

# Food safety issues and trends in healthcare foodservice

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# Goal

- Give perspective on issues in healthcare foodservice including food safety challenges.

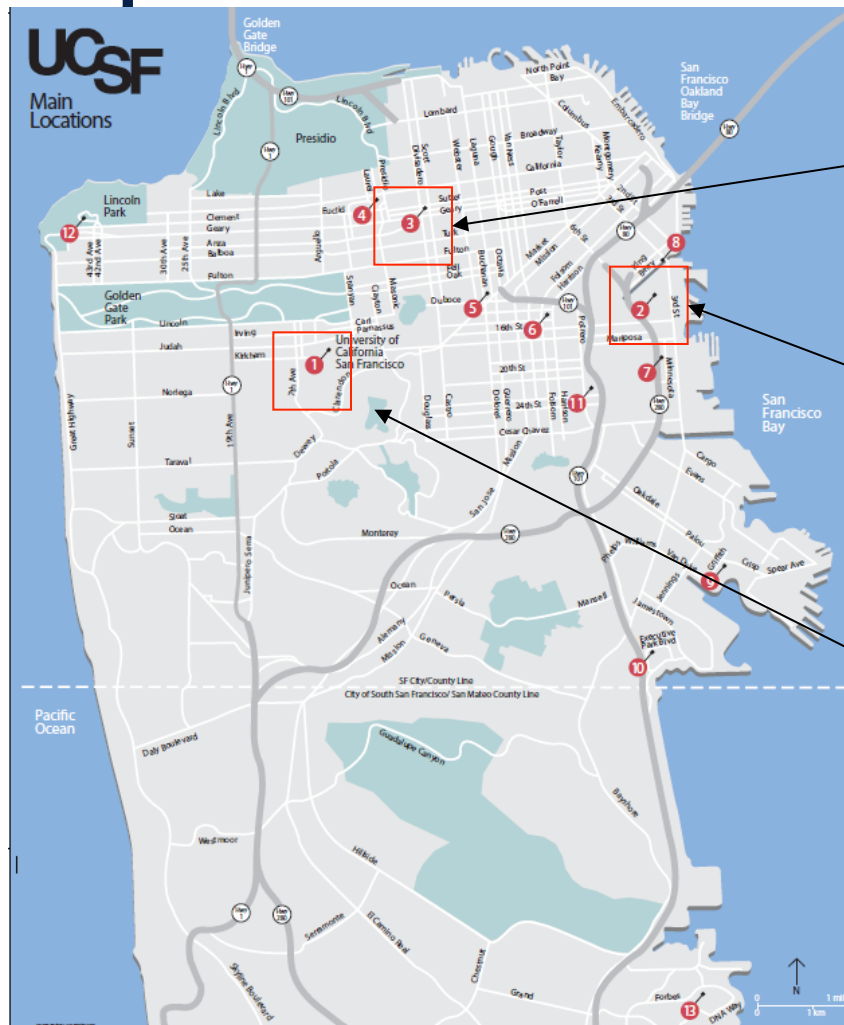
# About UCSF

- Part of University of California system's 10 campuses and 5 medical centers
- Second largest employer in San Francisco – 22,000 staff
- 4 schools – Medicine, Nursing, Pharmacy, and Dentistry
  - 2,940 students enrolled in degree programs, 620 residents and 1,030 postdoctoral scholars
- \$5 billion in total revenue
- Second highest recipient of NIH funds \$538M
- Provides faculty support to UCSF Health, Priscilla Chan and Mark Zuckerberg San Francisco General Hospital and Trauma Center, and San Francisco VA.

# Introduction to UCSF and UCSF Health

- One of the top 10 hospitals in the nation (U.S. News and World Report)
- UCSF Medical Center and UCSF Benioff Children's Hospital operate from 3 sites.
  - Parnassus Heights - Large, urban, academic facility with a health sciences university adjacent to the hospital
  - Mount Zion – Robust ambulatory surgery center
  - Mission Bay – State of the art hospitals and ambulatory services that opened in February 2015
- 763,000 outpatient visits
- 33,000 inpatient admissions
- Case mix index (measure of how sick patients are) – 2.01
  - One of the highest in the nation
- \$2.6B in revenue

# Our Footprint



**UCSF Medical Center at  
Mount Zion –  
Ambulatory Surgery  
Center**

**UCSF Medical Center at  
Mission Bay (289 beds)**

**UCSF Medical Center -  
Main Campus for UCSF  
(500 beds)**

# NFS Department Overview

- Food Service Operations- \$9 million food budget
  - Patient Food Service
    - 440,000 meal equivalents annually
    - 1,200 patient trays served each day
    - On-demand Restaurant Dining – patient centric
  - Retail Food Service
    - 7 retail food outlets (3 cafes, 2 convenience stores, 2 coffee carts)
    - \$10 million gross sales/year
    - 8500 transactions/day
  - Moffitt Catering (3 sites)
    - \$3 million from 12,000 events annually
- 329 foodservice team members (225 FTE)
- Nutrition Services
  - Inpatient and outpatient registered dietitians
  - Inpatient services at all hospital sites
  - Staff for 35 ambulatory clinics plus 3 nutrition clinics
  - Dietetic Internship
    - Accepts 10 dietetic interns for 52-week program
  - Retail Services (Gift Shops)
    - 3 (one at each campus)
    - \$1.5 M gross sales/year
    - 14 team members

# Moffitt Café





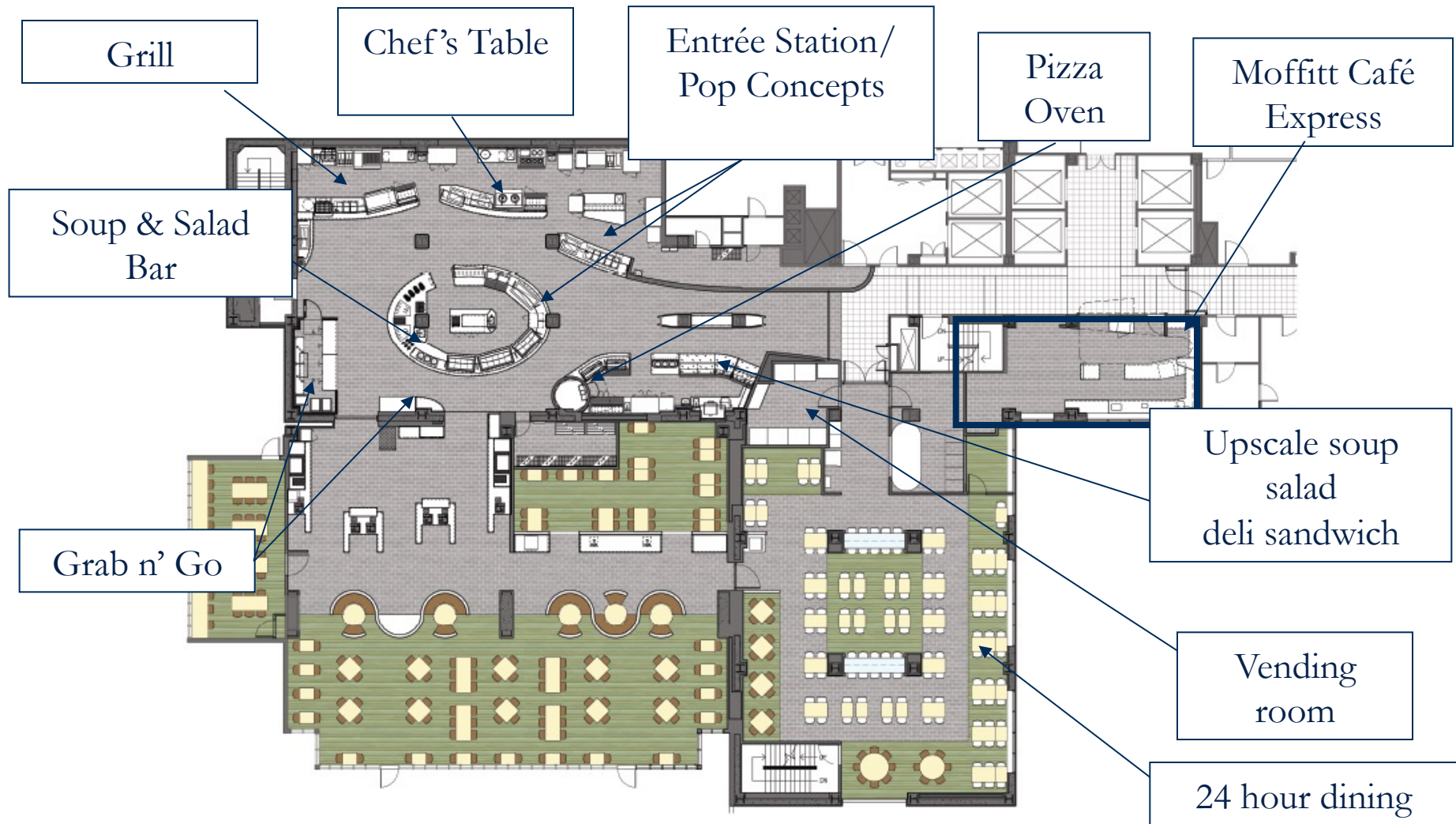




# Moffitt Café Express



# Moffitt Café Overview



# About Healthcare Foodservice

- Growing volume due to nation's shifting demographics
- Affordable Care Act has a significant impact on the number of admissions and visits to most hospitals and health systems
- Infection Control and Food regulations in healthcare drive many of the food practices – Centers for Medicare and Medicaid Services (CMS), The Joint Commission (TJC), etc.
  - Always a challenge to keep them in line with retail food safety standards
  - Foodservice directors are often looked at as the food subject matter experts.

# Inspections, inspections, inspections

- Local health authority – retail food inspections
  - May be limited to primary food handling areas
  - Some permit ALL food handling areas
- Centers for Medicare and Medicaid Services (CMS) via state department of public health,
- Accrediting agency – e.g. The Joint Commission (TJC)
- State licensing inspections
- Infection Control
  - Need to get these practitioners educated on food safety practices
  - Monthly visits from IC
  - Quarterly KPI reporting
- Safety – e.g. lifting, worker's compensation
- Fire marshal
- Contracted third parties

# CMS Conditions of Participation

- If healthcare organizations don't comply with CMS conditions of participation (CoPs), Medicaid and Medicare reimbursement could be jeopardized.
  - This likely represents 40-80% of a hospital's revenue
- CMS Interpretative guidelines -  
[http://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/downloads/som107ap\\_a\\_hospitals.pdf](http://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/downloads/som107ap_a_hospitals.pdf)
  - CA DPH insists that the FDA Model Food Code becomes the regulatory basis of the survey even if the current version is not adopted or contrary to the prevailing food code (e.g. California Retail Food Code). Other states do too.

# Increasing Scope of Responsibility

- Healthcare foodservice departments are now typically responsible for ALL areas with food that could be served to patients:

## Traditional Scope

- Kitchens including formula rooms
- Retail food outlets – cafés, kiosks, convenience stores, food trucks, vending
- Catering (on and off site)
- Vending – often contracted out

## Potential Expanded Scope

- Food pantries
- Family lounges
- Kitchenettes
- Breast milk fortification rooms



# RFID Vending

- Challenge: Selling high quality fresh food after hours without buying/leasing a vending machine
- RFID vending – 5 units
- Allows operators to sell fresh food and premium beverages at all hours
- Integrated with cashless card system
- Active temperature monitoring required regardless of who provides the food
  - Built-in locking mechanism if temperature goes above 41°F for more than 4 consecutive hours





# Trends/Issues in Healthcare Foodservice

- Complexity of food systems
  - Many healthcare kitchens are doing cook-serve, assembly service, cook-chill, and possibly sous vide
  - Storage and transportation of food whether within the building or hundreds of miles happens.
- Service models are equally complex
  - Hotel-style room service
  - Conventional food service – hot service line
  - Made-to-order
  - Cook-chill retherm – bulk or plated
  - Catering

# The Robots are here!

- Transportation of meals from kitchen to patient care units
- 325 patient and guest meals per day for 6 zones
- 6 TUGs with 38 meal carts
  - About 130 trips with 20-24 miles/day
- Looking at additional applications including floor stock to outpatient and pizza delivery
- <https://vimeo.com/116978163>



# Bedside Meal Ordering

- Solution is integrated into back end system food information system and EHR
- UX and menu in 5 total languages
- Guest meal ordering with credit cards
- Nutrition education
  - Nutritionals total
  - Algorithms provide feedback prior to order being placed





# Bedside Meal Ordering


[Back](#)


Lunch


[Regular Diet](#)[More details](#)


 Soups & Sides


 Entrees


 Paesano's Italian


 Burgers & Melts


 Smart Choice Salads

 Build a Sandwich

 Snacks

 Beverages

 Condiments

 Sunrise Breakfast Cafe

Mushroom Barley Soup SS Vg ☐

Vegetable Primavera Soup SS Vg ☒

Chicken Noodle Soup SS ☒

Beef Broth GF SS ☐

Chicken Broth GF SS ☐

Vegetable Broth GF SS Vg ☐

Mashed Potatoes with Gravy V ☐

White Rice GF SS Vg ☐

Organic Brown Rice GF L/S SS Vg ☐

Organic Wheat Roll L/S SS V ☐

Steamed Green Bean Blend GF SS Vg ☐

Roasted Italian Squash GF SS Vg ☒

Seasoned Baby Carrots GF SS Vg ☐

Steamed Broccoli GF SS Vg ☐

Mixed Green Side Salad with Viniagrette GF V ☐

Chicken Broth Juk with Green Onions GF SS ☐

Pinto Beans GF L/S SS Vg ☐

Snack Fruit Box with String Cheese GF SS V ☐

Vegetable Snack Box with Ranch V ☐

Roasted Italian Squash

Energy (kcal) 43 kcal

Fat 2 gm

Cholesterol 0 mg

Total Carbohydrates 6 gm

Protein 2 gm

Sodium 16 mg


Potassium 282 mg


GF Gluten Free


SS Smart Choice Side


Vg Vegan


[Order Now](#)


 Menu

 Home

 Remote

 Mute

 Volume -

 Volume +

# Trends/Issues in Healthcare Foodservice

- Is a commissary or central kitchen considered part of the same organization or is it “selling”?
  - Inconsistent among jurisdictions
  - Hospitals and health systems would say product is being transferred – not sold. Product may have an internal funds transfer at cost.
  - Temperature monitoring while in transit is a big challenge especially with traceability to the batch
- Each operation is issued a permit (UCSF has 7 retail operations plus 3 kitchens).
  - Some local health authorities will permit every location including food pantries and kitchenettes

# Infection Control and Handwashing

- Hospital acquired infections (HAI) are a MAJOR focus as you don't get paid by CMS if a patient acquires an infection while admitted.
  - Our lingo - VRE, CLABSI, *C difficile*, MRSA, CAUTI, etc.
  - Rates are reported in infection rate per patient day and benchmarked against other healthcare facilities.
- Use of hand antiseptics is considered handwashing outside of the kitchen.
  - Have to educate many staff on both ways
  - Also have to educate on airborne, contact, and other types of isolation precautions.
- Use of hand antiseptics as handwashing in areas outside kitchens in lieu of traditional soap/water handwashing

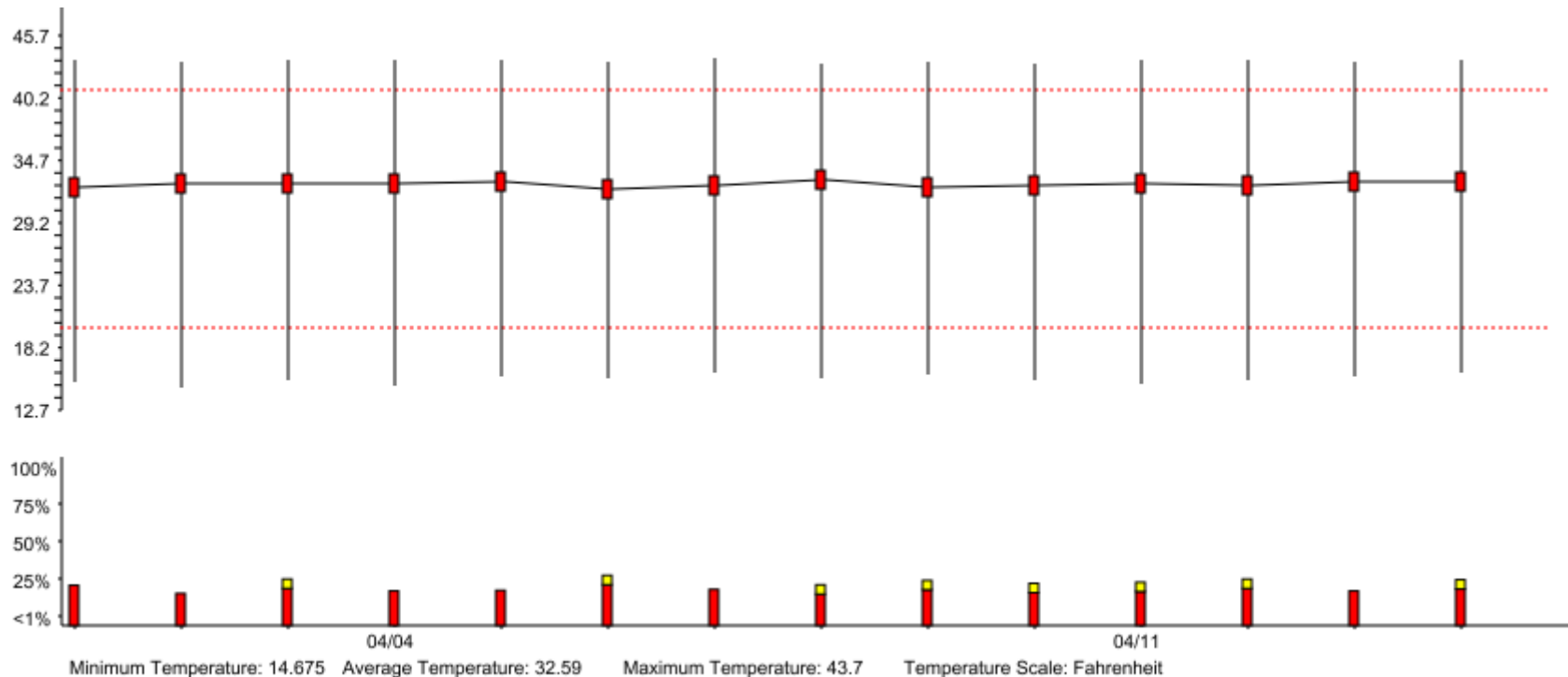


# Automated Temperature Monitoring

- Adapting automated temperature monitoring systems from manual monitoring systems.
  - We have 237 temperature assets across three sites.
  - Wide variance on efficacy due to specifications and use
- Some regulators assume that ambient temperature and internal food temperature are the same.
  - Consumer refrigerators and freezers can't maintain temperatures
  - UCSF has standardized on separate commercial refrigerators and freezers outside the kitchen.

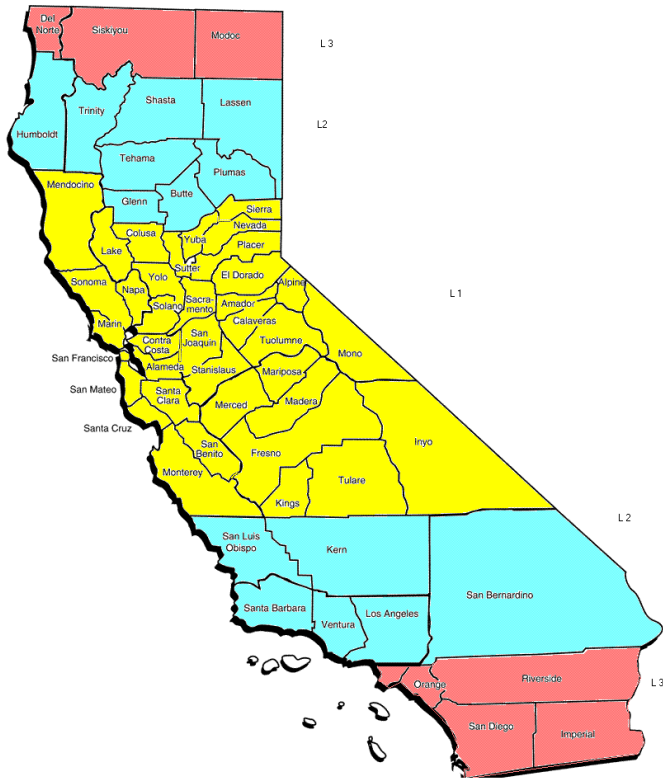


# Automated Temperature Examples



- Continuous monitoring is assumed. Defrost cycles and active defrosting
- Best practices on buffer solution?? How much? What type?
  - We use 200 mL silica glass beads

# Pressure to buy local/sustainable



Hello  
This Report shows where the Fruit and Vegetables are being harvest. The Map was set up with L1, L2, L3 zones. Soon we will be able to pin point the farms in the zones

- Regional purchasing and farmers markets
- Who is helping the local farmer with their food safety program?
- We use produce aggregator with robust food safety program including in-house PCR testing

# Corrugated cardboard

- Cardboard is being considered a “dirty” surface by TJC and other federal regulators.
  - Not sure what hazard(s) of concern are or scientific basis for this new concern
  - UCSF experienced this from TJC in March 2015
- Some healthcare facilities are eliminating corrugated cardboard entirely.

# Sanitizer guidelines are confusing

- Allowance of manufacturer guidelines may be the right thing but it's confusing.
- What type of science is available behind a manufacturer's concentration and dwell time?
- Healthcare uses a lot of wipes – UCSF has 5 types for various uses including a food grade wipe.



- Example: Food contact surface wipe
- Quaternary ammonium wipe (EPA registered) – 175 ppm
- 60 second contact time

# Expiration and Use by Dates

- Differences between manufacturer dates, use by dates, etc. is very problematic.
- Had to put three dates on thawed meat – received date from distributor, thaw date (date moved from freezer to refrigerator), and use by date.
  - Even with automated documentation of freezer and refrigerator performance.
- Expiration dates are now expected for sanitizer test strips and thermal strips.

# Other issues

- Expiration dates for thermal and sanitizers test strips
- Increased complexity of sanitizer concentrations especially related to the use food grade wipes in food storage areas
- Food service role in helping potentially reduce hospital acquired infections like c. diff

# Take Home Messages

- Cost containment is forcing consolidation of health systems and the size of the health systems is growing.
- Healthcare foodservice is providing food to the most at-risk population.
  - Our customers are far more sick than they used to be
- We are on the front lines of infection risk
  - Community norovirus can easily get into a facility
- Reach out or make yourself available to the local hospital, nursing home, extended care assisted living facility.



# Contact Info

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**UCSF Benioff Children's Hospitals**