



COVID-19 & FOOD SAFETY GLOBAL SUMMIT

Global Host – International Association for Food Protection

Sponsored by Marler Clark LLP PS

Wednesday, July 29, 2020

Official Media
Food Safety News

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- It is important to note that all opinions and statements are those of the individuals making the presentations and not necessarily the opinion or view of IAFP.
- This webinar is being recorded and will be available for access for paid registrants at www.foodprotection.org within two days.

Welcome

William Marler, Managing Partner, Marler Clark LLP PS
&
David Tharp, Executive Director,
International Association for Food Protection (IAFP)



William Marler
Marler Clark LLP PS



David Tharp
IAFP



William Marler

Managing Partner

Marler Clark LLP PS



David Tharp

Executive Director,
International Association for Food Protection (IAFP)

COVID-19 & Food Safety Global Summit



Global Host

COVID-19 & Food Safety Summit



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Our mission is to provide food safety professionals worldwide with a forum to exchange information on protecting the food supply

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IAFP Publications

Electronic newsletter
featuring Association
updates, global news
and resources, and
topics of interest to
food safety
professionals

*Sent monthly
to Members*

July 2020, Vol.14, No. 7

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IAFP Report



No doubt, a lot of people are taking advantage of the “downtime” due to COVID-19 to continue learning. Of course, reading is one of the best ways to learn more — about your profession (or another), about current events, about a person or period in history, or maybe just for the temporary escape a good book or publication can provide. IAFP offers our Members and food safety professionals worldwide another way to learn — virtually through our variety of **free** one-hour webinars, sponsored by the IAFP Foundation. Participants can learn more about various areas of the food safety profession, thanks to national and international presenters who share knowledge in their fields of expertise. We also have an expansive archive of webinars dating back to 2009 and available *exclusively* for IAFP Members, so you never have to miss out! We encourage you to continue your learning by participating in our upcoming webinars, which have proven to be very popular, especially during these months of physical distancing. To learn more about our future webinars or to hear one you may have missed, visit the IAFP website and go to the Events and Meetings tab. And if you have an idea for a webinar, let us know!

IAFP Annual Meeting
the leading food safety conference



Other International Conferences



China International Food Safety & Quality Conference + Expo

November 4 - 5, 2020
Shanghai, China

Professional Development Groups (PDGs)

Advanced Molecular Analytics

Applied Laboratory Methods

Beverages and Acid/Acidified Foods

Dairy Quality & Safety

Developing Food Safety Professionals

Food Chemical Hazards/Food Allergy

Food Defense

Food Fraud

Food Hygiene & Sanitation

Food Law

Food Packaging

Food Safety Assessment, Audit
& Inspection

Food Safety Culture

Food Safety Education

Fruit & Vegetable Safety & Quality

HACCP Utilization & Food Safety Systems

International Food Protection Issues

Low Water Activity Foods

Meat & Poultry Safety & Quality

Microbial Modelling & Risk Analysis

Pre Harvest Food Safety

Retail & Foodservice

Sanitary Equipment & Facility Design

Seafood Safety & Quality

Student

Viral & Parasitic Foodborne Disease

Water Safety & Quality



- **Exchange**
- **Inform**
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US\$55

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Session I

Moderator: Junshi Chen

COVID-19, food safety and security – a global perspective

Markus Lipp, Senior Food Safety Officer, Food Safety & Quality Unit,
Food & Agriculture Organization

COVID-19 – What are risk-based official controls?

Gudrun Galhoff, Minister Counsellor for Health and Food Safety,
Delegation of the European Commission to China

FDA's Food Program Response to COVID-19

LeeAnne Jackson, CFSAN Food Lead – 2019 Novel Coronavirus FDA IMG FDA Co-Chair,
Food and Agriculture Sector Government Coordinating Council U.S. Food & Drug Administration

Investigation into China's recent food-related COVID-19 outbreak

Junshi Chen, Senior Research Professor & Chief Scientific Advisor,
China National Center for Food Safety Risk Assessment

Panel Discussion Topics:

- What are the biggest global threats from this pandemic?
- Food import control associated with COVID-19
- How can regulators support food safety and food security in times of a pandemic?
- What is the role of other stakeholders (industry and consumers)?

Moderator



Junshi Chen
CFSA



Markus Lipp
Food Agriculture
Organization



Gudrun Gallhoff
European Commission



LeeAnne Jackson
U.S. FDA



Markus Lipp

Senior Food Safety Officer
Food Safety & Quality Unit
Food & Agriculture Organization



Gudrun Galhoff

Minister Counsellor for Health and Food Safety
Delegation of the European Commission to China

What are risk-based official controls?

Risk-based control programmes - benefits and challenges



- risk categorisation
- allocate resources to high risk/maximum impact areas
- reasonable assurances as to the level of compliance
- improve public confidence - justify resources
- legislative obligations
- balance different risks
- sufficient knowledge of activities
- keep low risk operations under review
- determine the frequency of controls
- flexibility for new, emerging risks
- distortion of risk categorisation by outside intervention
- certification requirements

COVID-19 – What are risk-based official controls?

Gudrun Gallhoff 高德蓉 Minister Counsellor for Health and Food Safety 公使衔参赞 卫生与食品安全事务 Delegation of the European Union to China 欧洲联盟驻华代表团



What risk is COVID-19?

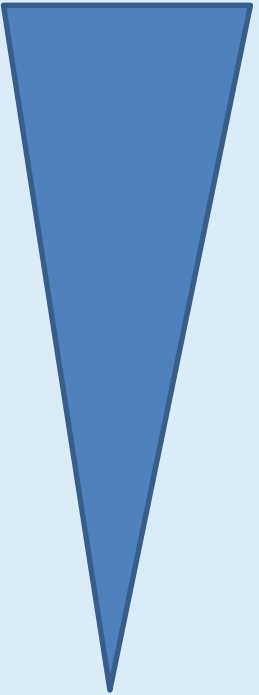


Disease transmission

- infected people release droplets /aerosols in crowded, confined indoor spaces including factories + restaurants
- susceptible live animals
- goods (food, packages) and other fomites

high

low



COVID-19 – What are risk-based official controls?

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What risk is COVID-19?

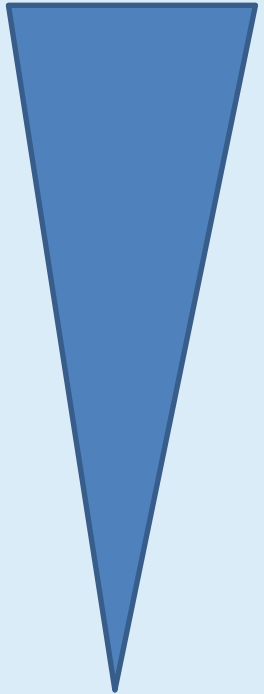


Food safety and food security

- neglect of planned control activities
- new risks through process modification and substitution of ingredients
- compromised food security
- hungry, malnourished people

high

low



COVID-19 – What are risk-based official controls?

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What are risk-based controls COVID-19 times?



- balance risks (disease transmission, food safety/security)
- simple, cost and resource saving
- flexible and modular
- easy to understand for all stakeholders (transparency)
- documented – evidence for decision-making
- continuous improvement/adaptation to new science insights

COVID-19 – What are risk-based official controls?

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LeeAnne Jackson

CFSAN Food Lead – 2019 Novel Coronavirus FDA IMG

FDA Co-Chair

Food and Agriculture Sector Government

Coordinating Council

U.S. Food & Drug Administration



Junshi Chen

Senior Research Professor & Chief Scientific Advisor
China National Center for Food Safety Risk Assessment



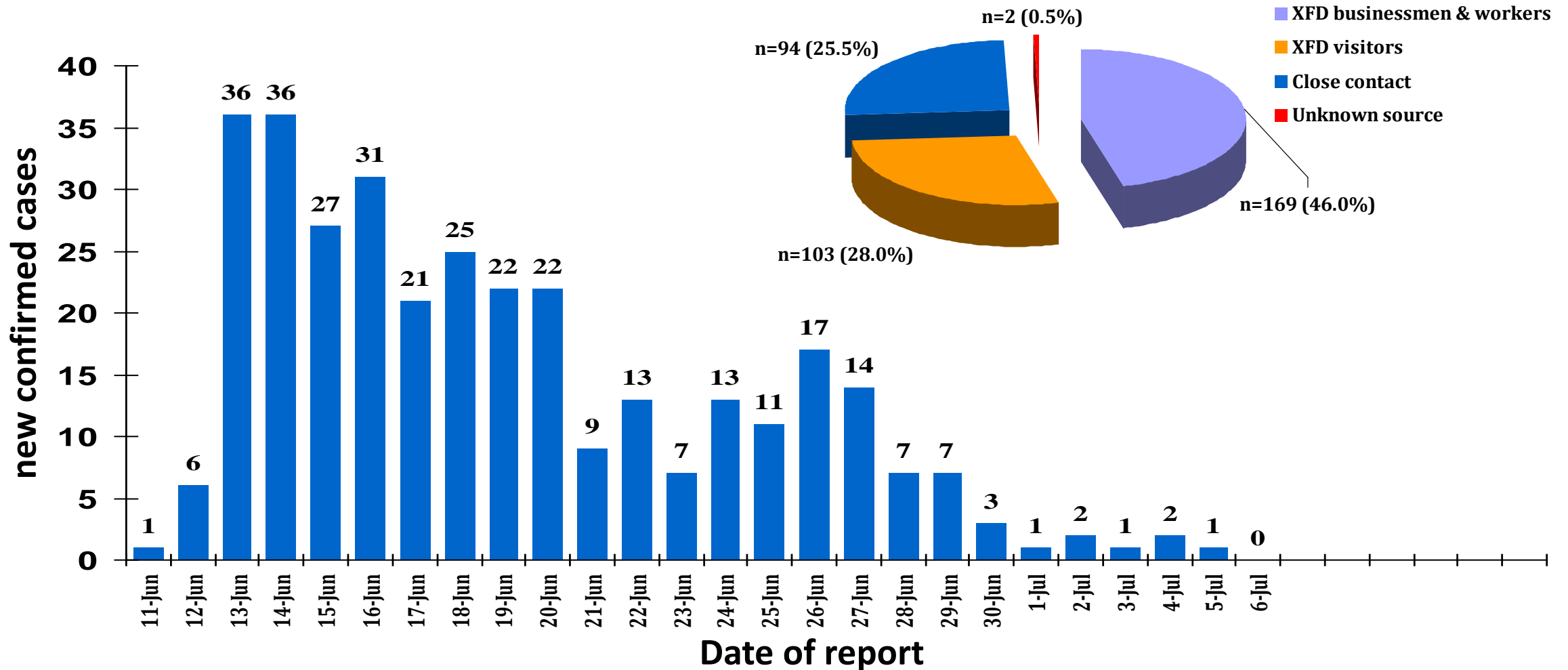
Investigation into China's Recent Food-Related COVID-19 Outbreaks

Junshi Chen

China National Centre for Food Safety Risk Assessment

New confirmed COVID-19 cases by dates during Xinfadi outbreak

(N = 368, new confirmed cases 335 & asymptomatic cases 33)



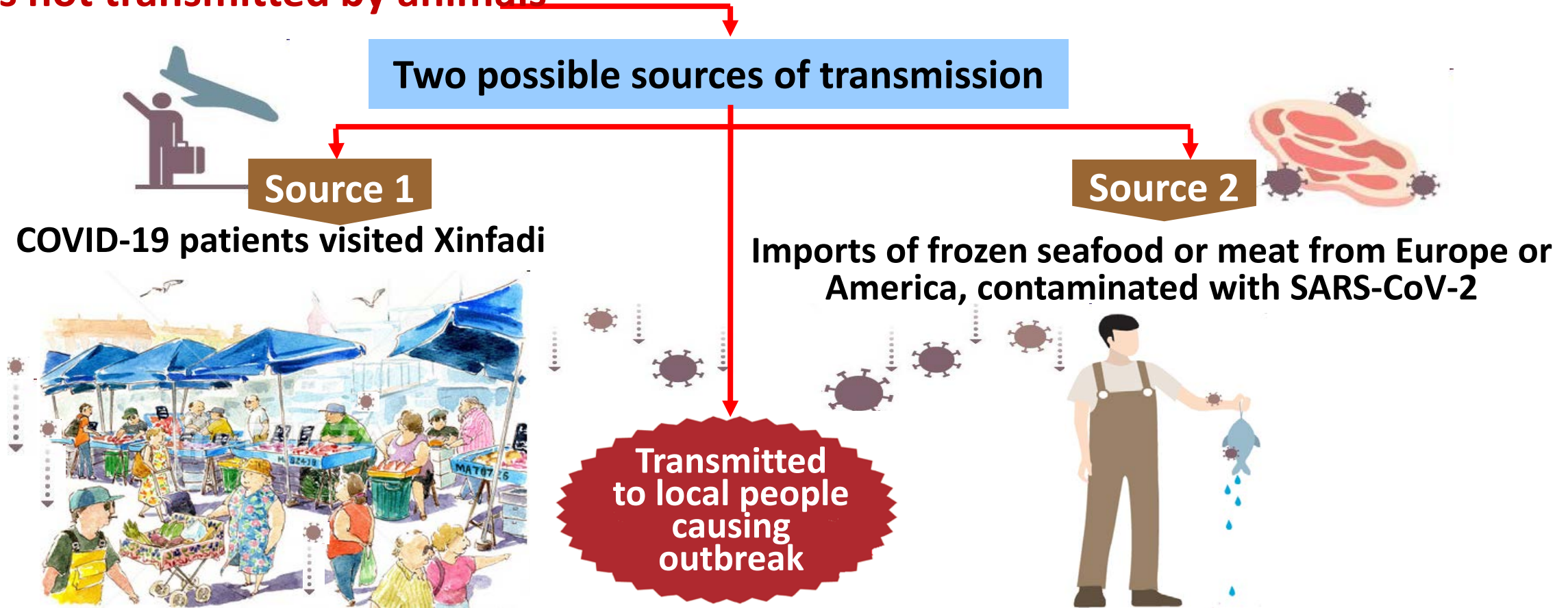
368 cases (99.5%) linked to Xinfadi market

Findings from the Xinfadi outbreak

SARS-CoV-2 isolates

- Strains different from Wuhan or Beijing before April, 2020
- Highly contagious, significantly more infectious than Wuhan or Beijing strains

Cases not transmitted by animals



Current consensus of experts?

- **Possible Source 1:** Person-to-person transmission, not local (Beijing) origin, based on the DNA sequencing of SARS-CoV-2 strains isolated from Xinfadi cases.
- **Possible Source 2:** Food-to-person transmission, multiple SARS-CoV-2 positive samples found in Xinfadi, including salmon chopping board, raw food samples (sea food and meats) and environment samples.
- **Investigations still on-going, no direct evidence of either possible source.**



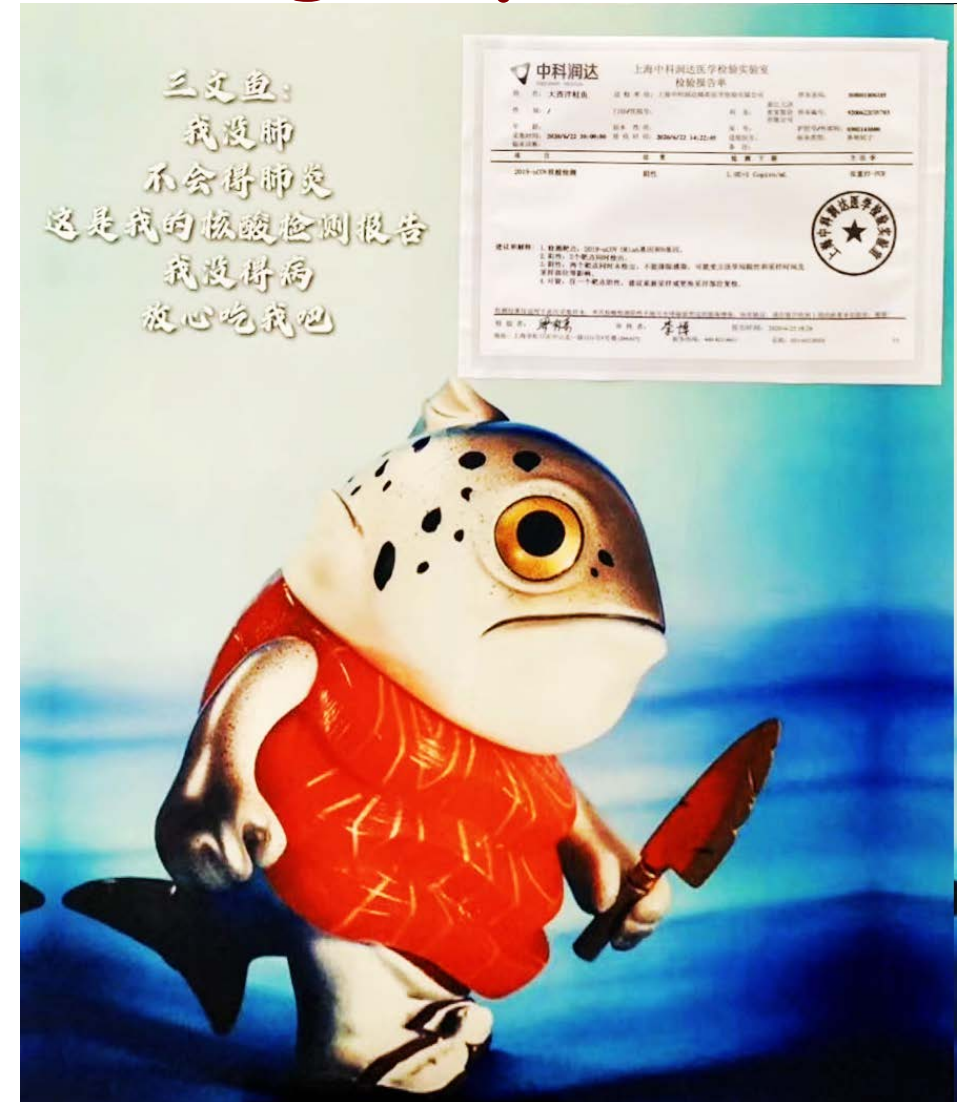
Impact on food safety

- **Regulatory control – immediate closure of Xinfadi market, all seafood and meat removed and destroyed as medical waste 2 weeks after the beginning of the outbreak.**
- **Suspension of sale/serving of salmon and other seafood by supermarkets/restaurants in Beijing.**
- **Large scale sampling and testing on imported seafood and meat.**
- **Confusing media reports led to consumers' concern about buying, cooking and eating seafood. Nucleic acid positive samples from Ecuador white shrimp package.**

Each salmon dish served in restaurants carries a nucleic acid testing report

Salmon:

- I have no lungs
- I do not infect COVID-19
- This is my testing report
- I am not infected
- Please don't worry to eat me





Lessons learned

- Further research is needed to determine whether there are live SARS-CoV-2 virus in nucleic acid positive food samples as well as the amount of live virus on the contaminated food.
- Regulatory control measures should be science-based.
- Negative psychological effects > food safety risks.
- Effective communications from beginning of the crisis.



Session I

Questions & Answers

Session II

Moderator: Donald W. Schaffner

Panelists:

Donald W. Schaffner, Ph.D. Distinguished Professor and Extension Specialist, Rutgers University

Benjamin Chapman, PhD, Professor and Extension Specialist, North Carolina State University

Lawrence Goodridge, Leung Family Professor in Food Safety; Director, Canadian Research Institute for Food Safety; Director, Food Safety & Quality Assurance MSc Program, Department of Food Science, University of Guelph

Moderator



Donald W. Schaffner
Rutgers University



Benjamin Chapman
North Carolina State University



Lawrence Goodridge
University of Guelph



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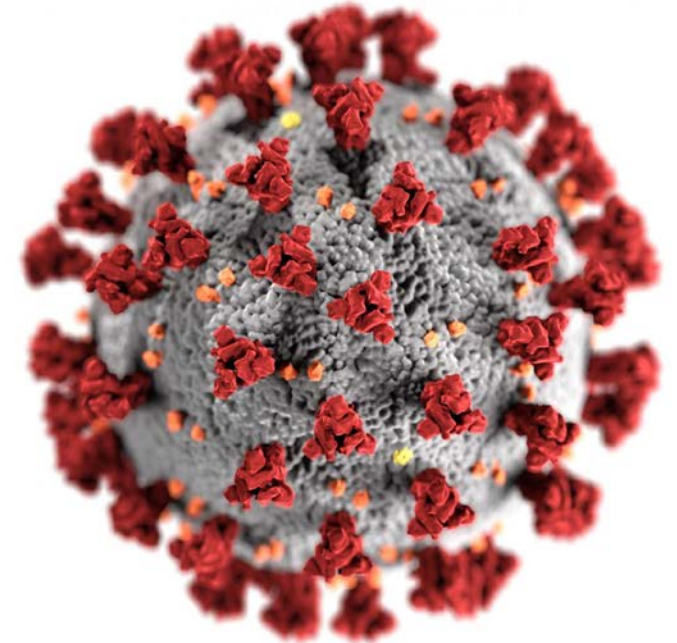
Director

Food Safety & Quality Assurance MSc Program

Department of Food Science, University of Guelph

Session II, Schaffner, Chapman, and Goodridge

- What is currently known from the published literature regarding SARS-CoV-2 best practice management information to the food industry?
- What are the critical knowledge gaps in that information according to food industry stakeholders?
- What lab research is needed with surrogate organisms and SARS-CoV-2 to fill those gaps?
- How can we best translate new knowledge to create best practices and promote risk reduction?



Session III

Moderator: Kali Kniel

- Best practices for implementing physical distancing
- Suppliers and food chain dynamics
- International Issues in Food Production
- Practical considerations around the overall risk-based COVID-19 management approach, elements of appropriate training programs, and factors for primary production.
- An overall risk-based approach for COVID-19 management will include considerations for implementing an optimal hygiene program.
- AOACRI Emergency Response Validation for Detection of SARS-CoV-2 on Surfaces
- How might wastewater surveillance fit into the big picture of detection and control?

Panelists:

John Donaghy, Head of Food Safety, Nestle S.A.

Michelle Danyluk, Professor, Food Science, University of Florida

Ruth Petran, Senior Corporate Scientist, Food Safety & Public Health, Ecolab

Sharon Brunelle, AOAC Technical Consultant

Kali Kniel, Professor, Microbial Food Safety,
Department of Animal & Food Sciences, University of Delaware

Moderator



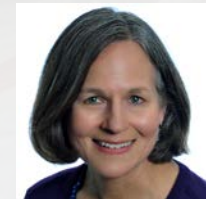
Kali Kniel
University of Delaware



John Donaghy
Nestle S.A.



Michelle Danyluk
University of Florida



Ruth Petran
Ecolab



Sharon Brunelle
AOAC

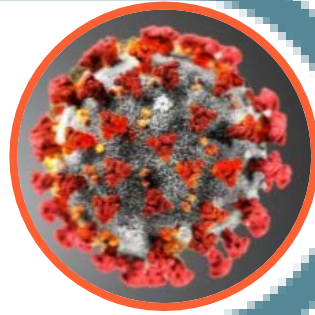


John Donaghy

Head of Food Safety
Nestle S.A.



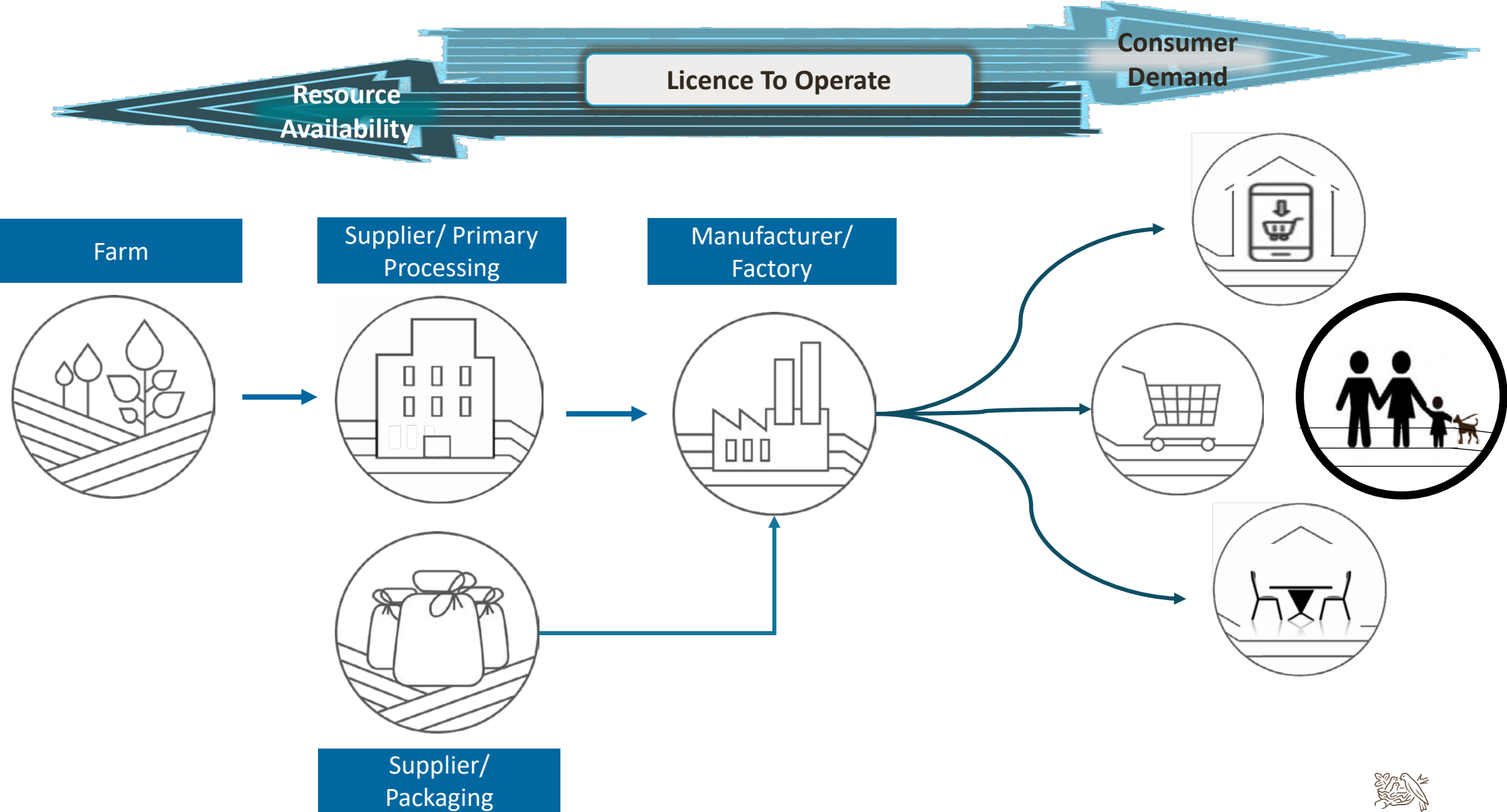
Nestlé Good food, Good life



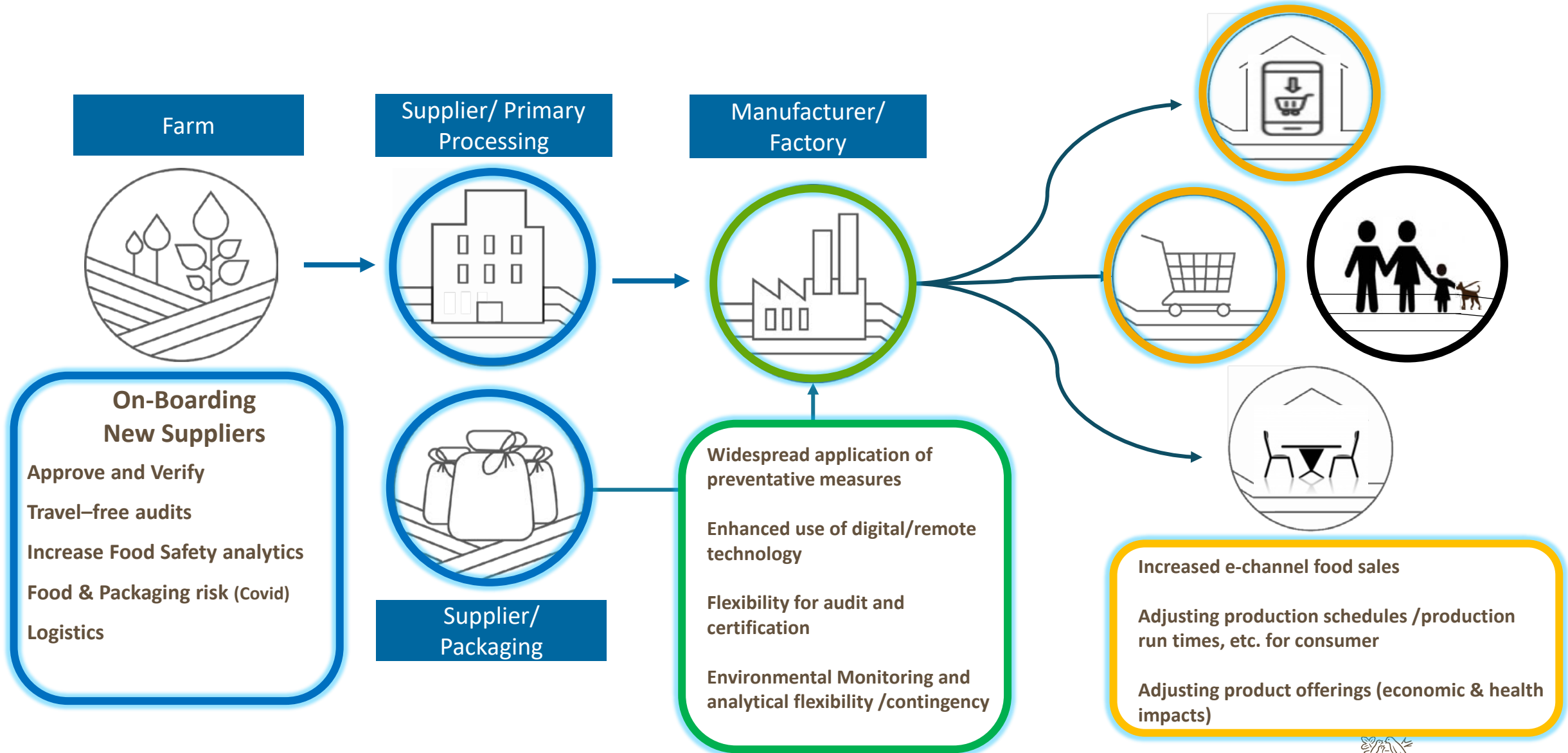
John Donaghy
Nestlé

**Navigating COVID in the Food
Supply Chain**

Lessons from Land to Lockdown



Agility Needed at All Steps of Supply Chain



Hierarchy of control – Engineering and Administrative solutions

Physical Distancing:
Not just in the Production
Area

(Face) Mask Wearing
PPE or Not PPE

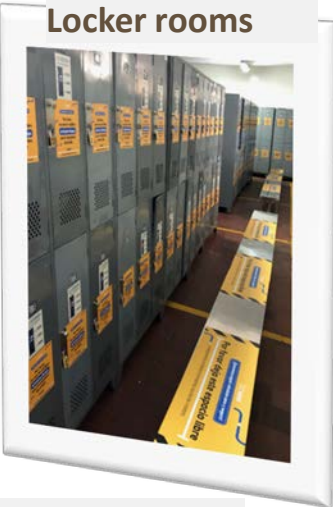
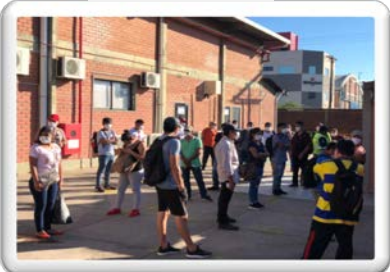
Hierarchy of Controls



Transport

Check-Ins

Locker rooms



Canteens/Break-out rooms

Production Lines



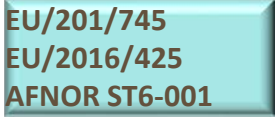
To wear or not to wear

Availability & which mask to use –
PPE or source control

Certification, Standards, Criteria,
Compliance

Procure, train/educate on wearing,
disposing, reuse

Assessing occupational risk in
higher environments





Michelle Danyluk

Professor

Food Science

University of Florida

Employee Training



<https://foodsafety.ces.ncsu.edu/covid-19-resources/>

NORMAL FOOD SAFETY TRAINING

Bacteria bias

Focuses on fecal-oral route

Emphasis on hand hygiene/washing & personal hygiene around fecal-oral and zoonosis

Focus on cleaning and sanitizing zone 1

Emphasis on the “why”

Well established protocols and practices

UNIQUE TO COVID

Viral pathogen

Respiratory, person- person transmission

Exposure risks outside the workplace

Focus on cleaning and sanitizing touch points

Mask use as PPE

Rapidly changing information and recommendations

Social Distancing

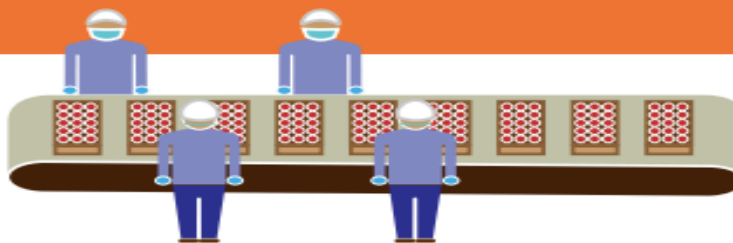
BAD:

Workers are in too close contact: Less than 6 feet apart either beside or across from each other, not wearing a cloth face covering/mask.



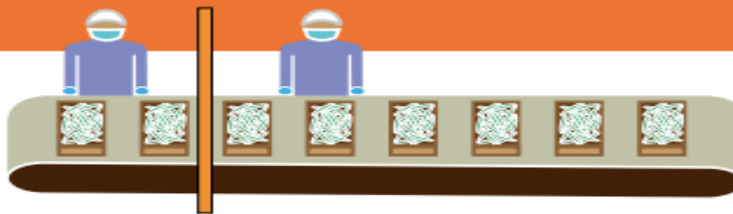
BETTER:

Workers are at least 6 feet apart and not facing one another; workers wear a cloth face covering/mask.



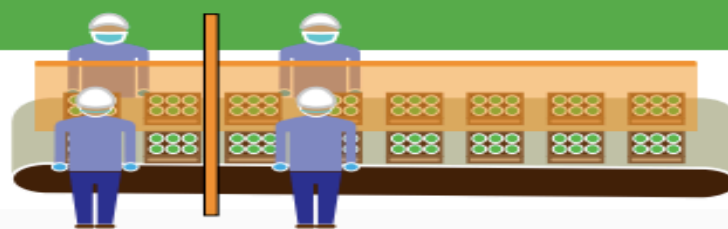
BETTER:

Physical barriers are used as partitions to keep workers separated; workers wear a cloth face covering/mask.



BEST:

Physical barriers are used to partition both between workers side by side and across from one another; workers wear a cloth face covering/mask.



Risk as a spectrum -
6 Feet is not a magical
number that the virus
can't move beyond



Figure 3. Please keep 6 feet beet-ween you and others sign example. (Theresa J. Nartea, Virginia Cooperative Extension)

https://www.pubs.ext.vt.edu/content/dam/pubs_ext_vt.edu/FST/fst-372/FST-372.pdf

Challenges with COVID Training

Lack of concern

- Its fake, just the flu
- Morbidity issues not just mortality

Lack of hard science

- Constantly changing messages

Understanding of transmission

- Pre/asymptomatic Transmission

Agricultural workers

- outside is no risk

Mask/face covering use

- How to wear (i.e. covering nose)
- Hot and uncomfortable
- Disbelief of efficacy

No direct emotional connection

Trainer experience

“My rights”

Vaccine reluctance

Social distancing/remote trainings

Risk factors outside of the work place

- You can only catch this at work

Trust of employees

- Convincing them you care if they get sick

Misinformation in media/social media

Exploring fact vs fiction: COVID-19 YouTube and Misinformation



Grocery Shopping Tips in COVID-19

You should wash fruits and vegetables in soap or a bleach solution = FALSE

Exploring fact vs fiction: COVID-19 TV and Misinformation



Stated you can use “any disinfectant; they are all effective”.
NOT TRUE – check EPA List N



Ruth Petran

Senior Corporate Scientist
Food Safety & Public Health
Ecolab

CHALLENGE

How to optimally manage risks of a new illness agent that we are still learning about

APPROACH

Rely on classic risk assessment principles

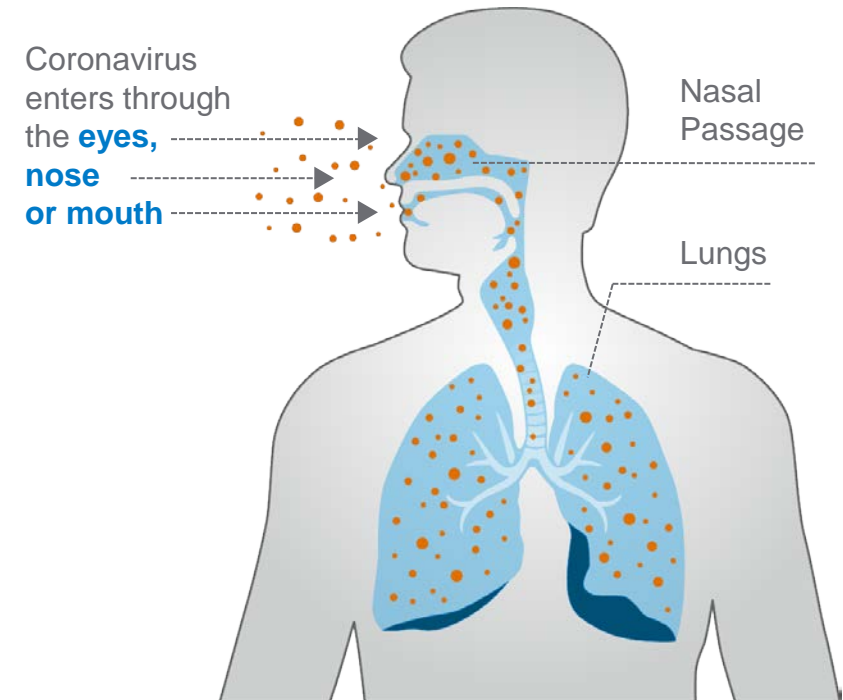
Risk Identification → Risk Management

HOW DOES CORONAVIRUS SPREAD?

It depends on the particular coronavirus.

Human coronaviruses **spread by respiratory droplets from an *infected* person to others through:**

- **Droplets** from coughing and sneezing or even talking
- **Close personal contact**, such as touching or shaking hands
- **Touching** an object or surface with the virus on it, then touching your mouth, nose or eyes before washing your hands



Transmission from person to person is occurring with **COVID-19**. Surveillance continues.

IMPLEMENT ENHANCED HYGIENE

TAKE ACTION



Public health recommendations focus on **standard infection control practices, training and compliance.**



PERSONAL HYGIENE

Wash hands frequently with soap and water. When soap and water aren't available, use an alcohol-based hand sanitizer.

Minimize close contact with people who have symptoms of respiratory illness.

Ensure proper use of personal protective equipment (PPE) where appropriate.

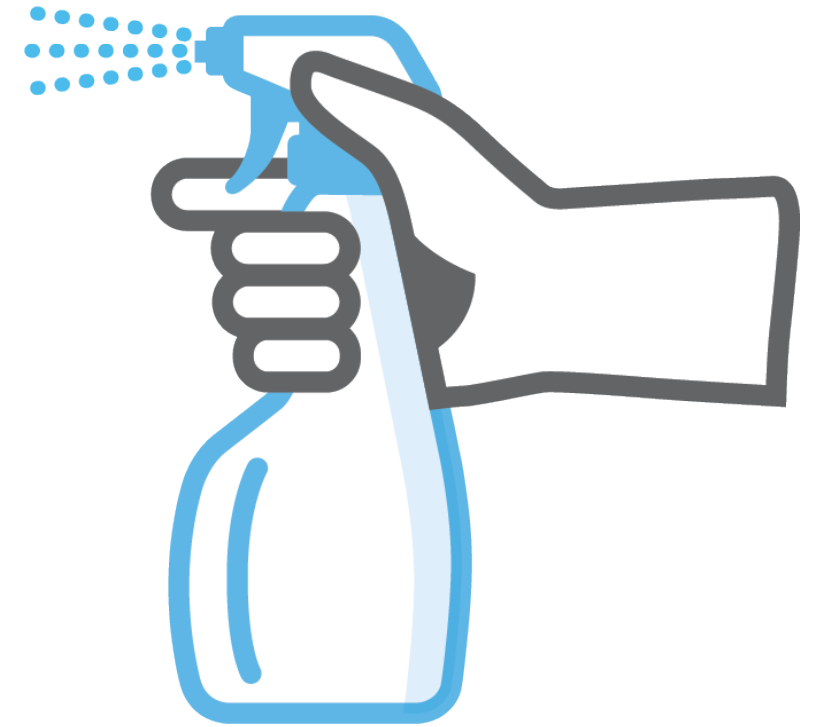


ENVIRONMENTAL HYGIENE

Clean and disinfect surfaces and high-touch objects with approved disinfectants.

GOOD NEWS!

Coronavirus is a small-enveloped virus. Enveloped viruses are the least resistant to disinfection, which means **disinfectants can be used to effectively kill coronavirus on surfaces.**



Differences between **CLEANING, SANITIZING AND DISINFECTING**



Sanitizers and disinfectants are regulated by the U.S. Environmental Protection Agency (EPA) and are used to manage public health risks. It is a violation of Federal law to use these products in a manner inconsistent with labeling.

*See product label for specific organism claims

ECOLAB®

RISK BY SURFACE TYPE

SURFACE TYPE	EXAMPLES of SURFACE TYPE	RISK LEVEL	CDC RECOMMENDATION	ADDITIONAL STEPS, IF DICTATED BY RISKS
Non-Food-Contact	Door handles, push plates, cash register, railings, chairs and booths, trash can, menus, restrooms, desks, high-touch point objects in public spaces	High	Disinfect	
Hard, Non-Porous				
Food-Contact	tables, ice machine, food prep tools and equipment, ware	Low	Clean>Rinse>Sanitize ¹	Disinfect > Rinse > Sanitize
Soft, Porous	Couches, cushions, mattresses, carpets	Low	Clean	Launder or Sanitize (if possible)
Linen (non-Healthcare)	Towels, sheets, pillowcases, rags, uniforms	Low	Hygienically Clean	Sanitize

DISINFECTION: NON-FOOD CONTACT

Clean and disinfect hard surfaces and high-touch objects with approved disinfectants.
Increase frequency as needed.

1 PRE-CLEAN

Pre-clean visibly soiled areas to be disinfected

2 DISINFECT

For an emerging viral pathogen, use a disinfectant with an EPA-approved emerging viral pathogen or coronavirus claim. Refer to the product label for complete directions for use.

3 WAIT

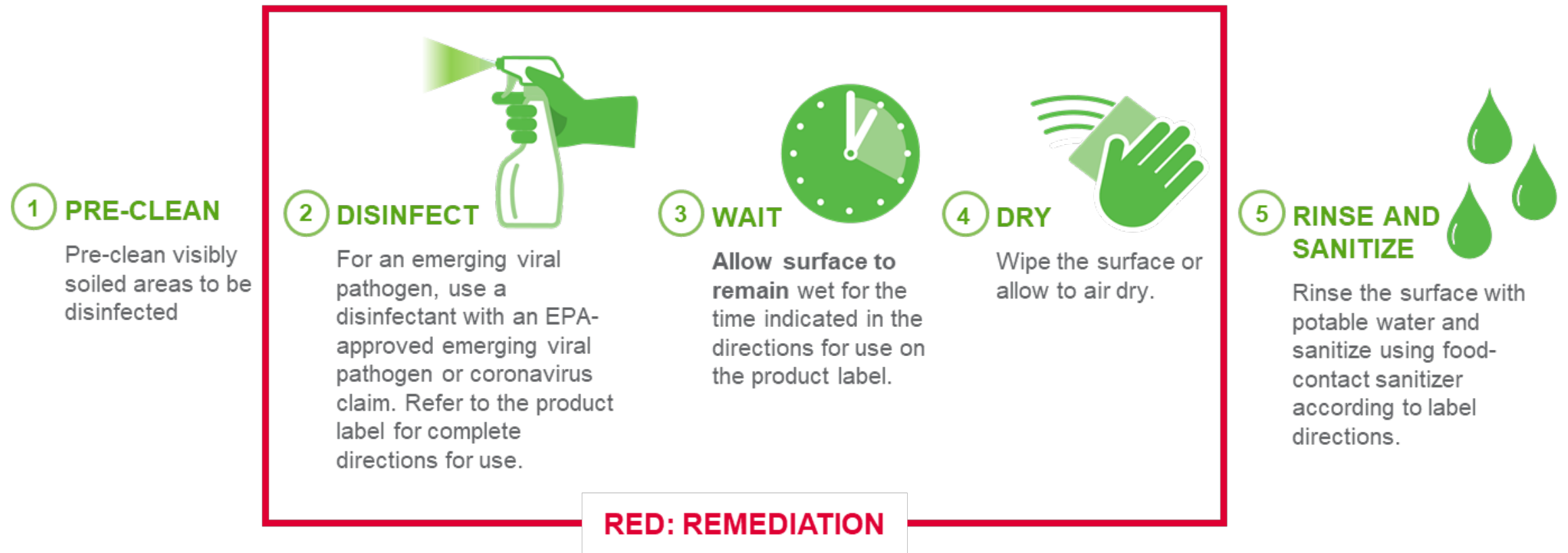
Allow surface to remain wet for the time indicated in the directions for use on the product label.

4 DRY

Wipe the surface or allow to air dry.

DISINFECTION: FOOD CONTACT

During RED REMEDIATION: Clean and disinfect hard surfaces and high-touch objects with approved disinfectants. **Increase frequency as needed.**



KEY POINTS

- Consider the relevant risks
- Sanitizers and disinfectants can help manage risks
 - Choose the right product
 - Use it properly, following the label
- Verify implementation of hygiene protocols



Sharon Brunelle

Technical Consultant
AOAC



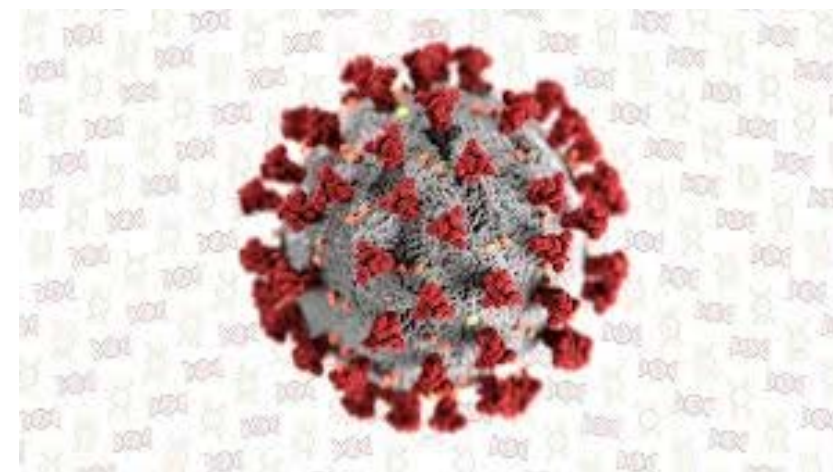
AOAC RI Emergency Response Validation for Detection of SARS-CoV-2 on Surfaces



AOAC Research Institute

*Performance Tested Methods*SM (PTM) Program

- Validation of Commercial Proprietary Test Kits
- >300 Certified Methods
- >80% Microbiology
 - 0 Viral Methods



Emergency Response Validation

- Developed for immediate response to emerging food safety crises
- Single study coordinated by one independent laboratory
- Multiple candidate methods
- Methods will receive a special EU PTM Certificate effective through 1Q21.
 - Can submit additional data to convert to “full” PTM status.

ERV for Detection of SARS-CoV-2 on Surfaces

- Molecular methods
 - No distinction between intact virus and residual RNA
- ERV Protocol Approved
 - Selectivity (inclusivity/exclusivity)
 - First implementation of *in silico* analysis
 - AOAC OMA Appendix Q: Recommendations for Developing Molecular Assays for Microbial Pathogen Detection Using Modern *In Silico* Approaches
<http://www.eoma.aoac.org/appendices.asp>
 - Matrix - Food-grade stainless steel surface
 - Reference method – CDC EUA method
- MRIGlobal under contract
- Application deadline July 29, 2020.

Part 1: In Silico Analysis for Selectivity

Minimum Requirements:

Inclusivity – Analyze minimal set of GISAID database sequences

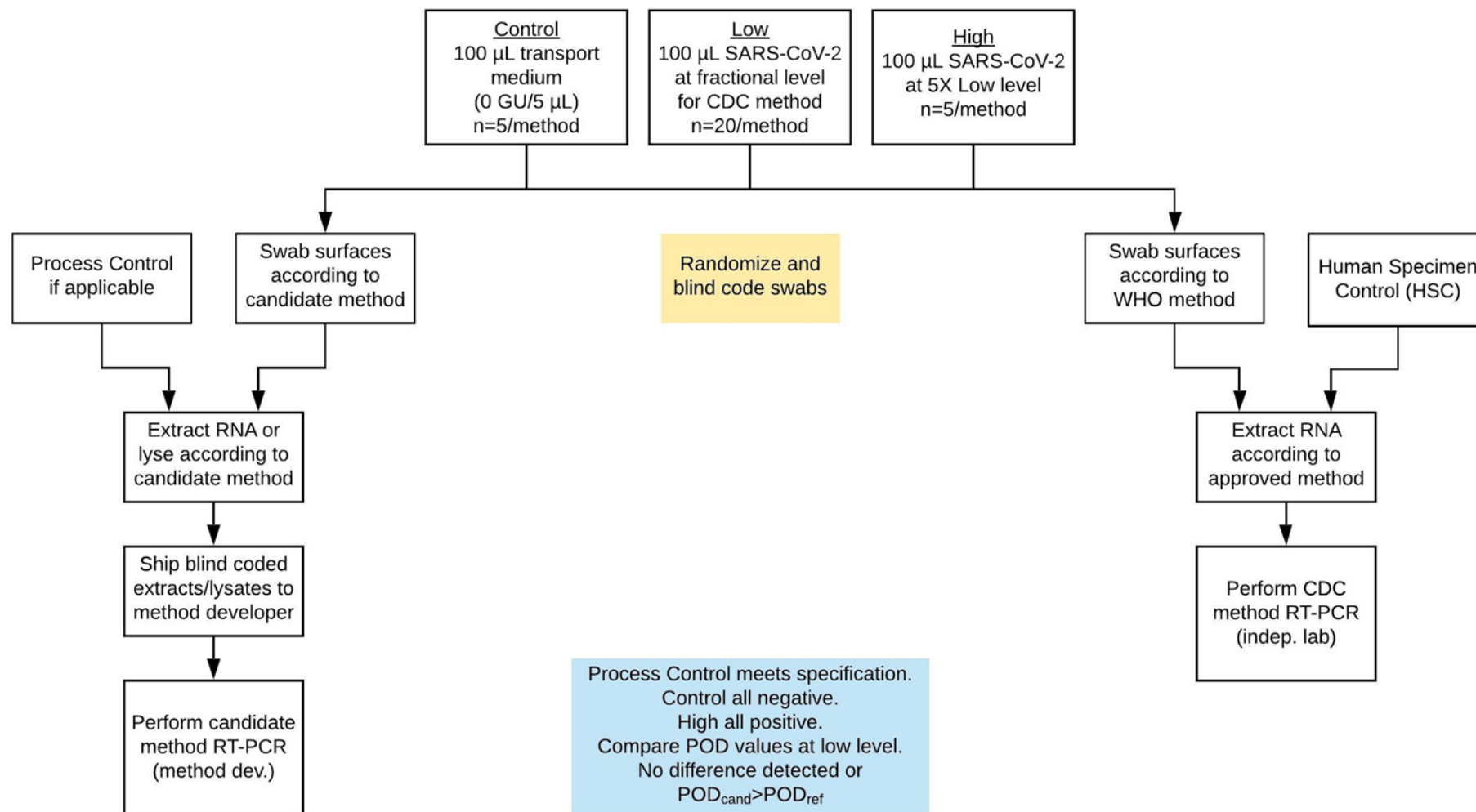
- Sequences deposited through June 26, 2020
- Includes >15,000 accessions after the removal of duplicates and low-quality sequences (>300 Ns)

Exclusivity – Analyze near neighbors and background (environmental) organisms

- Near Neighbors – 8 viral strains including other human coronaviruses, SARS, MERS, and a porcine coronavirus
- Background - 23 bacterial and fungal strains, 8 Eukaryotes, and 26 viruses

Quality – Unimolecular folding (secondary structure) and bimolecular hybridization (ΔG , T_m) for each primer and probe and their respective binding regions.

Part 2: Matrix Study



AOAC Experts

- William Burkhardt, FDA/CFSAN/OFS/DSST
- Jacqueline Woods, FDA/CFSAN/OFS/DSST/MHSB
- Efi Papafragkou, FDA/CFSAN/OARSA
- Sanjiv Shah, EPA/ORD/HSMMD
- John SantaLucia, Wayne State University
- Chengzhu Liang, Qingdao Customs District
- Laura Rose, CDC/DDID/NCEZID/DHQP



Kali Kniel

Professor

Microbial Food Safety

Department of Animal & Food Sciences

University of Delaware

Wastewater-based Epidemiology

NEWS • 03 APRIL 2020 • CORRECTION 03 APRIL 2020 **nature**

How sewage could reveal true scale of coronavirus outbreak



BY CRISTINA TUSER | APR 09, 2020 **WWD**
WATER & WASTES DIGEST

DUTCH SCIENTISTS FIND CORONAVIRUS IN CITY'S WASTEWATER

Medema et al., Environ, Sci. Technol. Lett. 2020

Recycled water in UAE is free of Covid-19 coronavirus: New research

Itamail Sebbugwawo / Abu Dhabi
itamail@khaleejtimes.com Filed on June 8, 2020 / Last updated on June 8, 2020 at 06:45 am

Khaleej Times

The proof is in the sewage: hundreds of Yosemite visitors may have had coronavirus

Paulina Velasco
Wed 22 Jul 2020 05:00 EDT

No one had tested positive via nasal swabs, but researchers' investigation tells a different story

The Guardian US edition

HEALTH

Wastewater testing gains traction as a Covid-19 early warning system

By SHARON BEGLEY @sxbegley / MAY 28, 2020

STAT Reprints

FIRST OPINION

It's time to begin a national wastewater testing program for Covid-19

By ANNA MEHROTRA, DAVID A. LARSEN, and ASHISH K. JHA / JULY 9, 2020

STAT Reprints

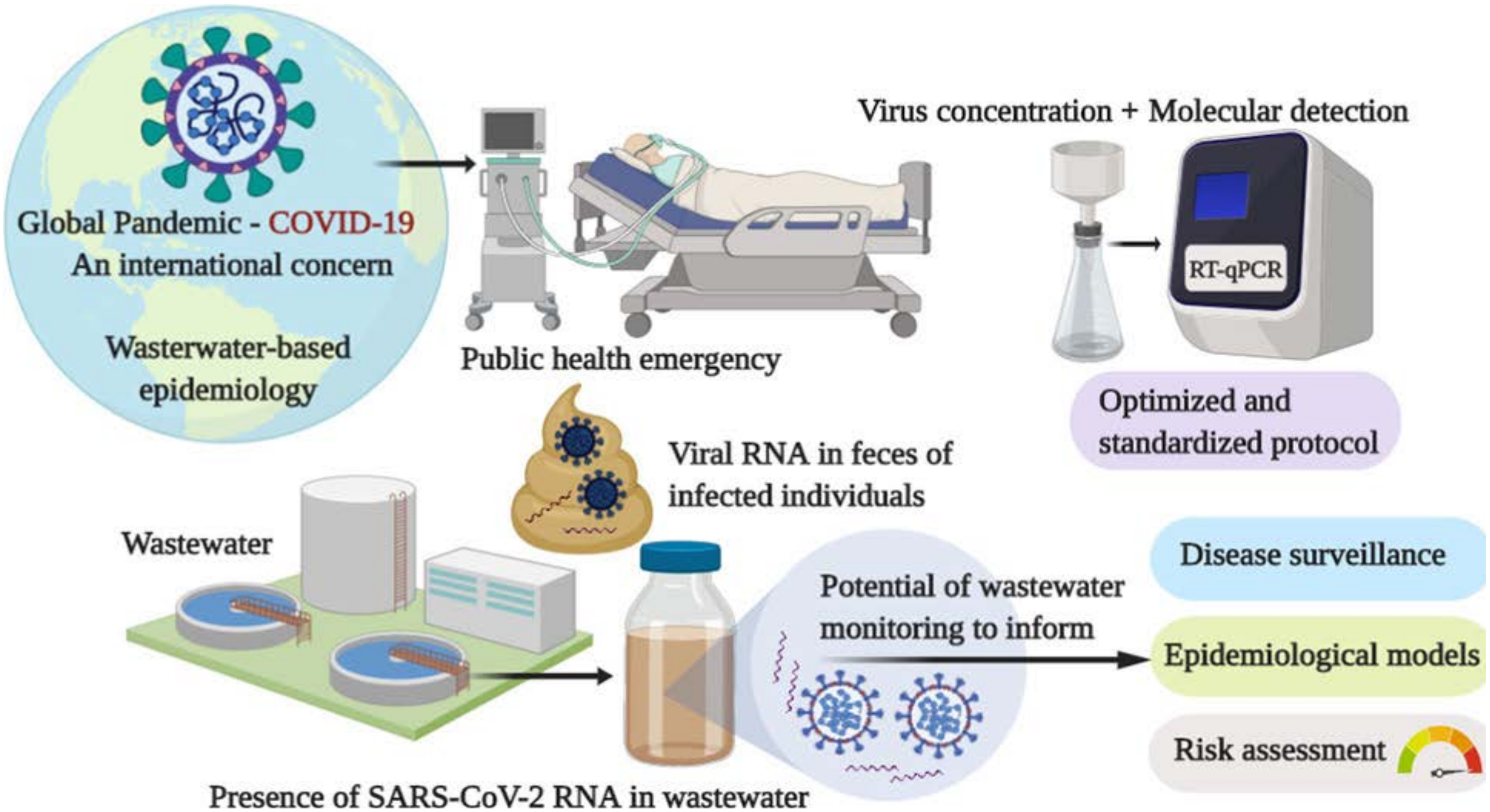
Indian scientists find COVID-19 gene in wastewater, hailed by global community

With this, India joins the ranks of a handful of countries doing wastewater-based epidemiology on COVID-19

Posted: Jun 22, 2020 05:44 PM (IST) Updated: 1 month ago

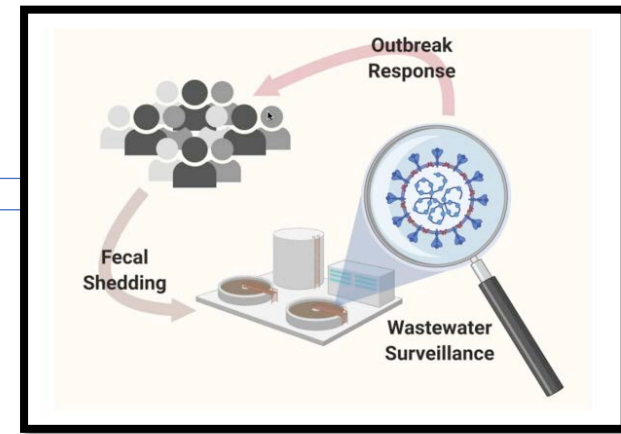
2718

The Tribune
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Wastewater-based Epidemiology

COVID-19 WBE Collaborative
Sewage Analysis CORE group Europe (SCORE)
Global Water Pathogen Project



- How might wastewater surveillance fit into the big picture of detection and control?
 - Complimentary approach to clinical surveillance
- Viral concentrations in municipalities and communities may be a leading factor
- Rapidly Moving Field!
 - Preliminary and published reports of SARS-CoV-2 surveillance are plentiful, but uncertainty concerning use of information to inform public health response remains.
- Scientists are up to the Challenge
 - Characterizing viral shedding
 - Quantifying viral load across different clinical specimens is challenging
 - What constitutes the proper wastewater sample? Composite analysis?
 - RNA detection versus viable virus?
 - Method development...



Session III

Questions & Answers

COVID-19 & FOOD SAFETY GLOBAL SUMMIT

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Thank you!