DETECTING AND PREVENTING RELAPSE TO SMOKING

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Disclosures

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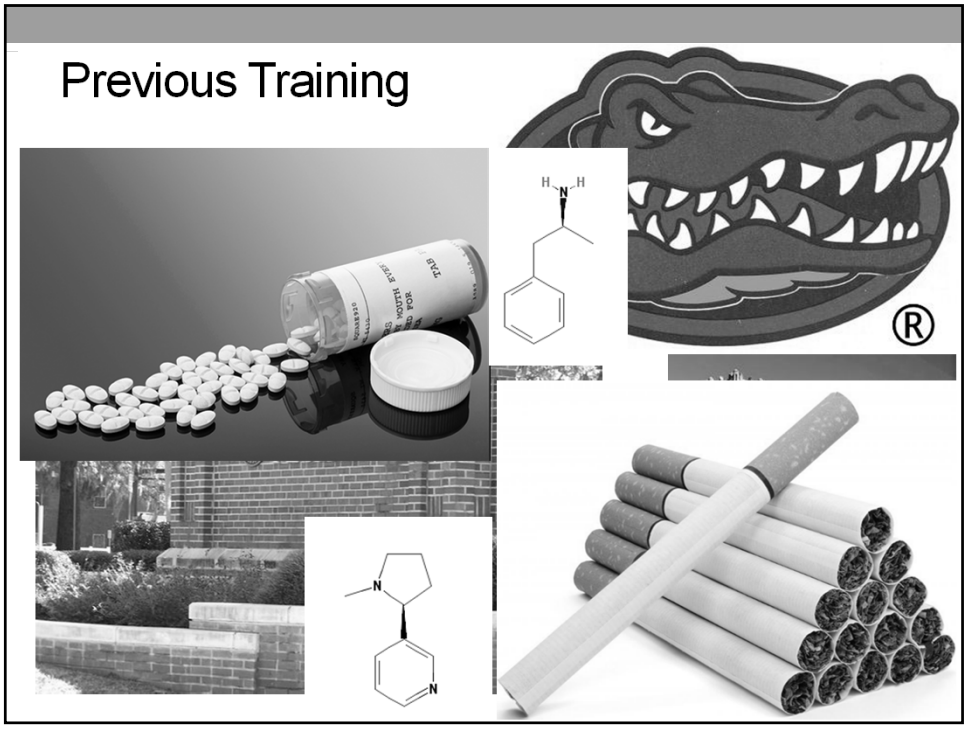
Previous Training


Previous Training
National Drug Abuse Treatment
Clinical Trials
Network

Research Interests

Technology

Pharmacotherapy

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Relapse to Smoking

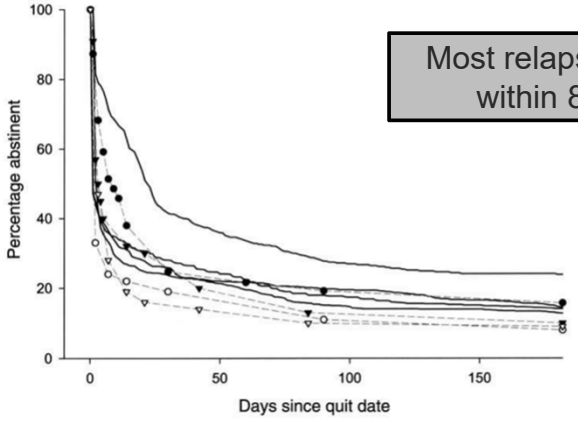

Figure 1 True survival curves (solid lines) and line-graph relapse curves (dotted lines) in self-quitters (open circles and triangles) and those in control groups (solid circles and triangles) from studies in Table 1.

Most relapse occurs within 8 days

Hughes et al., 2004

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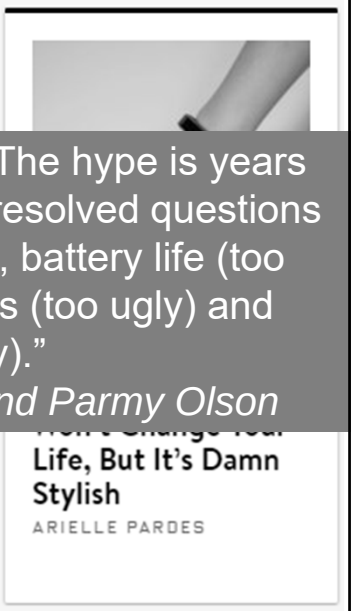
Technology and Health

Technology and Health

Wearable health technology still just a novelty, report finds

Photo: Richard Drew / Associated Press

IMAGE 1 OF 1
Some of the top-selling health devices include the Fitbit Force, Jawbone Up, Fitbug Orb and Nike FuelBand SE.



Life, But It's Damn Stylish

ARIELLE PARDES

"The problem [with wearables]: The hype is years ahead of the market. Big and unresolved questions remain about pricing (too high), battery life (too short), utility (too limited), looks (too ugly) and privacy (too scary)."

– Forbes, Connie Guglielmo and Parmy Olson

Technology and Smoking

- Technology may improve how we prevent, detect, and treat smoking
- Reach of interventions could be improved and could circumvent geographical location and limited mobility
- Reduces the need for lab- and clinic-based visits

Technology and Smoking

mPuff: Automated Detection of Cigarette Smoking Puffs from Res

A Wearable Sensor System Cigarette Smoking

EDWARD SAZONOV, PH.D.,[a,*] PAULO LOPEZ-MEYER,
[a]*Department of Electrical and Computer Engineering, The Univ*
[b]*Department of Psychology, University at Buffalo, The State Uni*

Article

Laboratory Validation of Inertial Cigarette Smoking Arm Movemen

Bethany R. Raiff [1,*], Çağdaş Karataş [2], Erin A. Mc

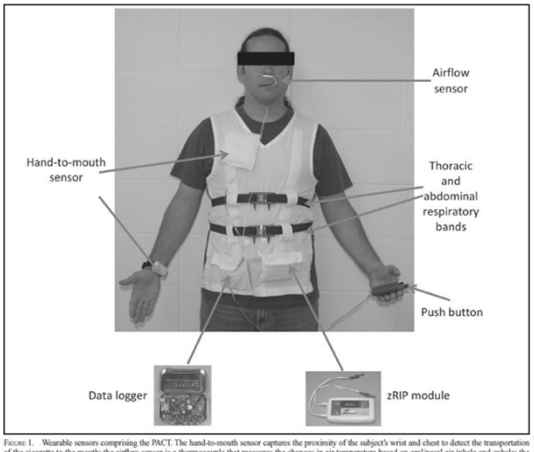


FIGURE 1. Wearable sensors comprising the PACT. The hand-to-mouth sensor captures the proximity of the subject's wrist and chest to detect the transportation of the cigarette to the mouth; the airflow sensor is a thermocouple that measures the changes in air temperature based on oral/nasal air inhale and exhale; the respiratory band and the zRIP module capture respiration; the push button is used to self-report instances such as smoke inhalations. All sensors are connected to a data logger, and the data are stored on a microSD card.

Research Questions

- How do we detect and PREVENT relapse to smoking among adolescents and adults?
- Which treatment strategies will help to improve abstinence outcomes?
- How might we use technology to study and treat smoking?
- How does tobacco and marijuana co-use impact abstinence outcomes?

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Relapse Detection

- Breath carbon monoxide monitoring among adolescents and emerging adults during a quit attempt
- Remote assessments conducted (ecological momentary assessment) to isolate variables associated with relapse

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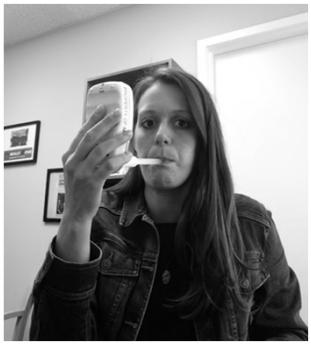
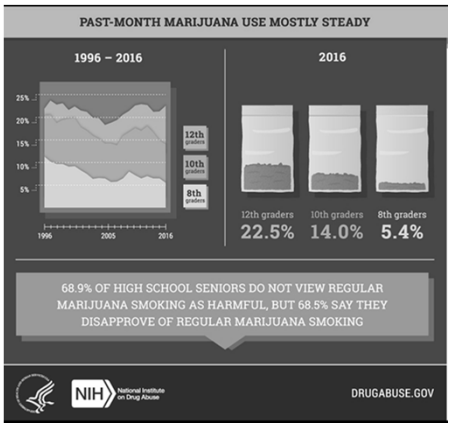
My Mobile Monitor (M^3)

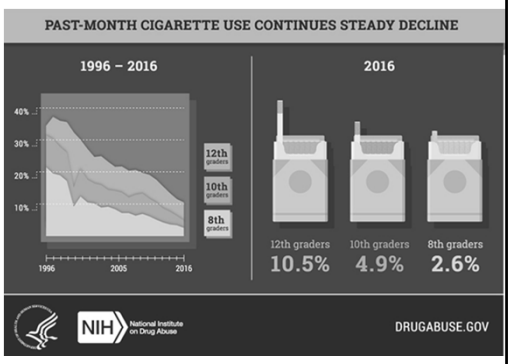


Future Research and Application

- New devices, integrated platforms, sensor suites, longer battery life, advanced computing, predictive algorithms, and personalized approaches….

Prevalence of Tobacco and Marijuana Use (In Isolation)





Monitoring the Future, 2016

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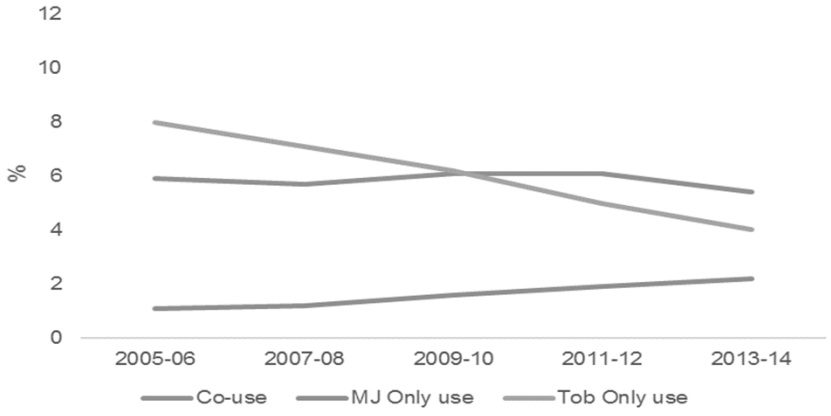
Trends in Co-Use, NSDUH, 2005-2014



Schauer & Peters, under review

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Co-Administered Products: Blunts, Spliffs, Mulling

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Co-Use and Implications for Treatment

- Substitution or compensatory use
- Abstinence rates among co-users
- Dual interventions – timing of cessation

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