Welcome, attendees!

- Your microphone is muted on entry into the event to avoid background noise/feedback. You won’t be able to unmute yourself.
- To reduce video bandwidth, your camera will remain off.
- The chat feature is turned off for this event.
- The event will begin at 4:30 pm.
- Use the Q&A feature to send your questions to Robyn Perrin.
- This meeting is being recorded, and your Q&A submissions will also be saved for follow-up as needed.
University of Wisconsin
School of Medicine and Public Health
Spring Faculty & Staff Town Hall

Robert N. Golden, MD
Robert Turell Professor in Medical Leadership
Dean, School of Medicine and Public Health
Vice Chancellor for Medical Affairs
University of Wisconsin–Madison
Agenda

- Welcome
- Faculty Vote to Award Degrees to Graduates
- Match Outcomes and Clinical Education
- COVID-19 Response Update: Global and Local Efforts
- Town Hall
- Adjournment
1. Faculty Vote to Award Degrees to Graduates - Motion:

"The Faculty recommends to the Regents for their respective degrees those students certified whose names are submitted by the Dean as having completed the requirements for their respective degrees."

2. Match Outcomes 2020

2. Clinical Education Updates
2020 Match - New NRMP Records

- Total MD and DO Match participants
- PGY-1 positions (6.4% increase) with DO program positions
- More US MD seniors matched

<table>
<thead>
<tr>
<th>NRMP Data</th>
<th>2020</th>
<th>Increase from 2019</th>
<th>Filled by US MD grads</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total PGY-1 Positions</td>
<td>34,266</td>
<td>+2,072</td>
<td>52.8% (2019 - 54%)</td>
</tr>
<tr>
<td>Total US MD Senior Applicants</td>
<td>19,326</td>
<td>+401</td>
<td></td>
</tr>
<tr>
<td>Total Active PGY-1 Applicants</td>
<td>60,856</td>
<td>+4,763</td>
<td></td>
</tr>
</tbody>
</table>
# SMPH Students Match Well

<table>
<thead>
<tr>
<th>Applicant Type</th>
<th>Match Rate 2020 (2019)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active Seniors MD Schools</td>
<td>94% (94%)</td>
</tr>
<tr>
<td>Seniors US DO Schools</td>
<td>91% (85%)</td>
</tr>
<tr>
<td>US Citizens Seniors &amp; Previous Grads of International Schools</td>
<td>61% (59%)</td>
</tr>
<tr>
<td>Non US Citizen Seniors &amp; Previous Grads of International Schools</td>
<td>61% (59%)</td>
</tr>
<tr>
<td>Previous Graduates MD Schools</td>
<td>45% (45%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>UWSMPH Match %</th>
<th>National Match %</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>99%</td>
<td>94%</td>
</tr>
<tr>
<td>2019</td>
<td>99%</td>
<td>94%</td>
</tr>
<tr>
<td>2018</td>
<td>98%</td>
<td>94%</td>
</tr>
<tr>
<td>2017</td>
<td>98%</td>
<td>94%</td>
</tr>
<tr>
<td>2016</td>
<td>97%</td>
<td>94%</td>
</tr>
</tbody>
</table>
Pre-SOAP 96%, Post-SOAP 99%

<table>
<thead>
<tr>
<th>SMPH MD Graduates Entering Match</th>
<th>161</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students fully matched</td>
<td>153</td>
</tr>
<tr>
<td>Matched to advanced position, no PGY-1 position</td>
<td>1</td>
</tr>
<tr>
<td>Matched to PGY-1 position, no advanced position</td>
<td>1</td>
</tr>
<tr>
<td>No match/GME</td>
<td>6</td>
</tr>
</tbody>
</table>

**Initial Pre-SOAP Match Rate** 96%

<table>
<thead>
<tr>
<th>SMPH MD Graduating Students in SOAP</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accepted categorical position</td>
<td>2</td>
</tr>
<tr>
<td>Accepted advanced position</td>
<td>1</td>
</tr>
<tr>
<td>Accepted PGY-1 position</td>
<td>3</td>
</tr>
<tr>
<td>Stayed fully unmatched</td>
<td>2</td>
</tr>
</tbody>
</table>

**Final Post-SOAP Match Rate** 99%
2020 Specialty Competitiveness

Most Competitive (>80% USMG)
- Neurological Surgery
- Orthopedic Surgery
- Otolaryngology
- Plastic Surgery
- Thoracic Surgery
- Vascular Surgery
- Med-Peds*

Less Competitive (<45% USMG)
- Family Medicine
- Internal Medicine
- Pathology
- Pediatrics*

* First time on list in past 10 years
Where are graduates going?

Students matched to very competitive specialties & programs across the country

Popular cities
- Madison (27)
- Chicago (9)
- Salt Lake City (9)
- Seattle (6)
- Minneapolis (6)
- Milwaukee (5)

26% in Wisconsin
What fields are graduates going into?

- Internal Medicine (20%)
- Emergency Medicine (15%)
- Family Medicine (11%)
- Anesthesiology (7%)
- Pediatrics (6%)

- Surgical Specialties 16%
  - General Surgery (6.5%)
  - Orthopedics (3%)
  - ENT (2.5%)
  - Plastics (1%)
  - Neurosurgery (1%)
  - Urology (1%)
  - Ophthalmology (1%)

Primary care down slightly to 38% (previous 3 year avg 43%)
<table>
<thead>
<tr>
<th>Institution</th>
<th>Matches</th>
</tr>
</thead>
<tbody>
<tr>
<td>UW Hospitals and Clinics</td>
<td>27</td>
</tr>
<tr>
<td>MCW Programs</td>
<td>5</td>
</tr>
<tr>
<td>Gundersen Health System</td>
<td>4</td>
</tr>
<tr>
<td>Advocate - Aurora Heath System</td>
<td>1</td>
</tr>
<tr>
<td>Marshfield Clinic Health System</td>
<td>1</td>
</tr>
</tbody>
</table>
Special Programs Meeting Goals

• **TRIUMPH n=18**
  - 3 WI (EM, Med-Peds & OB/Gyn)
  - 15 other (3 IM; 3 Psych, 2 Ob/Gyn; 2 Gen Surg, and 1 each in EM, Fam Med, Peds, Derm, Anest)

• **WARM n=25**
  - 15 WI (5 Fam Med, 3 IM, 3 Anest, and 1 each in Ob/Gyn, Ortho, ENT)
  - 10 other (3 Fam Med, 2 EM, and 1 each in Ob/Gyn, Peds, Anest, IM, Psych)

• **MSTP n=3**
  - 3 other (IM, Neuro, Dx Rad)
It was a GREAT Match for the 1\textsuperscript{st} ForWard Class!

- UWSMPH students did extremely well nationally
- Excellent contribution to primary care fields
- Over 25\% remain in WI (and others will return)
- All UW Health and statewide campus positions filled except for UW Baraboo Fam Med and Prelim Surgery

Thanks to the great work of awesome departmental and academic affairs faculty and staff as well as the wonderful efforts of talented, well-prepared students!
Clinical Education: COVID-19 Caveats and Challenges

- All SMPH health professional degree programs - DPT, MGCS, MD, MPAS, MPH – (as well as grad students and residents) greatly impacted.
- All moved exclusively to online remote learning per UW Campus guidelines for current curriculum to keep all cohorts on track for their graduations.
- All UW Health, Statewide campus, and most national clinical sites have been completely closed to student learners since mid-March.
- All national accreditation bodies (i.e. LCME) and national organizations (i.e. AAMC) have been calibrating the course and providing guidelines for navigating curriculum and services during the COVID-19 crisis.
- All non-clinical summer education and non-credit activities will be virtual per UW Campus guidelines.
Graduating Seniors: Changes and exceptions made to facilitate on-time virtual graduation (May 7, 10 AM streaming MD grad recognition ceremony)

Phase 1: Online courses with remote clinical skill learning and exams; virtual summer research and learning activities; no global health travel

Phase 2: Restructured learning activities with all online didactic learning through 6/19; remote NBME exams starting this week; 8-week blocks of hands-on clinical learning beginning July 6; student safety and clinical teaching capacity across specialties and sites are key to success

Phase 3: Multiple online courses developed and delivered; now beginning 2 courses (Clinical Therapeutics and Preparedness), more online courses as well as clinical rotation pilots beginning 5/26; full clinical experiences planned to begin 7/6; close partnerships with sites and departments essential for new "Pre-ERAS" scheduling process

No visiting students through at least 9/1/2020
Major Challenges for Phase 3 Students

- Cancellation of many spring clinical courses including key acting and sub-internships
- Loss of clinical experiences impacts specialty & career decision making options
- Cancellation of away rotations with very little likelihood of rescheduling may impact residency options
- Postponement of USMLE Step 2CK and 2CS creates uncertainty in schedules and may impact match opportunities

Significant uncertainty remains about what clinical experiences we can offer and where and when we can offer them amid ongoing LCME requirements for sufficient and equitable clinical learning experiences at all sites
Current National Questions Being Asked and Discussed

• Should away rotations and visiting student rotations be suspended or altered?
• Should residency application, MSPE, interview, and/or Match dates be changed?
• Should restrictions on the numbers of applications, letters, and/or interviews be imposed?
• Should in-person residency interviews take place?
• Will future COVID-19 surges drive additional changes to clinical opportunities?

and many others…
Key Goals for Phase 3 Students:

1. Meaningful specialty exposure and clinical experiences for career preparation

2. Sufficient opportunities to obtain key letters and build a strong residency application

3. Successful match for M4s in May 2021 with grads well trained for launch into residency!
What Are We Doing To Help Rising M4 Students?

• Working with student services, department & division champions, ACAPT mentors, statewide site champions

• Creating specialty “homes” for rising M4 students and connecting students with their “champions”

• Building individual M4 summer/early fall schedules between now and June 8

• Piloting clinical rotations with some M4 students, in some specialties, at some sites starting May 26

• Allowing all M4 students to start clinical rotations July 6
Think, Teach, and Test Differently….

- Include more non-face to face experiences as patient care learning activities
- Develop key longitudinal relationships between faculty and students
- Realign limited clinical time with prioritized learning objectives and outcomes
- Evaluate many important clinical skills without direct patient contact
- Collaborate and brainstorm across units, departments, programs, sites
- Be flexible, nimble, and learner focused while patient/population centric

Monitor student health and wellness
Maximize clinical learning resources
Maintain high quality education
Minimize PPE use, maximize social distancing
Make sure students have great career options
Thank **YOU** for your time, talent, tenacity, and thoughts!
COVID-19 Response Update: Global and Local Efforts

David Andes, Professor and Chief of Infectious Disease, Department of Medicine
Outline

- COVID Summary
- Testing
- Epidemiology
- Treatment
- Prevention
- UW Research Innovation
## COVID US Update ~ 4 months in

<table>
<thead>
<tr>
<th>Location</th>
<th>Cases</th>
<th>Deaths/Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>World</td>
<td>2.7 million</td>
<td>192,982 (7%)</td>
</tr>
<tr>
<td>US</td>
<td>871,285</td>
<td>48,257 (6%)</td>
</tr>
<tr>
<td>Wisconsin</td>
<td>5,052 (1st Mar 4)</td>
<td>257 (5%)</td>
</tr>
<tr>
<td>Dane Country</td>
<td>399</td>
<td>21 (5%)</td>
</tr>
</tbody>
</table>

- Pandemic (~ 200 countries)
- US heterogeneity (epicenters: Washington State, NY, New Jersey, New Orleans, Detroit)
- Up to 50% asymptomatic, 15% ill enough to seek medical attention
- 50% hospitalized become critically ill, 80% mortality in ventilated patients
- Wide mortality range (0.2% S Korea to 12.7% Italy) — age and comorbidities
- No studies have affirmed efficacy of any therapeutic
- Stressed healthcare infrastructure (testing, beds, ventilators, PPE, staff)
- Social distancing has flattened the curve
- Inadequate testing assays and supplies
Testing
COVID Detection

- FDA Emergency Use Authorization
  - COVID RT PCR tests 43 (4/14/20)

- Total Global tests 4/23 >20 million
- Total US tests 4/23 4,692,235
- Total WI tests 4/24 56,709

https://covidtracking.com/data
COVID RT-PCR Detection – State Lab

% Positive SARS-CoV-2 by PCR (Wisconsin), Week Ending April 11, 2020

- No. SARS-CoV-2 Tested
- % Pos. for SARS-CoV-2

Alana Sterkel
UW Health Clinical Laboratories COVID-19

### NUCLEIC ACID EXTRACTION
- **3 Roche MagNA Pure Extractors**

### AMPLIFICATION AND DETECTION
- **3 Roche Light Cycler 480s**

### THROUGHPUT
- **350 results/day**

### Supply Chain Dependability
- **UNPREDICTABLE**

---

### NUCLEIC ACID EXTRACTION
- **1 Promega MaxPrep Liquid Handler**
- **2 Promega Maxwell Extractors**

### AMPLIFICATION AND DETECTION
- **3 Roche Light Cycler 480s**

### THROUGHPUT
- **500 results/day**
- **BATCH Mode**
- **(In LAB TAT: 10 hours)**

### Supply Chain Dependability
- **HIGH (PROMEGA)**
- **(>5,000 tests as of 04/20/20)**

---

### NUCLEIC ACID EXTRACTION
- **2 Hologic Panther Fusions**
  - (Integrated extraction and amplification/detection)

### AMPLIFICATION AND DETECTION
- **3 Roche Light Cycler 480s**

### THROUGHPUT
- **1700 results/day**
- **Semi-Random Access**
- **(In LAB TAT: 4-5 hours)**

### Supply Chain Dependability
- **UNPREDICTABLE/IMPROVING**
- **(>5,000 tests as of 04/20/20)**
- **High**
  - (UW Health allotted 60,000 tests on 5/29)

---

### NUCLEIC ACID EXTRACTION
- **Cepheid Xpert Express**
  - (Integrated extraction and amplification/detection)

### AMPLIFICATION AND DETECTION
- **Cepheid Xpert Express**

### THROUGHPUT
- **100 results/day**
- **Random Access**
- **(In LAB TAT: 1-2 hours)**

### Supply Chain Dependability
- **LOW/UNKNOWN**
- **(~500 tests as of 04/20/20)**
COVID RT-PCR Detection - UWHC

- 100s/day, >6000 total
- TAT 5-10 h
- All positives called to provider real time (please don’t call lab)
- Sensitivity ~ high 90s
- Repeat inpatient tests at UW=65, all negative
- UW all 236 repeat tests (97% neg)
UW Campus Testing Innovations

- **LAMP** (Loop-mediated isothermal amplification)
  - No need for nucleic acid extraction (supply chain)
  - Low tech/cost (lower resource settings)
  - Rapid (1h) and large capacity
  - Initial testing – good sensitivity/specificity

- **RT-PCR Optimized Saliva**
  - No need for swabs (supply chain)
  - Reduced HWC risk

- **Virus sequencing**
  - Population health epidemiology

Dave OConnor, Tom Friedrich, David Beebe
Epidemiology
COVID Epidemiology – The Crystal Ball

Variables that impact predictions

- Doubling time (incubation period/infectious phase)
- Mitigation strategies

<table>
<thead>
<tr>
<th>Model</th>
<th>Peak Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>IHME (Univ Washington)</td>
<td>Mid-April</td>
</tr>
<tr>
<td>ACT-NOW (Georgetown)</td>
<td>July</td>
</tr>
<tr>
<td>AFI DSI (Univ Wisconsin)</td>
<td>Late summer/Early fall</td>
</tr>
</tbody>
</table>

George Box, UW Prof of Statistics
“All models are wrong; some models are useful.”

American Family Insurance – Data Sciences Institute
COVID Social Distancing

- Anonymized cell phone data
- Distance traveled as measure of adherence to social distancing
- WI Stay at home order March 25
- $R_0$ (reproductive number) change from 2-3 to <1
- Doubling time change from 3d to 3 weeks

Song Gong – UW Geography
Wisconsin COVID Cases Over Time

https://91-divoc.com/pages/covid-visualization/
Dane County COVID Cases Over Time

New cases:

https://geodacenter.github.io/covid/map.html
Return to “Normal” Modeling and Badger Bounce Back

Wisconsin Plan

- Three phase based upon gating criteria
- Box in the Virus – Testing, Tracing, Tracking
- Testing 85,000/week, Tracing (1,000 additional staff) and Tracking

Ryan Westergaard
COVID Serologic Testing

- 70 entities listed (FDA) as developing assays
- Two primary commercial approaches
  - Rapid lateral flow assay (POC 10-30 min – yes/no)
  - ELISA (1-5 h, can be qualitative or quantitative)
- SLH under consideration
- UWHC – 1-2 weeks away
- Promega under development
- CAVEATS
  - Cross reactivity (Non-COVID-19)
  - Protective (neutralizing) Ab?
COVID Treatment – Sift and Winnow

☑️ No studies have affirmed efficacy of any therapeutic

☑️ ClinicalTrials.gov
  ▪️ 692 COVID trials
  ▪️ 442 treatment (179 active recruitment)
    ■ 24 Phase 1 – 78 Phase 2 – 61 phase 3

☑️ WHO trial database
  ▪️ 1135 COVID trials

☑️ Treatment group (Misch/Schulz)
  ▪️ >33,000 documents
  ▪️ Poor quality data

https://covid19treatmentguidelines.nih.gov/
COVID Treatment – Sift and Winnow

Sanders et al
JAMA Apr 13
2020
COVID Treatment – Sift and Winnow

Sanders et al
JAMA Apr 13 2020
COVID Treatment

- Convalescent Serum from recovered COVID-19 patients
  - FDA authorized 3/25/20
  - Theory – passive antibodies for viral neutralization and/or Ab dep cytotoxicity or phagocytosis
  - History – 1890s pneumococcal pneumonia, polio, measles, mumps, HBV, Rabies, RSV, Influenza (including 1918 H1N1), Ebola, SARS1 ‘02 and MERS ‘12, China COVID-19
  - Effect can last weeks to months
  - Risk - TRALI, ADE, Blunt host Ab
COVID Treatment

- Convalescent Serum from recovered COVID-19 patients
  - 40 University Consortium (compassionate use)
  - COVID infected (symptom free 14d and RT-PCR negative at collection (Exact Sciences)
  - American Red Cross plasma collection (other viral/other screen negative)
  - Severe or Life-threatening patients eligible
  - 1-2 units 0, 2, 4, 6, and 8 days

- UW Nearly 100 donors, plasma ready from 43, 1st patient 4/12 and 12 treated so far (>600 nationally)!

- Until 8 pm - pager 0795, 608-262-8300 or uwcovid19project@hslc.wisc.edu
Aggregate UWHC N=46 (as of 4/21)

- Average age 62, range 36-93
- Risk groups
  - DM 26%, Obesity 30%, Hypertension 50%, immunosuppressive medication 13%
- ICU 40%, IMC 14%, General care 46%
- Days from symptom to ICU 9.5d
- Ventilator 32% (47% extubated so far)
- ARF 9%
- Chloroquine or HCQ 70%, Convalescent plasma 16%
- Mortality 9.3%
- Discharged 47%
Prevention
COVID PPE Importance

- HCW risk of COVID is considerable
- HCW infection: >3000 China - 10,000 in Italy
- US Data similar
  - 9,282 cases (3% of cohort)
    - 55% with only health care setting contact
  - Sloan-Kettering 27% HCW infection rate
  - UW 46 cases (0.3% rate), tested >17% population, no hospitalizations (none linked to care of COVID patient care)
- UWHC Simulation Center
  - In person donning/doffing training for >2,200 HCW
## COVID Prevention - PPE

- N-95 supply chain challenges
- N-95 Reuse - Sterilization

<table>
<thead>
<tr>
<th>Method</th>
<th>Sterilization</th>
<th>Fit/Filtration</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>H₂O₂ vapor</td>
<td>+</td>
<td>+</td>
<td>In house (~200/d) 10X 3M tested</td>
</tr>
<tr>
<td>UV light</td>
<td>+/-</td>
<td>-</td>
<td>Fit change</td>
</tr>
<tr>
<td>Ozone</td>
<td>-</td>
<td>+</td>
<td>Not sterilizing</td>
</tr>
<tr>
<td>Steam autoclave</td>
<td>-</td>
<td>+/–</td>
<td>Fit change</td>
</tr>
<tr>
<td>C₂H₄O</td>
<td>+</td>
<td>+</td>
<td>Off-gassing</td>
</tr>
</tbody>
</table>

Nasia Safdar/John Marx
Supply Chain - Research Innovation
## COVID – Campus Supply Chain Innovation

<table>
<thead>
<tr>
<th>Supply Chain</th>
<th>Source</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Face Shields</td>
<td>UW Engineering</td>
<td>1000s/day (1.8M)</td>
</tr>
<tr>
<td>PAPRs</td>
<td>UW Engineering</td>
<td>100s</td>
</tr>
<tr>
<td>Intubation box</td>
<td>UW Engineering</td>
<td>10</td>
</tr>
<tr>
<td>Test swabs</td>
<td>UW Engineering</td>
<td>100s/day</td>
</tr>
<tr>
<td>Surgical masks</td>
<td>UW Engineering</td>
<td>?</td>
</tr>
<tr>
<td>Viral media</td>
<td>Wi Vet Diag Lab</td>
<td>10,000/week</td>
</tr>
<tr>
<td>ETOH hand gel</td>
<td>Sch of Pharmacy</td>
<td>&gt;100 gallons</td>
</tr>
</tbody>
</table>

Lennon Rodgers, Gordon Novak, Greg Nellis, Peter Adamczyk, Jesse Darley, Corin Frost, Brian Ellison, Ryan Anton, Josh Roth, Jim Rasmusson, Ed Elder, Karl Williamson
COVID Immunity - Vaccines

- 115 vaccine candidates
- 73 preclinical
- 5 clinical trials
- Unknowns
  - Best target
  - Route
  - Duration of immunity

<table>
<thead>
<tr>
<th>Technique</th>
<th>Sponsor</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>LMP-encapsulated mRNA</td>
<td>Moderna</td>
<td>Phase 1 (NCT04283461)</td>
</tr>
<tr>
<td>NR Adenovirus vector</td>
<td>CanSino Biologicals</td>
<td>Phase 2 (NCT04313127)</td>
</tr>
<tr>
<td>DNA plasmid</td>
<td>Inovio Pharma</td>
<td>Phase 1 (NCT04336410)</td>
</tr>
<tr>
<td>Lentivirus vector</td>
<td>Shenzhen Geno-IMI</td>
<td>Phase 1 (NCT04276896)</td>
</tr>
<tr>
<td>Lentivirus vector</td>
<td>Shenzhen Geno-IMI</td>
<td>Phase 1 (NCT04299724)</td>
</tr>
</tbody>
</table>
COVID Vaccine UW

- UW/FluGen/Bharat Biotech
  - CoroFlu
    - Incorporates SARS-CoV-2 spike protein sequence into existing intranasal M2SR Influenza vaccine
    - Lacks gene M2 needed for continued replication (i.e. self-limited/replicates only once in cell and stimulates immune response)
    - Currently in preclinical – animal model phase

Yoshi Kawaoka/Gabriele Neuman
Nearly 50 COVID biosafety protocols and IRB applications in April

Nearly 200 COVID Wisconsin Partnership Program applications

EHR database (Mathew/Safdar)

Acute infection biobank (Matkowskyj)

Convalescent biobank (Shelef)
COVID Surge
COVID Surge

WEBEX MEETINGS Mar 15 – Apr 11

54,414 meetings ↑ 800%
1,975,688 minutes ↑ 618%
248,782 participants ↑ 1216%
Acknowledgments

- Peter Adamczyk
- Jennifer Bonifas
- Jim Conway
- Derrick Chen
- Tom Friedrich
- William Hartman
- Andrea Ladd
- John Marx
- Betsy Nugent
- David O’Connor
- Jennifer Parnell
- William Rehrauer
- Lennon Rodgers
- Nasia Safdar
- Theresa Teske
Questions?

What types of jokes are allowed during quarantine?
- Inside jokes!

Thank you everyone on the frontline.
Open for Questions, Comments, and Discussion