l Institute
Of Health