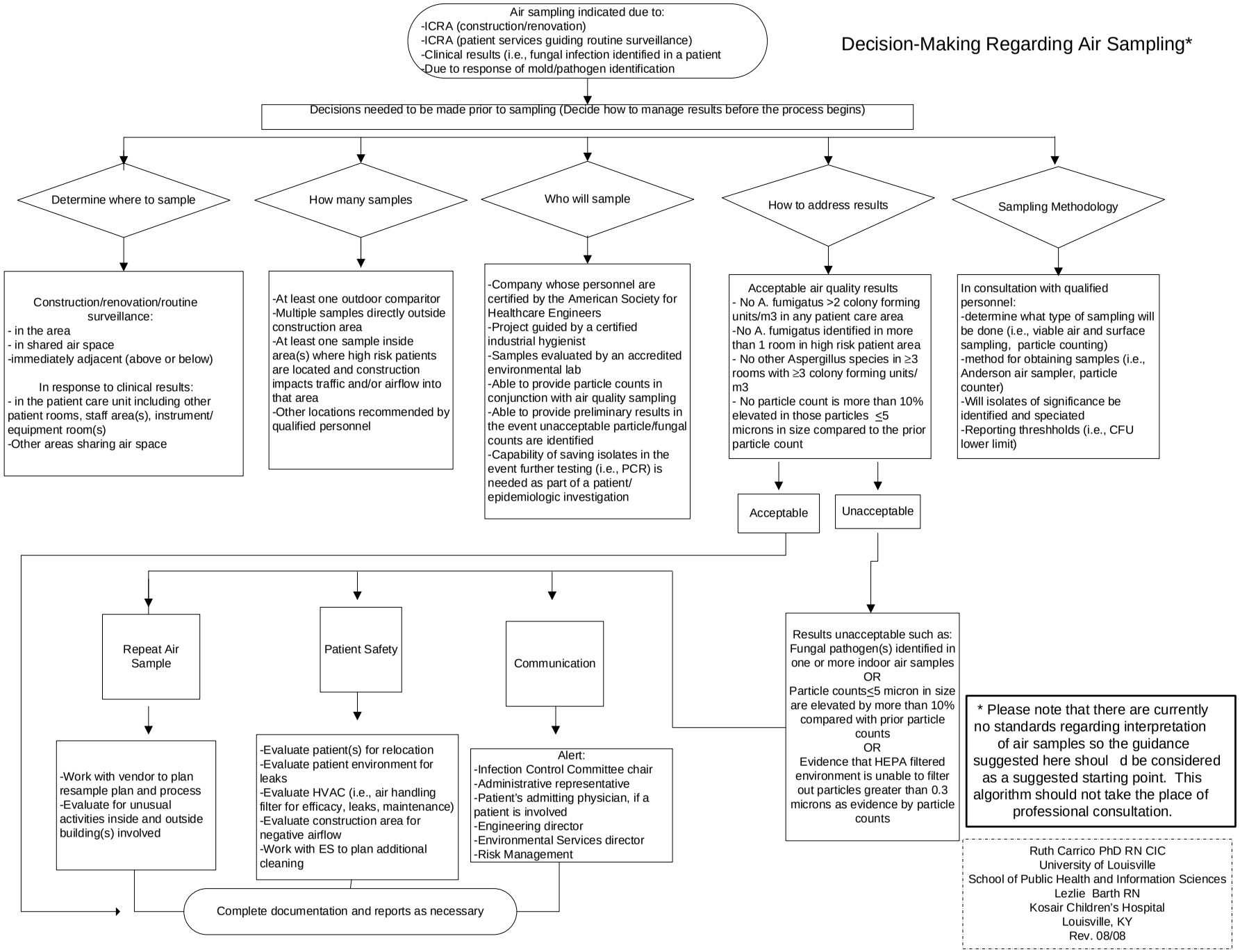
Decision-Making Regarding Air Sampling*
Air sampling indicated due to:
-ICRA (construction/renovation)
-ICRA (patient services guiding routine surveillance)
-Clinical results (i.e., fungal infection identified in a patient
-Due to response of mold/pathogen identification
Decisions needed to be made prior to sampling (Decide how to manage results before the process begins)
Determine where to sample
How many samples
Who will sample
How to address results
Sampling Methodology
Construction/renovation/routine surveillance:
- in the area
- in shared air space
-immediately adjacent (above or below)
In response to clinical results:
- in the patient care unit including other patient rooms, staff area(s), instrument/ equipment room(s)
-Other areas sharing air space
-At least one outdoor comparitor
-Multiple samples directly outside construction area
-At least one sample inside area(s) where high risk patients are located and construction impacts traffic and/or airflow into that area
-Other locations recommended by qualified personnel
-Company whose personnel are certified by the American Society for Healthcare Engineers
-Project guided by a certified industrial hygienist
-Samples evaluated by an accredited environmental lab
-Able to provide particle counts in conjunction with air quality sampling
-Able to provide preliminary results in the event unacceptable particle/fungal counts are identified
-Capability of saving isolates in the event further testing (i.e., PCR) is needed as part of a patient/ epidemiologic investigation
Acceptable air quality results
- No A. fumigatus >2 colony forming units/m3 in any patient care area
-No A. fumigatus identified in more than 1 room in high risk patient area
- No other Aspergillus species in ≥3 rooms with ≥3 colony forming units/ m3
- No particle count is more than 10% elevated in those particles ≤5 microns in size compared to the prior particle count
In consultation with qualified personnel:
-determine what type of sampling will be done (i.e., viable air and surface sampling, particle counting)
-method for obtaining samples (i.e., Anderson air sampler, particle counter)
-Will isolates of significance be identified and speciated
-Reporting threshholds (i.e., CFU lower limit)
Acceptable
Unacceptable
Repeat Air Sample
Patient Safety
Communication
Results unacceptable such as:
Fungal pathogen(s) identified in one or more indoor air samples
OR
Particle counts≤5 micron in size are elevated by more than 10% compared with prior particle counts
OR
Evidence that HEPA filtered environment is unable to filter out particles greater than 0.3 microns as evidence by particle counts
-Work with vendor to plan resample plan and process
-Evaluate for unusual activities inside and outside building(s) involved
-Evaluate patient(s) for relocation
-Evaluate patient environment for leaks
-Evaluate HVAC (i.e., air handling filter for efficacy, leaks, maintenance)
-Evaluate construction area for negative airflow
-Work with ES to plan additional cleaning
Alert:
-Infection Control Committee chair
-Administrative representative
-Patient's admitting physician, if a patient is involved
-Engineering director
-Environmental Services director
-Risk Management
Complete documentation and reports as necessary
* Please note that there are currently no standards regarding interpretation of air samples so the guidance suggested here shoul d be considered as a suggested starting point. This algorithm should not take the place of professional consultation.
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