

Efficiency in Semi-Annual IACUC Inspections and Reports with Electronic Process

Teresa R. Gleason, Heather L. Claybaugh; Charles River, Ashland, Ohio

1 BACKGROUND

The IACUC Semi-Annual Inspection process presents many challenges. Paper forms for each area (See Figure 1), clipboards, inspector's poor handwriting, and inconsistency in citing the same findings. It also takes considerable time to prepare and send the preliminary report, get responses from appropriate departments, and prepare the final report.

2 GOALS

- Develop an electronic process that would populate the inspection results directly into the inspection report without transcription.
- Save IACUC administrative staff time in assembling the inspection report.
- Improve inspection process for the IACUC inspectors.

3 METHODS

- Utilized Smartsheet forms and automations to develop prototype electronic process.
 - Created electronic inspection forms that resemble tradition paper forms (Figure 2) with area specific instructions and dropdown selections for common findings.
 - Built an IACUC Inspector Dashboard that contains Team assignments, Team checklists, and Electronic Inspection Forms.
 - Used automations to populate reasons for departure and corrective action plans for common findings, and dates of inspection / responses into the inspection report.
 - Used automations to send notifications to set up inspections and when inspections and responses are due.

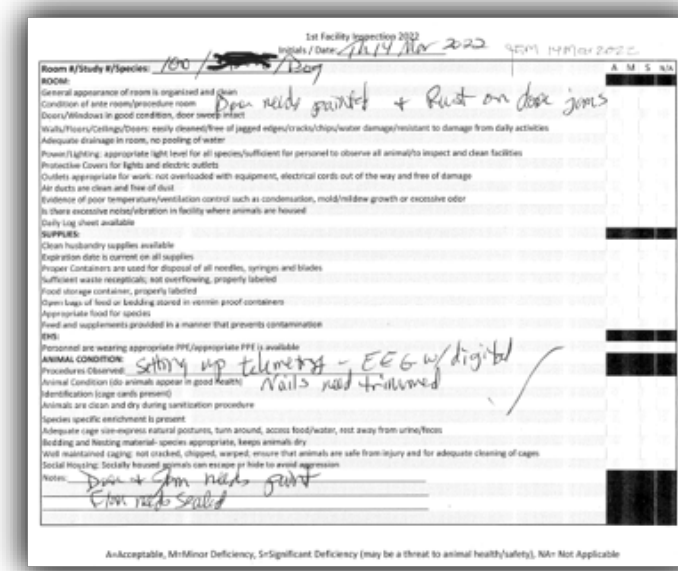


Figure 1 – example of handwritten inspection form during an inspection in March of 2022.

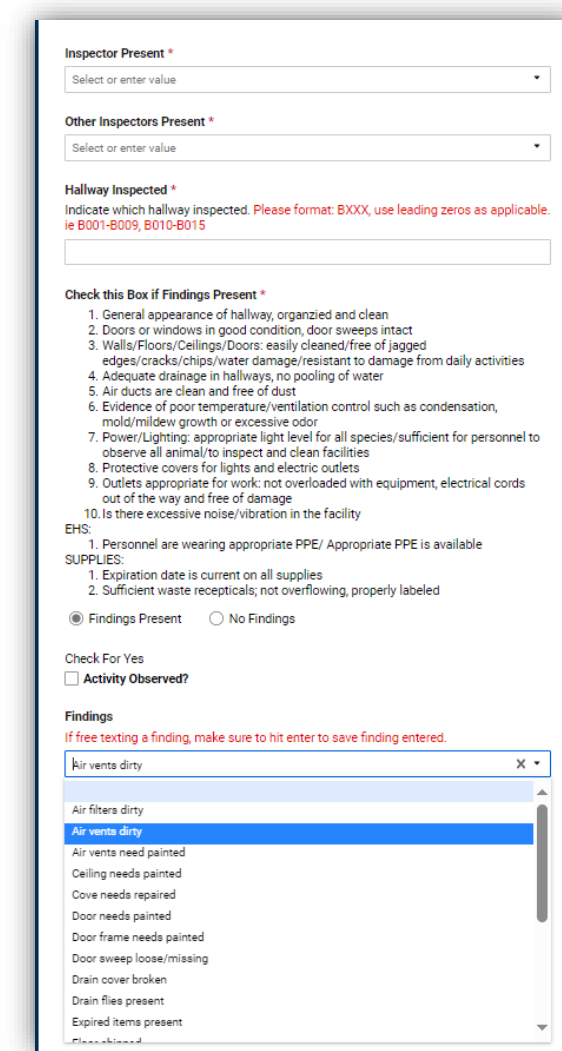


Figure 2 – new electronic inspection form.

- Conducted mock inspections to test the electronic process.
 - IACUC members to provide feedback on functionality and requested enhancements.
 - Completed over four iterations using a step-by-step (AGILE) approach where improvements were made with feedback.
 - Included evaluation of physical equipment:
 - Laptop vs. tablet – laptops were available so were chosen
 - Carry device vs. laptop cart (Figure 3)



Figure 3 – Cart chosen for ease of use & storage of PPE for inspection.

4 RESULTS

- Implementation was successful – Semi-Annual Inspection, September 2022.
 - IACUC Inspector Dashboard assignments and checklists worked well (Figures 4 & 5).
 - Automations populated the inspection report accurately (Figure 6).
 - Automations sent appropriate notifications to IACUC Administrator.

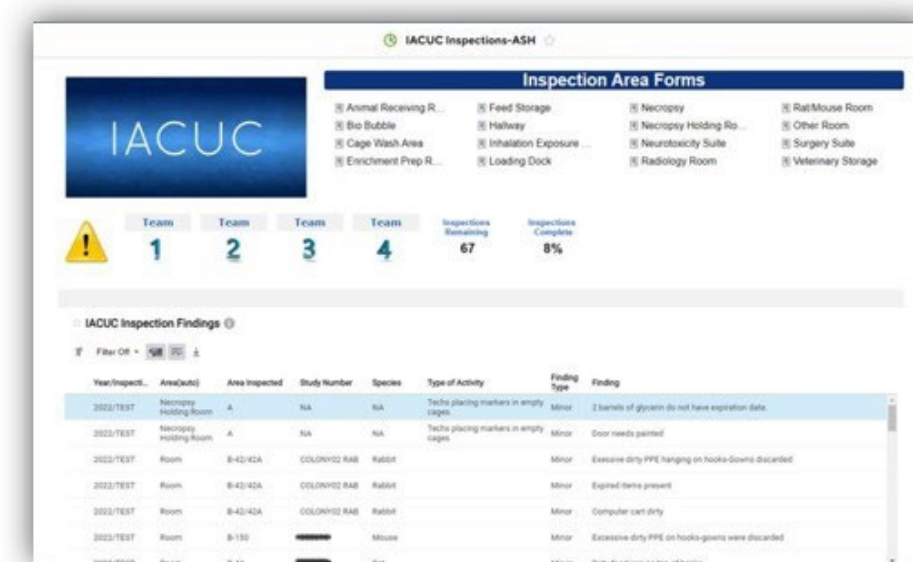


Figure 4– Dashboard inspectors use to access their forms, assignments sheets, metrics on rooms remaining and % complete, and recent findings submitted

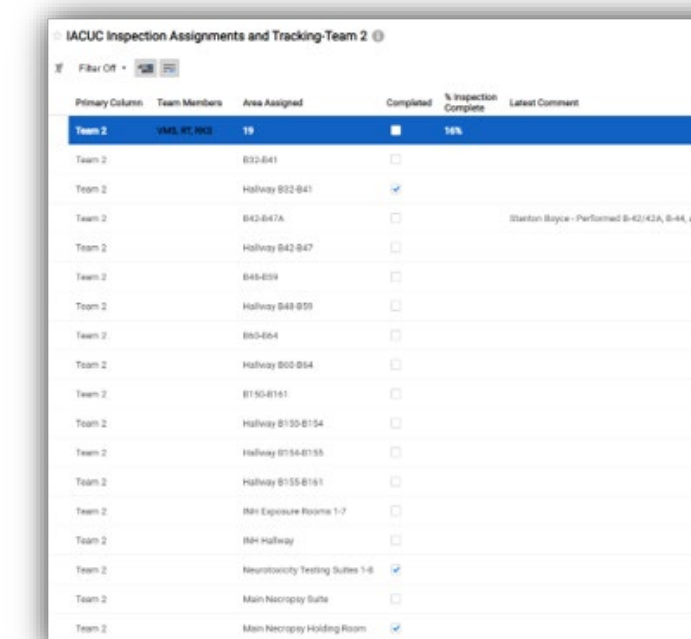


Figure 5 – Assignment sheets list initials of inspectors assigned to that team, the areas that team is responsible for inspecting, check list function to mark the areas off that they are complete, and the ability to comment.

Priority	Year/Inspection	Area Inspected	Study Number	Species	Type of Activity	Finding Type	Finding	Reason for Departure	Corrective Action Plan	Responsible Department	Correction Date	Actual Correction Plan	Date of Reinspection
2022/2nd Annual	Animal receiving room	Animal receiving				Minor	Door frames and seals need repair	Equipment issue	Fill out maintenance request to repair	ACE	10/19/23	Maintenance request submitted for door frame replacement	10/11/23
2023	2023/1st Annual	Animal receiving	Annual	NA	NA	Minor	Smells in four animal cages	Normal clean and TSP	Fill out maintenance request to repair	ACE	10/19/23	Floor repairs scheduled for 10/19/23	10/11/23
2023	2023/1st Annual	Animal receiving	Annual	NA	NA	Minor	Cones needs washed	Equipment issue	Fill out maintenance request to repair	ACE	10/19/23	Cones repairs scheduled for 10/19/23	10/11/23
2023	2023/1st Annual	Animal receiving	Annual	NA	NA	Minor	Computer print broken	Equipment issue	Repair computer print	Equipment	10/19/23	Print cover replaced	10/19/23
2023	2023/1st Annual	Bio Bubble	3	NA	NA	Minor	Outlet cover worn/damaged	Equipment issue	Fill out maintenance request to repair	ACE	10/19/23	Maintenance request submitted	10/11/23
2023	2023/1st Annual	Bio Bubble	1 & 2	NA	NA	Minor	Floor stripped	Normal clean and TSP	Fill out maintenance request to repair	ACE	10/19/23	Floor repairs scheduled on 10/19/23	10/11/23
2023	2023/1st Annual	Cage Wash Area - 5	Clean	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2023	2023/1st Annual	City	City	NA	NA	Minor	Air vents dirty	Human error	Clean	ACE	10/19/23	Units scheduled to be cleaned	10/11/23
2023	2023/1st Annual	City	City	NA	NA	Minor	Fan dirty	Human error	Clean	ACE	10/19/23	Fan scheduled to be cleaned	10/11/23
2023	2023/1st Annual	City	City	NA	NA	Minor	Walls need painted	Human error and TSP	Re-paint lines	ACE	10/19/23	Walls scheduled to be repainted	10/11/23
2023	2023/1st Annual	City	City	NA	NA	Minor	Stagnant air	Human error	Shower appropriately	ACE	10/19/23	Air vents scheduled to be cleaned	10/11/23
2023	2023/1st Annual	City	City	NA	NA	Minor	Smelly air	Human error	Clean	ACE	10/19/23	Smelly air scheduled to be cleaned	10/11/23
2023	2023/1st Annual	City	City	NA	NA	Minor	Broken ceiling tile	Equipment issue	Replace tile	ACE	10/19/23	Broken ceiling tile scheduled to be replaced	10/11/23

Figure 6 – example of inspection report that is autogenerated from base sheet of findings and includes action plans.

5 PROGRAM ASSESSMENT

- Positive Outcomes:
 - Inspectors found the electronic process quicker than paper-based method (Table 1).
 - IACUC Administrator found the electronic process easier - saved on labor (Table 1).
 - Time saved translated to money saved (Table 1).
 - Cost of implementation was approximated to be \$5,285 for inspection carts and method development labor.
 - Labor savings was approximated to be \$ 3,232 per inspection.
 - Cost of implementation was recouped by the next Semi-Annual inspection.
- Challenges / Resolutions:
 - Inspectors needed more training to use dropdowns / given instructional cards for next inspection.
 - Inspection report did not put rooms in numerical order / added leading zeros to room numbers.
 - Potential biosecurity issues with carts / provided decontamination wipes and sprays on each cart.
 - Scheduling of the carts & computers / scheduled the use of carts on a shared IACUC calendar.

Personnel	Task	Time Saved (hrs per inspection)	Inspections per year	Hrs saved	Cost Savings Weighted Wage Rate	Total Wage Savings per year
IACUC Coordinator	Compile Findings Report	34	2	68	\$68.47	\$4,655.96
IACUC Inspector	Inspect animal rooms and areas	0.055 (3.3 min) per room/area	440 (2*220 rooms/areas)	24.2	\$74.65	\$1,806.53
			TOTAL	92.2	-	\$6,462.49

Table 1 – breakdown of time savings in hours and \$ for personnel involved in IACUC inspection.

6 CONCLUSION

- The electronic inspection process is more efficient for the IACUC inspectors and the IACUC administration staff.
- The process has saved countless hours of labor which translates to monetary savings.
- IACUC has successfully used the electronic process for three consecutive Semi-Annual Inspections at our site.
- A template of the process has been provided to several other safety assessment and discovery sites within Charles River to build a process that will work for their institution.
- The process has been implemented successfully at three other safety assessment sites within Charles River.