

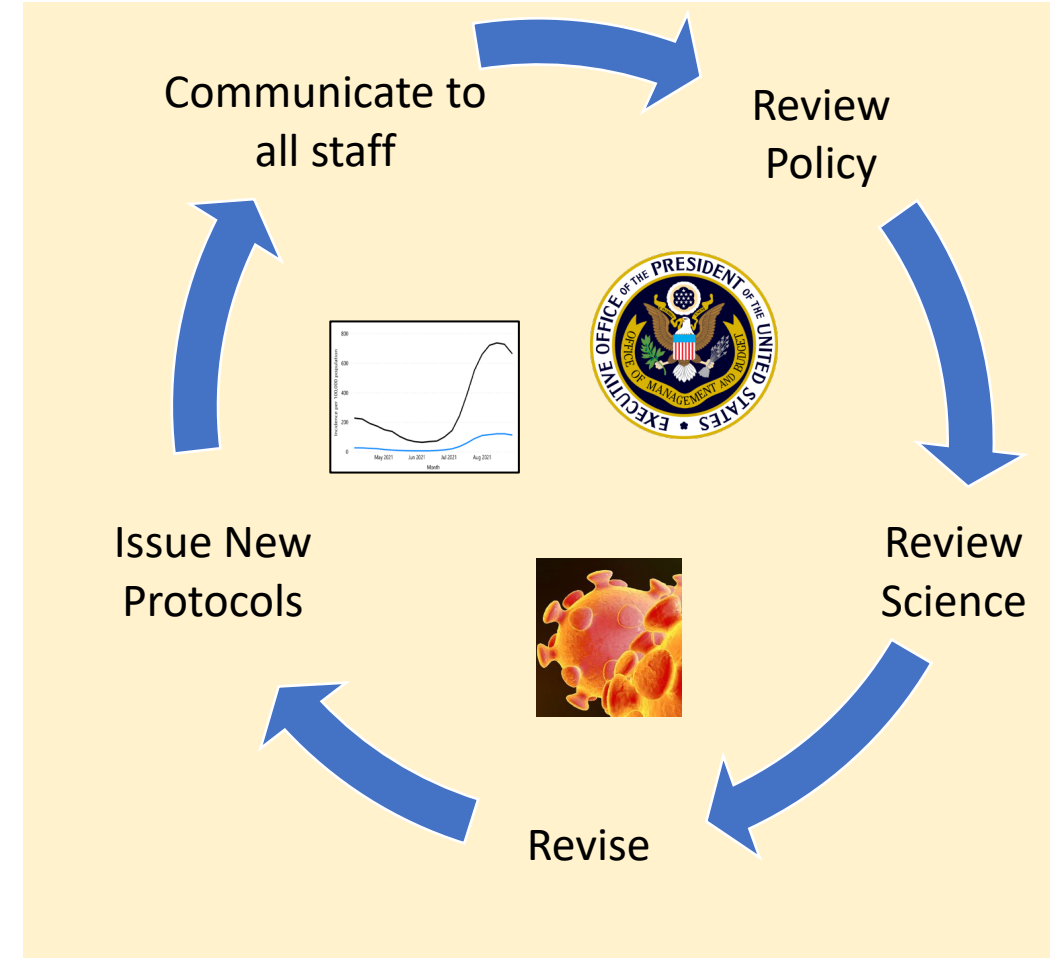
Safety Overview for VCAT

Liz Mackey, Chief Safety Officer
Director, Office of Safety Health and Environment

October 2021

COVID Health and Safety– FY21 Focus on Keeping Current

- NIST Leadership continues to meet biweekly to review status of COVID-19 in the community, conditions at NIST and to plan for policy changes
- Participate in biweekly meetings on Department of Commerce COVID policies
- Safety COVID team monitors the latest CDC guidance and scientific and technical literature
- New information and policy changes are communicated to staff regularly through NIST Town Hall meetings, all-staff email, webpages, training and published directives and guidance documents



COVID Health and Safety– Current Phase 1 Operations



Phase 1 operational status requirements

- 25% maximum occupancy, maximize telework
- Allow 200 sq ft per person
- Maximize use of single occupancy spaces
- Conference rooms closed for in-person meetings
- Cafeterias closed (except for janitorial staff)
- COVID protocols in effect apply to all staff:
 - Daily health screening criteria
 - Mask use per requirements
 - Social distancing/temporal distancing
 - Hygiene practices
 - Case management (reporting, disinfection, contact tracing, quarantine)

CDC Community Transmission Level (new cases/week/100,000)	Low Transmission (0-9.99)	Moderate Transmission (10-49.99)	Substantial Transmission (50-99.9)	High Transmission ≥100
Operational Phase	Phase 3	Phase 2	Phase 1	Phase 1 or 0
Occupancy Limits	TBD	<50%	≤25%	≤25%
Good Hygiene	Practice good hygiene, frequent hand washing, proper disposal of tissues, etc. during all phases			
Case Management and Health Screen	Meet daily health screening criteria and continue case management practices for all phases			
COVID Mitigation	Mask use and distancing apply only to unvaccinated staff		All staff wear masks, per requirements, and distance	
Facilities	Open gyms, cafeterias, meeting rooms	Grab and go cafeteria; evaluate meeting rooms	Cafeteria, meeting rooms and gyms closed	
Travel	TBD		Limit to mission essential for unvaccinated staff	

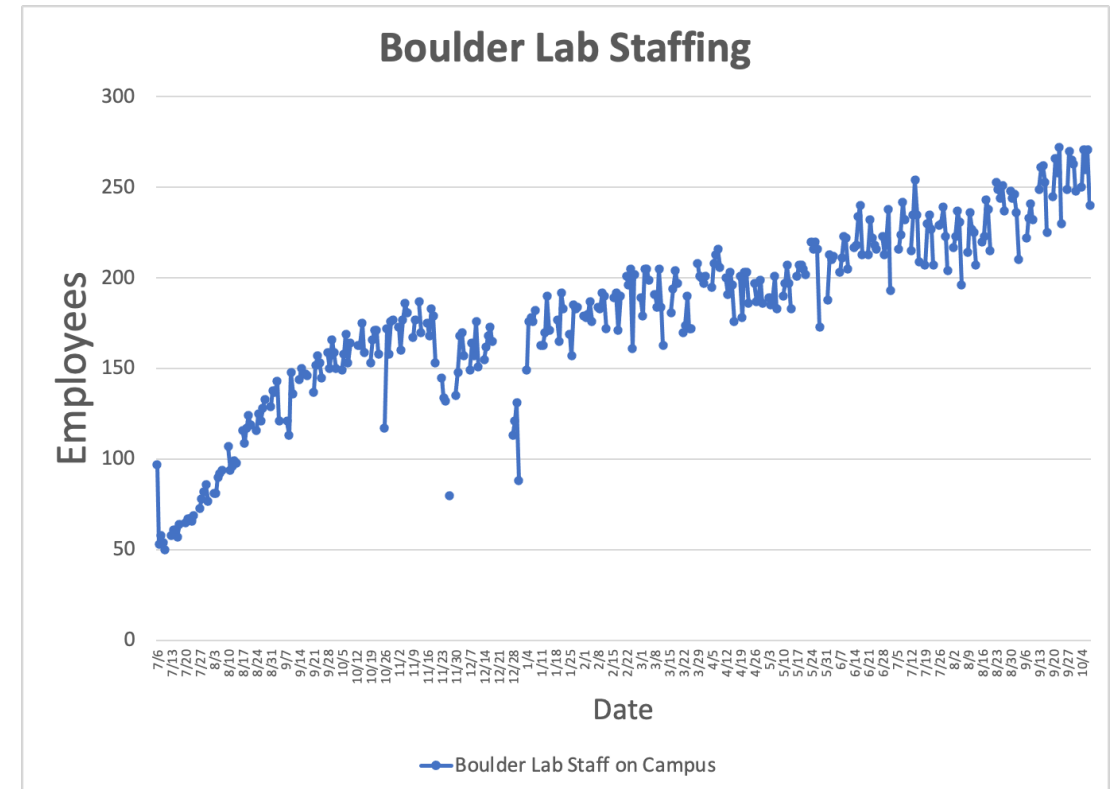
Note: Waivers are possible with OSHA evaluation, and OSHA specified conditions that may include additional controls

COVID Health and Safety– Boulder Occupancy Limit Waiver



KEY Accomplishment: NIST requested a waiver from the 25% occupancy cap for Boulder staffing due to mission impact, justified based on a safety analysis. OMB granted this waiver in September. NIST Boulder remains in Phase 1 with a waiver from the 25% occupancy limit.

- Room ventilation in laboratories is superior to that in typical offices, providing better mitigation of airborne viruses
- Evaluate multi-user spaces to determine adequacy of ventilation and supplement if necessary
- Allow 200 sq ft per person, where feasible, or issue waivers
- All staff implement all COVID protocols during this waiver
- Gradually increase lab staff from 210 to 420, beginning 9/13/21.



NIST COVID Case Metrics (10/17/21)



Total potential and actual COVID Cases: **425**

OSHE responded to **104** on-site cases

OSHE ensured disinfection for 55 cases

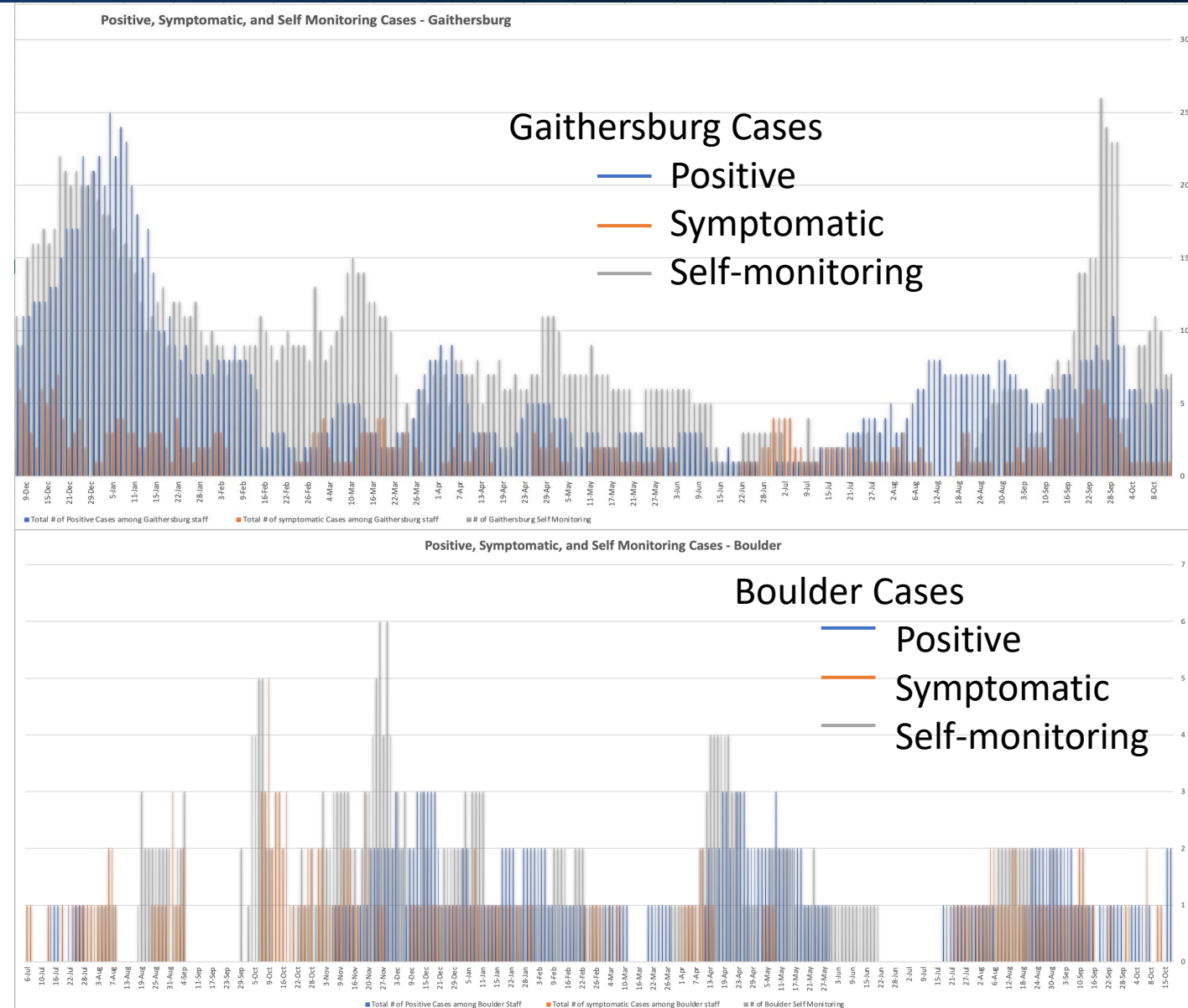
Total Positive Cases: **199**

- Physically present at NIST Gaithersburg: **21**
- Physically present at NIST Boulder: **6**
- Physically present at remote work site: **1**

Total close contacts of the **28** cases: **39**

- 23 in Gaithersburg, 6 in Boulder, and 10 on remote work site)
- Workplace transmission 2 at the remote site, none on campus

OSHE investigates case data to look for clusters that may indicate related cases; no on-campus transmission has been observed



Safety and Environmental Management Systems

NIST's Safety Management System is based on ISO 45001 and Environmental Management System, on ISO 14001

Programs are developed in collaboration with stakeholders

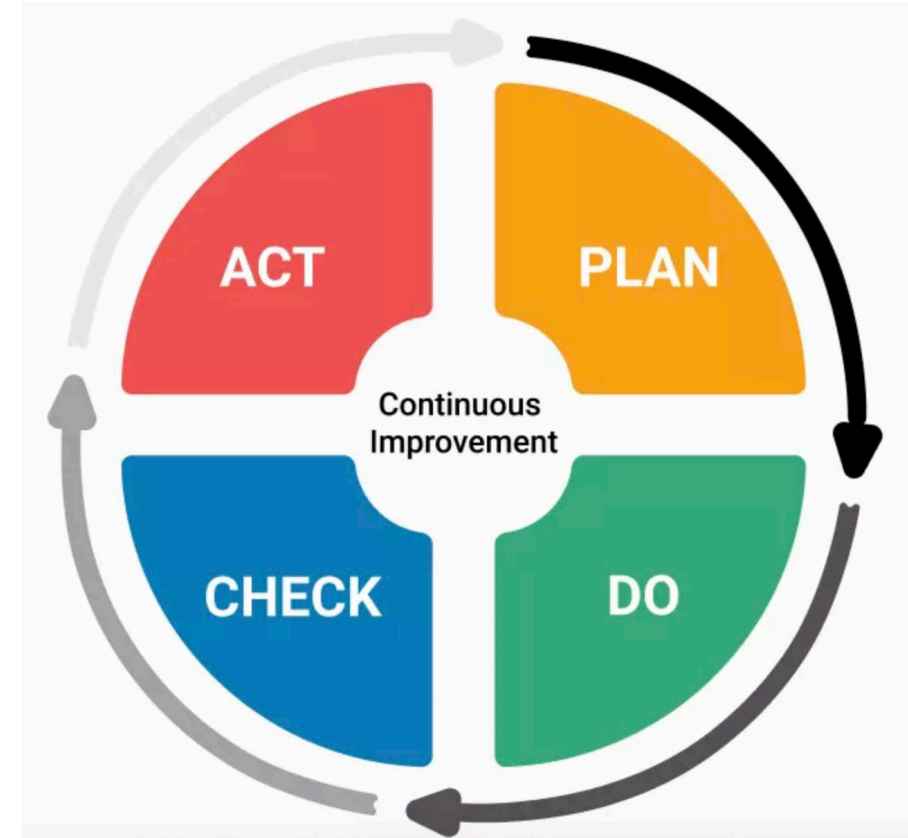
Continual improvement using Plan → Do → Check → Act cycle

FY22 Q1 activities underway that focus on "Check"

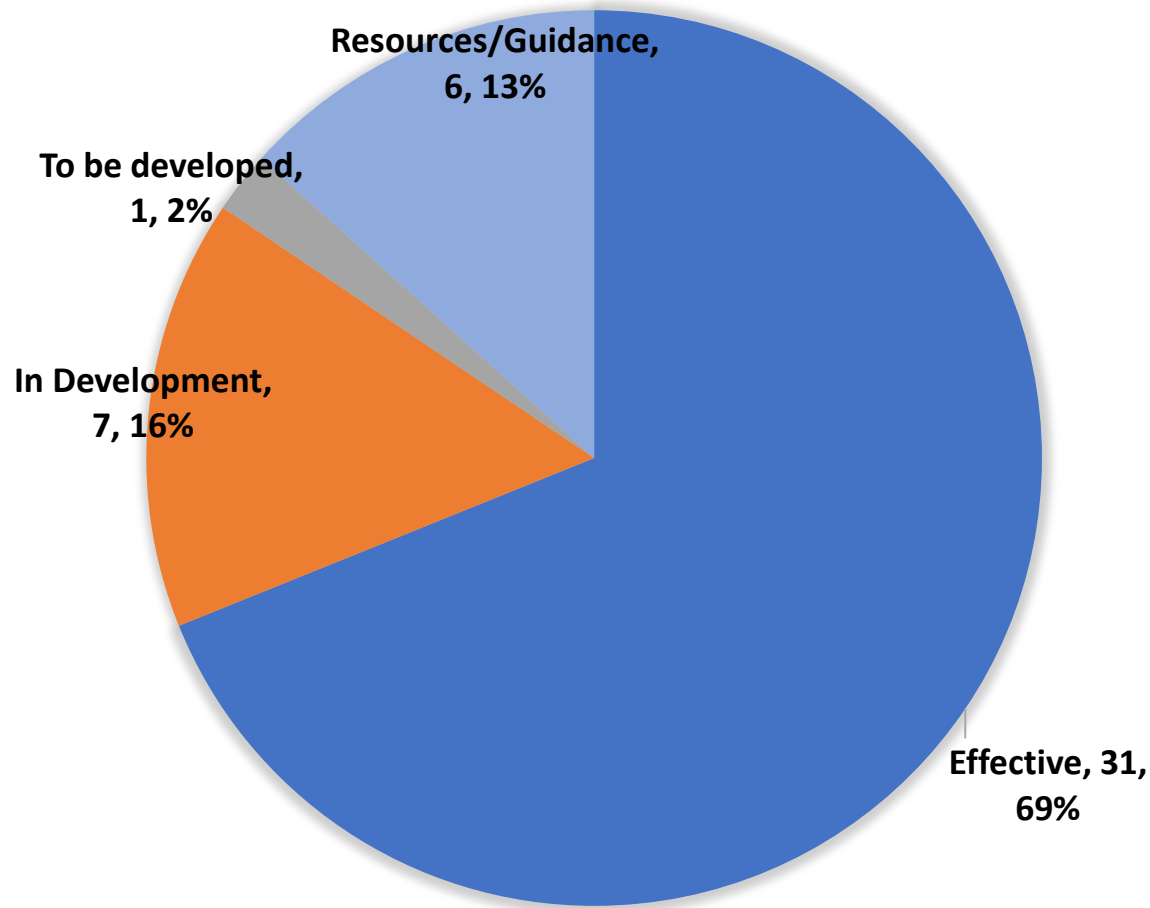
- Annual review by OSHE program managers includes benchmarking, assessment of program implementation, evaluation of relevant data
- Workplace inspection data evaluation
- Incident reporting and investigation data evaluation
- ISO 45001 gap analysis

OSHE presents results of evaluations to NIST Executives

FY22 safety goals developed based on results of these analyses and feedback from Executives



OSH PROGRAMS



Key FY21 Accomplishments

- Lab staff restarted workplace inspections; OSHE assisted
- Laboratory Program and Management Resources team working on cryogen safety, and shared responsibility for safety of large outdoor tanks
- Crane inspection and repairs are underway (collaboration with OFPM)
- Formal process for issue of waivers and variances
- Issued 3 new directives, 6 resources
- Revision/improvement of 3 existing directives

Workplace Inspection Restart



Issued “Safe Startup for Resuming Work” with tips for both office and workers in more hazardous environments

Inspection process reviewed with Division Safety Representatives and other trained inspectors.

OSHE offered assistance in performing inspections; no one was required to return to work just to perform inspections

Spaces were prioritized

1. In-use spaces with potential hazards
2. Unused spaces with potential for unsafe conditions

Refresher training, “Inspector Learning Series” launched



The poster features a dark purple background with a grid of colored squares (red, blue, yellow, and grey) in the top left corner. A yellow triangle with a white checkmark is on the right. The text is white and yellow.

inspector learning series

presented by the Workplace Inspection Program

JULY 21
1:00–2:30 pm EST
11:00 am–12:30 pm MST
Common Problems with PPE
Lisa Derby

SEPT 14
1:30–3:00 pm EST
11:30 am–1:00 pm MST
Identifying Material Handling Hazards
Dale Krupinski
Mike Blumer

OCT 21
10:30 am–12:00 pm EST
8:30–10:00 am MST
meeting link below
Fire Safety Systems for Inspectors
Roby Sagar

Preliminary Workplace Inspection Data



	FY19	FY21
NCNR	458	244
MML	2624	775
CTL	151	157
PML	1960	654
EL	538	163
ITL	419	0
Other	510	76
Total	6660	2069

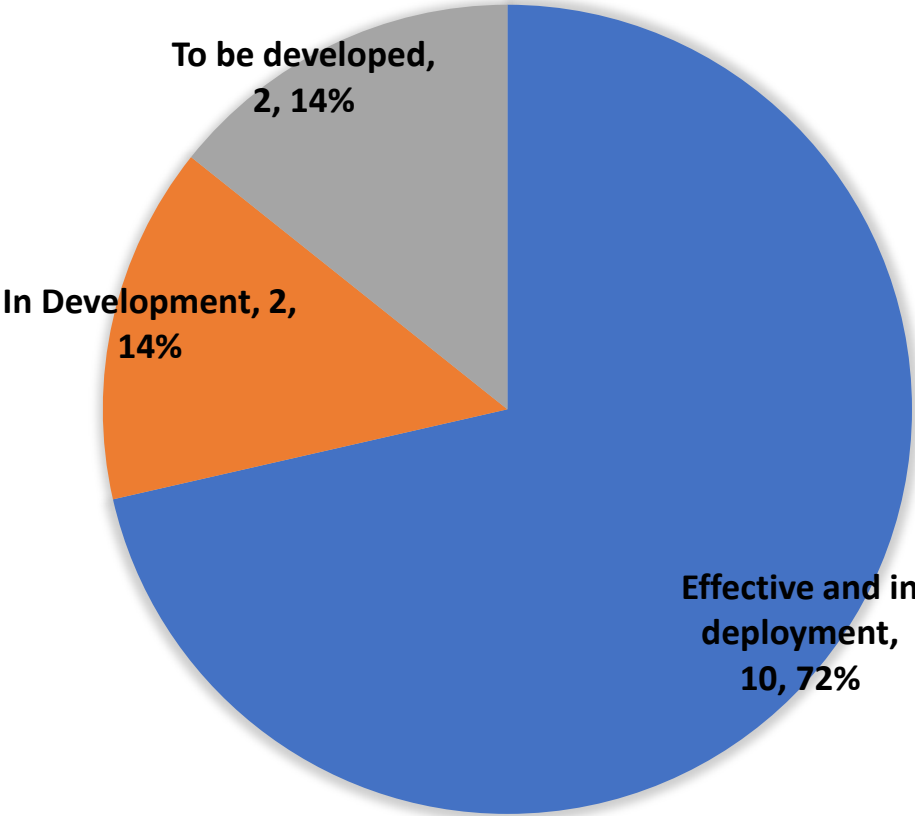
	FY19	FY21
Deficiencies found	4248	1113
Deficiencies fixed*	4442	977

Top 5 deficiency categories for FY21:

- Chemical Labeling (96)
- Lighting Out (64)
- Slip Trip and Fall Hazard (63)
- Housekeeping (63)
- Chemical Inventory (54)

Most of the findings related to lighting outages and slip/trip/fall hazards appear to be related to spaces not being well kept during times of low occupancy.

ENVIRONMENTAL MANAGEMENT PROGRAMS



Key Accomplishments

- On-site review of the DOC Boulder site’s storm water permits by Colorado Dept of Environment (NIST manages for the site)
- Working with OFPM to investigate release of HVAC chilled water and development of corrective actions to prevent future releases (underway)
- Formal process for waivers and variances
- Worked with NCNR and communicated with local water district following NCNR incident
- Issued 4 new directives

Note: NIST meets all EMS regulatory obligations, directives document existing practices



Key Accomplishments

- Safety oversight of relocation of radioactive materials, lab equipment and start of work in Building 245 H-wing
- Internal assessment of incident response capabilities (IRSC)
- NRC inspection of SNM-362 license and E-license programs
- Incident response and mitigation for spill of ^{223}Ra ; NRC investigation underway
- RSIMS, database to manage radioactive materials approvals and inventory tracking implemented
- Assisted NCNR as needed



“One NIST effort”

- Safety specialist participated in initial entry and evolutions following the event to evaluate OSH hazards
- Radiation Safety Division assisted NCNR Health Physics staff, provided equipment and consultation
- Radiation Safety Officer assisted with community outreach, fielding questions at open town hall
- CSO chaired subcommittee of the SEC charged with providing an independent review of NCNR response to event, the circumstances of the event and actions planned to prevent recurrence
- CSO and RSO participate in the NIST-level Incident Response Team (ongoing)
- OSHE will assist NCNR with Safety Culture assessment program (underway)

- ❖ **COVID Management**
 - ❖ Maintaining directives, training, communications
 - ❖ Development of COVID testing program
 - ❖ Health Unit services
- ❖ **Fostering a stronger, more robust safety culture**
- ❖ **Safety Management System**
- ❖ **Formalizing use of safety metrics for risk assessments**

Questions?