UCSF Advisory Committee on Sustainability

December 12, 2017

Robert Stickney and Cynthia Chiarappa, co-chairs
Agenda

- Welcome and Introductions, Robert - 10:30
- December UACS WG Presentations
  - Water WG Update, Eli Perszyk – 10:40
  - CNI Fellows, Women Health, the environment, and physician activism, Carolyn Rennels and Gabriela Weigel – 11:00
  - Transportation Update, Erick Villalobos – 11:15
- Old Business
  - Red Meat Resolution support, Tom/Gail - 11:30 min
- Standing Agenda Item
  - Academic Senate Sustainability Committee, Seema – 12:40 min
- Last words – Robert 12:55 min
Welcome and Introductions

- New co-chair, Sheila Antrum
  Former Chief Nursing Officer

- New member, Mark Freiberg
  Former EH&S Director, UCB
Water Workgroup Updates
Eli Perszyk
University of California Water Efficiency Policy

- Identify and eliminate once-through water cooling systems

- Develop a Water Efficiency Outreach Program

- Identify un-used turf and develop a replacement plan

- Develop & maintain a Water Action Plan (due 12/15), which is submitted to UCOP

- Implement innovative water-efficient technologies

- Reduce Water Consumption/Weighted Campus User metric by 36% by 2025, compared to 2007 baseline
UCSF Progress to Water Efficiency Goals

UCSF Campus Total Consumption in Gallons/Weighted Campus User

UCSF Campus Total Consumption in Gallons/Weighted Campus User

47% Reduction from UCOP Baseline

2025 Policy Goal 11,467

Total UCSF Campus Consumption in Gallons

35% Total Reduction from 2007 Baseline

Total Consumption

Presentation Title and/or Sub Brand Name Here
FY 16-17 Water Efficiency Projects

- Helen Diller LARC Bulk Sterilizer Replacement
  - Cost: $1.8M Sinking Funds
  - Savings of 12,000,000gpy, or $275,000 per year
  - Won Best Practice Award at CA Higher Education Sustainability Conference

- Facilities Services Water Efficient Equipment Incentive
  - Pilot Project completed at Genentech Hall to replace 7 sterilizers
  - $5,000 per unit, if water savings met in 1 year
  - $35,000 Facilities incentive, and $86,000 incentive from SF Water Dept. program, issued to the Department of Cellular & Molecular Pharmacology
  - Savings of 2,500,000gpy, or $63,5000 per year
FY 17-18 Water Efficiency Projects

- **Meter Upgrade**
  - Install new high accuracy meters
  - Output data for visualization and analysis

- **Laboratory Faucet Efficiency & Maintenance Program**
  - Sub-meter laboratory water services to establish baseline
  - Retrofit faucets with 1gpm flow restrictors, perform maintenance work and track data to verify savings

- **SEP Water Efficiency Pilot Projects**
  - *Parnassus Cold Rooms on once-through water cooling: Convert to chilled water*
  - *CVRB Purified Water/Zebrafish Facility retrofit*
  - Track data, develop business case, determine energy load
Identify Efficiency Opportunities through Data Analysis

- Water sub-meters have been upgraded to electronic meters at Helen Diller, Rock and Byers. Next buildings are CVRB, Rutter Center, Genentech, MB Utility Plant.

- New Technology sends high-interval consumption data to building management system
Data Visualization with SkySpark Dashboard

- High Data Intervals
- Compare Multiple Data Trends
- Automatic Alerts
SkySpark Water Example-Purified Water
Mission Bay District Recycled Water Study
Water Outreach & Website

- Media is almost complete to launch Water Efficiency Outreach Campaign at UCSF in Spring 2018
- Infrastructure & Utilities team is developing a new website
- Water content will live on the Infrastructure & Utilities website
Outreach: Handwashing

**EVERY DROP COUNTS**

**PROPER HAND-WASHING PROCEDURE**

**STEP 01**
**WET**
5 SECONDS

**STEP 02**
**LATHER**
15 SECONDS

**STEP 03**
**RINSE**
RINSE THOROUGHLY

**STEP 04**
**DRY**
USE TOWEL TO TURN OFF FAUCET
DRY WITH PAPER TOWEL/ AIR DRYER

**ALCOHOL BASED SANITIZER?**

**STEP 01**
DISPENSE INTO DRY PALMS

**STEP 02**
RUB HANDS TOGETHER UNTIL DRY
15 SECONDS
Outreach: Irrigation

EVERY DROP COUNTS

DID YOU KNOW?

The mission bay campus saved 9.5 Million gallons of water by cutting down on irrigation during the drought.

That’s enough to provide every San Francisco resident with drinking water for 15.5 Days.

San Francisco population 870,887.
Outreach: Fitness

**EVERY DROP COUNTS**

**THE DIFFERENCE BETWEEN A 20 AND 5 MINUTE SHOWER**

**MAKE IT QUICK!**

- Try a 2-in-1 shampoo-conditioner.
- Use a shower timer.
- Create a 5-minute shower playlist to keep you on track.
Outreach: Incentive Program

**EVERY DROP COUNTS**

**WATER EFFICIENT EQUIPMENT INCENTIVE PROGRAM**

**DID YOU KNOW?**

NEW UC OFFICE OF THE PRESIDENT POLICY
REQUIRES THE ELIMINATION OF ONCE-THROUGH WATER COOLING FOR EQUIPMENT.

Facilities Services has a new water efficient equipment incentive program to help laboratories procure efficient equipment.

Equipment will be metered for two months pre-installation. Metering will continue post-installation, until the water savings payback is met. The incentive will be approved if the water savings for the incentive amount are met in one year.

**STERILIZERS**

- can receive a rebate of $5,000

Sterilizers using water cooling consume between 150,000 - 1,000,000 gallons of water per year.

**OTHER LAB EQUIPMENT**

- can receive a rebate of $1,000

Lab Equipment such as Glass Washers, Ice Machines and Condensers can consume between 25,000 - 150,000 gallons per year.

**PIPETTE RACKS / GLASS WASHERS**

- can receive a rebate for 50% of the purchase cost
Outreach: Drought & Climate

THE DROUGHT WAS THE WORST IN 1,200 YEARS...

...CLIMATE CHANGE WILL ONLY MAKE THINGS WORSE.

DID YOU KNOW?

- Snowpack provides as much as a third of California's water supply
- Bay Bridge toll so this could be flooded during storms with just 16 inches in sea-level rise
- By 2100, California will experience 5X more extreme precipitation than currently

UCSF HAS
REDUCED WATER CONSUMPTION OVER 40% SINCE 2007

THAT'S ENOUGH TO PROVIDE 6,698 CALIFORNIANS WITH 1 DAY OF WATER, DRINKABLE, SANITARY, FREE FOR 100 YEARS.
Women’s Health, the Environment, & Health Professional Activism
Fall 2017

Ob/Gyn 170.01A
Units: 1 (P/NP)

Tuesdays
12:10-1PM
Room: S-157
Starting August 22

LUNCH PROVIDED

Hosted by: UC Carbon Neutrality Initiative Fellows
contact: carolyn.rennels@ucsf.edu and gabriela.weigel@ucsf.edu
Women’s health, the environment, & health professional activism

Carolyn Rennels and Gabriela Weigel

December 2017
Course Description

- Open to all UCSF students
- 10 lectures with various topics
  - case-based learning + practical suggestions
- 1 movie night: “Merchants of Doubt”

To obtain credit: attend 8 sessions +/- makeup work + personal reflection
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<thead>
<tr>
<th>Date</th>
<th>Guest Speaker</th>
<th>Lecture Topic</th>
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<tbody>
<tr>
<td>8/22/2017</td>
<td>Robert Gould, MD</td>
<td>Generations at Risk: Introduction to Environmental Health &amp; Health Professional Activism</td>
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<td>8/29/2017</td>
<td>Linda Giudice, MD PhD</td>
<td>Environmental Exposures and Reproductive Outcomes</td>
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<td>9/5/2017</td>
<td>Ted Schettler, MD MPH</td>
<td>Earth-Friendly Nutrition</td>
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<td>9/19/2017</td>
<td>Naomi Stotland, MD</td>
<td>How Prenatal Care Providers Counsel on Environmental Health</td>
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<td>9/26/2017</td>
<td>Linda Rudolph, MD</td>
<td>Climate Change and Health</td>
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<td>10/3/2017</td>
<td>Robert Harrison, MD MPH</td>
<td>Women at Work: Issues in Environmental Health</td>
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<td>10/10/2017</td>
<td>Preston Maring, MD</td>
<td>Sustainable Food Practices</td>
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<tr>
<td>10/17/2017</td>
<td>Marya Zlatnik, MD</td>
<td>Environmental Exposures and Pregnancy</td>
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<td>10/24/2017</td>
<td>Jeff Ritterman, MD</td>
<td>Sugar Industry &amp; Environmental Economics</td>
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<td>10/31/2017</td>
<td>Mark Miller, MD MPH</td>
<td>Pediatric Environmental Health</td>
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<td>10/7/2017</td>
<td>Movie Night</td>
<td>Merchants of Doubt</td>
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Course Attendance

- 73 students attended at least one lecture
  - 25 students attended 4+ lectures
  - 18 students took the class for credit
- Attendance ranged from 10-35 students
- Primarily medicine and pharmacy students, some community members
Quantitative data from pre/post course survey

Pre (n=14), Post (n=12)
Survey Format

- 21 questions answered on 1-5 Likert scale (Strongly agree, agree, etc.)
- Assessed learning objectives of the course: knowledge, behavior, attitudes
- Intended to be completed pre- and post-course
  - Only 5 students completed survey twice
  - Analyzed “pre” cohort (n=12) vs. “post” cohort (n=14), recognizing limitations
Climate change affects health outcomes.

Pre-Course (n=14)
- Neutral: 7%
- Agree: 14%
- Strongly agree: 79%

Post-Course (n=12)
- Neutral: 0%
- Agree: 8%
- Strongly agree: 92%
All health professionals have a duty to speak with their patients about environmental health risks.
I am willing to change aspects of my current lifestyle in order to protect the environment.
I intend to incorporate environmental activism in my future career and practice.
UCSF has a duty to promote carbon neutrality.
Limitations

- Anonymity vs. ensuring completion
- Imperfect matching of pre/post cohorts
- Physical therapy students did not complete pre-course survey
- Possible graded response based on how many lectures attended
Qualitative Data from Student Reflections

(n=18)
Takeaways from course

“Well not only was it [the elective] extremely **informative**, it was extremely **practical**.”

“I knew that climate change was occurring, but I never really thought about how truly it impacted health before… This class has **opened my eyes to doing something about it**.”

**How to...**
1. Be an informed consumer
2. Talk with patients
3. Recognize disparities
4. Be an advocate
How to be an informed consumer

“I’ve critically examined my food choices and the products that I purchase”

<table>
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<tr>
<th>Food Choices</th>
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<tr>
<td>● Buying organic: dirty dozen/clean fifteen</td>
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<tr>
<td>● Environmental benefits of becoming vegetarian</td>
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<td>● How to sustainable meals in the kitchen</td>
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<th>Plastics</th>
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<td>● BPA and BPA substitutes (ex: BPS)</td>
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<th>Furniture</th>
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<tr>
<td>● PBDEs in old/used furniture</td>
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How to talk with patients

“This [elective] motivates me to take time to introduce the topic to my patients, especially **vulnerable patients** who are at increased burden of environmental toxins.”

“I feel able to initiate the conversation…[and] use tools from trusted sources to help.”

“Having taken this class, I am more likely screen my patients for possible environmental exposures, and I now know where to find interventions to reduce exposure.”

“The Pediatric Environmental Health Toolkit… is a very good resource that I can share with patients… I wouldn’t have known of its existence had I not taken this elective.”
How to recognize health disparities

“I learned that environmental pollution, along with climate change and other unsustainable agricultural practices, disproportionately burden women and other marginalized populations.”

Several references to the **CHAMACOS** (Center for the Health Assessment of Mothers and Children of Salinas) study
How to be an advocate

The course “sheds light on the importance of our role as health providers.... It makes me want to be an advocate for sustainability, increased access and awareness for the masses.”

“This course also put a great flame under me to centralize my practice and education around advocacy and activism...I hope to go into policy work in the future and I know I will keep everything taught in this class in mind.”

“Physicians need to have a dual response to environmental injustices. 1) to counsel and educate their patients; and 2) to advocate for environmental equity.”
Individual Choices

Policy Work

Patient Care
Constructive feedback for the course

- Send out PowerPoints after each session
- Reduce redundancy (depth vs. breadth)
- Move away from gender specific course title to broaden participants
- Require in all curricula (graduate, undergraduate, high school)
Thank you!

Questions?
Transportation WG Update
Erick Villalobos
Beef\Lamb Free Student Resolution

Medical Students:
Jason Parad
Briton Lee
Carolyn Runnels
Gabriela Weigel

Medical Students Call on UCSF Departments to Go Beef and Lamb-Free
Academic Senate Sustainability Committee Updates

Seema Gandhi, MD, chair
Robert’s Last Words
2017 Carbon Emissions Projections