



## ASHRAE Meeting Agenda TC 9.6 Health Care Facilities

### Atlanta/Hybrid Winter Meeting

**Main Meeting: Sunday, February 5, 2023, 5:00 to 7:00 PM**

**Location, Georgia World Congress Center, A305 (3)**

**(Lemire, Chair; Mead, Vice-Chair; Eldridge; Secretary)**

**Subcommittee meetings will be held in person AND virtually at the following dates and times:**

TC 9.6 Infectious Diseases	(Mead, Chair)	Sunday, February 5, 2:00-3:30 pm EST
TC 9.6 Research	(Thomsen, Chair)	Sunday, February 5, 3:30-4:30 pm EST
TC 9.6 Handbook	(Likhonin, Chair)	Sunday, February 5, 12:00-12:30 pm EST
TC 9.6 Energy	(Eldridge, Chair)	Sunday, February 5, 12:30-1:30 pm EST
TC 9.6 Program	(Granzow, Chair)	Sunday, February 5, 1:30-2:00 pm EST

### ASHRAE Code of Ethics Commitment

*In this and all other ASHRAE meetings, we will act with honesty, fairness, courtesy, competence, integrity and respect for others, and we shall avoid all real or perceived conflicts of interest. (See full Code of Ethics: <https://www.ashrae.org/about/governance/code-of-ethics>)*

### ASHRAE Commitment to Care

*The health and safety of all ASHRAE conference attendees is a top priority. Out of respect for our fellow attendees, we commit to wear masks indoors, monitor our health, seek medical attention if symptoms develop and adhere to all ASHRAE Commitment to Care protocols. We are committed to the well-being of one another.*

Item	Description				Person
1	Introductions, agenda, conference call and attendance documentation instructions				Lemire
2	Roll call, quorum check.				Eldridge
	Name	Voting Status	Committee Position	2/5/23 Attendance	
	Amit Bhansali	Voting	Member	Yes	
	Dan	Voting	Ali Coordinator	Online	

	Koenigshofer				
	David Eldridge	Voting	Secretary	Yes	
	<del>Dylan Neu</del>	<del>Voting</del>	<del>Member</del> Rolled off for Ken		
	Ehsan Mousavi	Voting	Member	Yes	
	George Augustini	Voting	Webmaster	Yes	
	Jeremy Fauber	Voting	Standards Subcommittee Chair	Yes	
	Laurence Wilson	Voting	Member	Online	
	Melvin Glass	Voting	Member	Yes	
	Nicolas Lemire	Voting	Chair	Yes	
	Roger Lautz	Voting	Mtg.acr Liaison	Yes	
	Travis English	Voting	Per Section Head	Out	
	Steve Friedman	Voting	Per Section Head	No	
	Eric Granzow	Voting	Per Section Head	Yes	
	Erick Phelps	Voting	Per Section Head	Yes	
	Frank Mills	Non-Quorum	Per Section Head	No	
3	Minutes - 12 in present, 2 out (including Travis may show back up)				Eldridge
4	Membership Chair Report, Roster Changes, Welcome PCM's				Westbrook
5	Chair's Report TAC Breakfast Meeting - Membership promotion discounts for companies with five new members get 10% off - New members get one free meeting attendance fee waived - Added decarbonization to the strategic plan				Lemire/Eldridge

## Standards Activity June 15, 2022 – February 5, 2023

- 80 active project committees
- 31 published Guidelines
- 131 published Standards
- Public Review Documents
  - 101 Standards, Guidelines and addenda posted for public review
  - 257 comments from 106 commenters
- 51 Addenda published
- 14 Standards published

Need to engage TC liaisons  
in these working groups

Mark Frankel, Chair
Hospital Decarbonization Guide WG Tim Peglow, Chair
Building Performance Standard Technical Guide WG Adam Weiss, Chair

### • Total Annual RAC expenditures by society year

- SY 2019-20 \$5.05M
- SY 2020-21 \$4.89M
- SY 2021-22 \$5.05M
- SY 2022-23 \$5.05M budgeted

### Did You Know??

- ASHRAE currently has 42 active research projects with an average cost of about \$150k for a total value of over \$6.2M
- Since 1959, ASHRAE has sponsored 943 projects for a total cost of nearly \$80M
- ASHRAE members have **FREE** access to **ALL** research project final reports
- ASHRAE provides its members with **FREE** digital downloads of all four Handbooks, which are the largest beneficiaries of ASHRAE research results.
- All this is on [ASHRAE.org](https://www.ashrae.org), just click on RESEARCH

### 2023 Annual Tampa Deadlines

Friday, January 6, 2023 | Website opens for Seminar, Workshop, Panel, Debates and Forums  
 Friday, February 24, 2023 | Technical Paper Final Accept/Reject Notifications  
 Monday, February 27, 2023 | Debate, Panel, Seminar Form, Workshop Proposals Due  
 Wednesday, March 29, 2023 | Extended Abstract Paper Due and Conference Papers Due  
 Friday, April 14, 2023 | Debate, Panel, Seminar, Forum Workshop Accept / Reject Notifications  
 Wednesday, April 26, 2023 | Conference Paper Abstract Accept / Revise / Reject Notifications  
 Wednesday, May 10, 2023 | Revised Conference Papers, Technical Papers Due  
 Sunday, May 21, 2023 | Conference Paper Accept / Reject Notifications

### 2023 Annual Tampa Tracks

Track #	Track	Track Chair
1	Fundamentals and Applications	Brian Frank <a href="mailto:brian.frank@psu.edu">brian.frank@psu.edu</a>
2	HVAC&R Systems and Equipment	Ng Tong Kong <a href="mailto:ntk@nyk.com.my">ntk@nyk.com.my</a>
3	Research Summit	Davide Ziviani <a href="mailto:dziviani@purdue.edu">dziviani@purdue.edu</a>
4	Pathways to Net Zero Energy and Decarbonization	Rafi Karim <a href="mailto:rkarim@aeteng.com">rkarim@aeteng.com</a>
5	Future-Proofing the Built Environment	Scott Peach <a href="mailto:sp@sp.engineering">sp@sp.engineering</a>
6	Building Automation and Control Systems	Raul Simonetti <a href="mailto:raul.simonetti@carel.com">raul.simonetti@carel.com</a>
7	Professional Development and Education	Ahmed Abdel-Salam <a href="mailto:ahaabdel@salam@gmail.com">ahaabdel@salam@gmail.com</a>

Residential building committee  
Globalization of Standards

6

IAQ Pathogen Mitigation Standard – Bill Bahnfleth

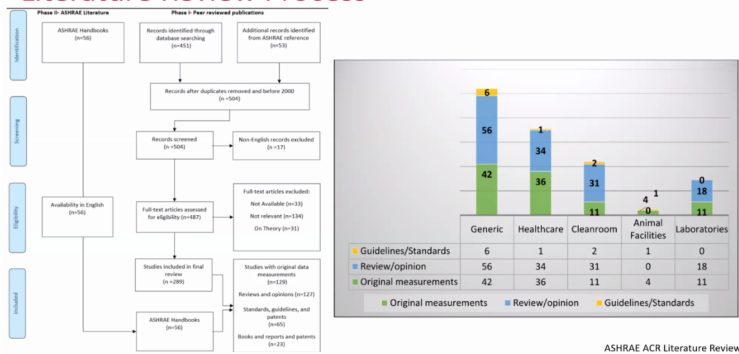
- Committee is notified of the 28 members as of this meeting
- TPS will be evaluated Tuesday
- Spurred by pandemic and then encouraged by the White House for ASHRAE to develop a standard. The Board agreed.
- See the Board website.
- Not ANSI for this one, primarily due to timeline

Bahnfleth

	<ul style="list-style-type: none"> <li>- Big response for applicants, only about 25% were mfg of air cleaning products.</li> <li>- Standard 241P Control of Infectious Aerosols</li> <li>- This standard could include healthcare but doesn't have to cover those spaces, need to coordinate with Standard 170.</li> <li>- Members are not final yet, notice is still out – available soon though.</li> <li>- ACHe to allow for the effectiveness of the air distribution, etc.</li> <li>- Discussion about the ability to look at viable particles but not sure it can be quantified</li> <li>- The purpose would be to inform 62.1 and 62.2.</li> <li>- 241 might go away if the language ends up in the other standards.</li> <li>- Commissioning procedures may be included.</li> <li>- Can it be a letter grade report like NYC, Chicago.</li> <li>- DSE: Should we get a liaison?</li> </ul>	
7	Energy Subcommittee Report <ul style="list-style-type: none"> <li>- Updates to the Toward Zero Guide</li> <li>- Liaison with decarb task force</li> <li>- Outreach about healthcare as</li> </ul>	Leach
8	Programs Subcommittee Report <ul style="list-style-type: none"> <li>- Review of the current programs at this meeting</li> <li>- Tampa looks good for a few seminars – future proofing or automation and controls tracks</li> <li>- Target Chicago</li> </ul>	Granzow
9	Handbook Subcommittee Report <ul style="list-style-type: none"> <li>- ASHRAE working on the proofs and will send back to the subcommittees through mid-March. Will have a week to check any changes once it is received.</li> <li>- Published in May 2023 for June shipments</li> </ul>	Likhonin
10	Research Subcommittee Report <ul style="list-style-type: none"> <li>- Approximately 45 attendees</li> </ul> <h3>Research</h3> <ul style="list-style-type: none"> <li>• TC9.6 Sponsor - RP-1816: Reporting the Energy Use and Heat Gain from Imaging Equipment               <ul style="list-style-type: none"> <li>• Oscar: Underway, coordinating with hospitals and manufacturers to complete data acquisition</li> </ul> </li> <li>• TC9.6 Co-sponsor - 1833 RP: Literature Review for Evidence of the Basis for Specified Air Change Rates (ACR) for Cleanrooms, Laboratories, and Healthcare Facilities with medium to high ACR.               <ul style="list-style-type: none"> <li>• Roger/Kishor: final report approved, presentation today</li> </ul> </li> <li>• TC9.6 Co-sponsor - RP-1780: Test method to evaluate cross-contamination of gaseous contaminant within total energy recovery wheels.               <ul style="list-style-type: none"> <li>• Brendon: Presentation Tuesday, perhaps summary presentation at next meeting</li> </ul> </li> </ul> <h3>Research Development - WS</h3> <ul style="list-style-type: none"> <li>• 1889 TRP: Graywater use in Healthcare Facilities; determining risk and appropriate design responses               <ul style="list-style-type: none"> <li>• Eric/Erica/Tyler: Addressing final comments prior to bid</li> </ul> </li> <li>• TC9.6 Co-sponsor with TC2.9 - 1873 TRP: UVGI Design Applications for Large Volume Spaces               <ul style="list-style-type: none"> <li>• Ken: Approved for bid, timing TBD</li> </ul> </li> <li>• 1864 WS: Investigating the applicability of Standard 62.1's Ventilation Rate Procedure for Healthcare Rooms               <ul style="list-style-type: none"> <li>• Paul/Ken/Kathleen/Alejandro/Arun/Abdel: Submitted to RAC; accepted with comments!</li> </ul> </li> <li>• TC9.6 Co-sponsor with TC2.9 - 1928 WS: Air Cleaner Efficiency in Combination Chamber Duct System               <ul style="list-style-type: none"> <li>• Ken: RAC provided comments which 2.9 addressed and resubmitted; accepted with comments!</li> </ul> </li> <li>• TC9.6 Co-sponsor with ACR MTG - 1936 WS: Air Change Rate Impact on Ventilation Effectiveness               <ul style="list-style-type: none"> <li>• Kishor: Price Industries agreed to co-fund, development underway</li> </ul> </li> </ul>	Thomsen

	<h2>Research Development - RTAR</h2> <ul style="list-style-type: none"> <li>1949 RTAR: Efficiency of filtration with respect to the extra cost and energy burdens <ul style="list-style-type: none"> <li>Ardas/Kathleen/Ramon/Geoff: Long time coming, submitted to RAC. RAC comments forthcoming</li> </ul> </li> <li>TC9.6 Co-sponsor with TC2.1 – 1931 RTAR: Determination of the Metabolic Rates and CO2 and Aerosol Generation of Occupants in Modern Offices, Medical Settings, and Commercial Kitchens <ul style="list-style-type: none"> <li>Mike: Introduced at subcommittee, will be shared and voted on prior to March RAC deadline</li> </ul> </li> </ul> <h2>Research Development - RTAR</h2> <ul style="list-style-type: none"> <li>XXXX RTAR: Understanding the appropriate application of humidity and temperature control strategies across climate zones on infectious aerosol transmission <ul style="list-style-type: none"> <li>Jonathan/Alejandro/Duncan/Traci/Brendon: Awaiting 170 workgroup</li> </ul> </li> <li>XXXX RTAR: Recirculation efficiency in reducing energy consumption when compared with the potential of infection transmission costs <ul style="list-style-type: none"> <li>Ardas/Kathleen/Ramon/Geoff: Pending outcome of 1949, Previous support needs scope refresh and potential additional volunteers</li> </ul> </li> <li>XXXX RTAR: Anteroom ventilation rate, temperature range, pressure relationship, and boundary conditions <ul style="list-style-type: none"> <li>Ted/Ehsan/Kishor/Ken/Tom/Arun/Christopher: Presentation, vote request forthcoming</li> </ul> </li> <li>Lead Required - XXXX RTAR: Patient bathroom ventilation design <ul style="list-style-type: none"> <li>Steve/Ken/Rick/Travis/Kishor/Linda/Stephanie/Larry/Traci: Rough draft of RTAR started, really need lead</li> </ul> </li> <li>Lead Required - XXXX RTAR: Risks Associated with different medical practices (clinic, MOB, hospital) <ul style="list-style-type: none"> <li>Michael/Kurt:</li> </ul> </li> <li>Lead Required - XXXX RTAR: Understanding total air changes <ul style="list-style-type: none"> <li>Jeremy:</li> </ul> </li> <li>Lead Required - XXXX RTAR: Ventilation Mixing/Dilution – airflow patterns and air change rates <ul style="list-style-type: none"> <li>Jeremy:</li> </ul> </li> </ul> <h2>Research Development - PTAR</h2> <ul style="list-style-type: none"> <li>TC9.6 Co-sponsor with TC3.6 - PTAR: Publication - Guidelines for State Codes on Secondary Water Treatment Systems for Buildings <ul style="list-style-type: none"> <li>Erica/Tyler/Eric: RAC rejected, revision underway</li> </ul> </li> </ul> <h2>Research Development - Other</h2> <ul style="list-style-type: none"> <li>Big Data Operating Room Air Change Analysis <ul style="list-style-type: none"> <li>Ehsan/Roger/Fred/Travis: DOE seed money possible for pilot, utilize public SSI data and annual TAB. Preliminary results soon</li> </ul> </li> </ul>	
11	<h3>Infectious Diseases Subcommittee Report</h3> <ul style="list-style-type: none"> <li>Around 45 attendees</li> <li>Dylan Neu will take over July 1<sup>st</sup>.</li> <li>Inheriting the ETF duties</li> <li>Lessons learned from the pandemic – generate some programs, research</li> <li>Temperature/humidity workgroup led by Traci will be developed</li> <li>Roger's study about surgical site infections as affected by temperature</li> <li>Dylan presented interventions to protect ambulance-based EMTs</li> <li>Toilet plume papers, RTAR</li> <li>Far UV 222 nm as opposed to 254 nm used currently. Emerging technology that needs more research and long-term study</li> <li>Discussion of current airborne infectious diseases</li> </ul>	Mead
12	<h3>Webmaster Report</h3> <ul style="list-style-type: none"> <li>Basecamp is still for voting members only</li> <li>Content goes on the website.</li> </ul>	Augustini
13	<h3>Section Head Comments</h3> <ul style="list-style-type: none"> <li>New TG9.space</li> <li>MTG-OBB – occupant behavior, wants to become a TC</li> <li>Building Performance Standard guide published</li> <li>International Standard Interaction Task Force – make them universal throughout the world, both how to promote but also what can we learn from the current global standards</li> <li>Identify as international</li> </ul>	Cochran

	<ul style="list-style-type: none"> <li>- Increase the adoption and knowledge of the strategic goals to the TC's and get them to be implemented. Or is there feedback to not pursue one for some reason.</li> </ul>	
14	<p>ALI</p> <p>Annual Conference June 25, 2022</p> <p>National Institute of Health (NIH) online course July 19-20, 2022.</p> <p>Navy Military Sealift Command. In person class, Norfolk, VA Nov 3, 2022.</p> <p>Fall online Nov 15-16</p> <p>Upcoming Classes:</p> <p>Winter Conference Tuesday, Feb 7, 2023.</p> <p>Online class for Pinnacle Infotech (a consulting firm in India. Feb 20-21</p> <p>NIH online class April 25-26</p> <p>I forgot to mention that the class will also be offered as part of the 2023 Spring online courses. I don't have the final dates yet.</p> <p>-</p>	Burrough
15	<p>Liaison Reports</p> <p>-Std. 170</p> <ul style="list-style-type: none"> <li>- Meeting Monday afternoon and Tuesday morning in North Building</li> <li>- Agenda including interpretations, addenda, etc.</li> </ul> <p>-Std. 189.3</p> <ul style="list-style-type: none"> <li>- Meeting 8-12 Monday, revision to TPS which is out for letter ballot, decarbonization is a big topic.</li> <li>- Stay inline with 189.1 to coordinate with</li> </ul> <p>-Std. 188 - none</p> <p>-Std 90.1 - none</p> <p>-Std 55 – Meteyer pushing to use the clo data</p> <p>-Std 62 – Burley updates</p> <p>-Environmental Health – meets tomorrow.</p>	<p>Fauber</p> <p>Fauber</p>
16	<p>Healthcare Decarbonization Guide (ASHRAE/ASHE collaboration)</p> <ul style="list-style-type: none"> <li>- Kara Brooks is the senior sustainability manager for ASHE, the Green Queen</li> <li>- TFBID met this morning, updated the webpage with the roadmap of the guides, terminology, etc.</li> <li>- Building Performance Standard</li> <li>- Why hospital buildings? Different, ...</li> <li>- Contact Stephenie, Bids are due February 20<sup>th</sup>, award March 24<sup>th</sup>.</li> <li>- Concentrated on North America for this RFP.</li> <li>- There was an intention to bid due previously.</li> <li>- ASHRAE/ASHE co-sponsorship guidebook – ASHE partnership is great to reach the consumers that aren't all engineers or ASHRAE</li> </ul>	Kara Brooks

	<p>members</p> <ul style="list-style-type: none"> <li>-</li> <li>-</li> </ul>	
17	<p>Update on Standard 514</p> <ul style="list-style-type: none"> <li>- NFS is a co-sponsor</li> <li>- Tom Watson</li> <li>- TPS Expands other scope of water quality beyond legionella</li> <li>- April 2022 first public review draft, hundreds of comments</li> <li>- Anticipated ISC draft early 2023</li> <li>- Completed standard 2023</li> <li>- ISC allows comment only on the newly changed portions</li> <li>- 188 coordination will continue</li> <li>- EVERYTHING is included</li> </ul>	Flannery
18	<p>Update on Design Guide for Zero Net Energy Hospitals</p> <ul style="list-style-type: none"> <li>- Frank is a new Fellow!</li> <li>- DSE updates – need to reconnect with REHVA partners, complete ASHRAE’s requests, consider any new additions since 2020</li> <li>- Frank agrees</li> <li>- TC 2.8 has an RTAR for net zero hospitals</li> </ul>	Mills
19	<p>Technical Presentation – MTG ACR</p> <p><b>Status</b></p> <ul style="list-style-type: none"> <li>• Final report is approved by the Project Monitoring Subcommittee</li> <li>• The final presentation of the work was made to MTG:ACR <ul style="list-style-type: none"> <li>• Vote pending 17Feb2023</li> </ul> </li> <li>• Formal Publication pending approval</li> <li>• Seminar at Summer Meeting application pending approval</li> </ul> <p><b>Literature Review Process</b></p>  <p><b>Literature Quality &amp; Hidden Sources</b></p> <div> <div> <p><b>Literature Quality</b></p> <ul style="list-style-type: none"> <li>• Few papers defined terms or referenced a definition source. Readers must interpret the intent.</li> <li>• Half of papers didn’t include a bibliography leading to a lot of dead ends.</li> </ul> </div> <div> <p><b>Hidden Sources</b></p> <ul style="list-style-type: none"> <li>• Identified titles of papers that could not be found despite team’s best efforts.</li> <li>• Potential that standards committees had presentations/data that was not published and might only be found in meeting notes if at all.</li> </ul> </div> </div>	Lautz

## Additional Literature Context

- **Sensors**
  - CO2 sensing invented in 1870's
  - Refrigeration/cooling invented in 1920's.
  - Air flow meter invented in 1950's and widely available in 1990's
- **Influences**
  - Agriculture was dominant global industry through early 20th century.
  - Growth of cities and population density started in 1920's
  - Inventions (atom bomb, microprocessor, etc.) spurred new developments
  - Outbreaks (TB, etc.) spurred a focus on human health and airborne disease transmission

## Objective 1 - Terminology

1. Provide an understanding of the meaning and use of terminology such as ventilation effectiveness, ventilation rates, etc. associated with ventilation of spaces of differing applications.

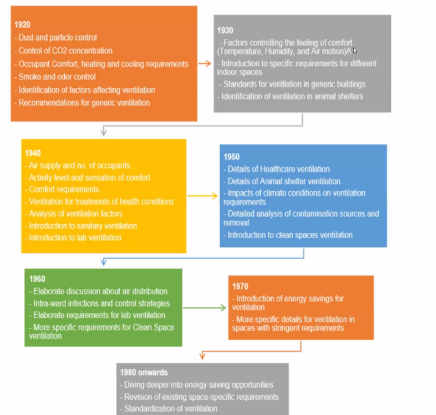
- Few sources defined ventilation terms, but many used them.

Table 3: Summary of Article Distribution with Respect to Space Function and Availability of Definitions\*

	LAB & Animal Lab	HCF	CR
Publications	192	973	171
E-file Available	160	802	148
Relevant	47	65	30
Contain Definition	22	23	17

## Evolution of Ventilation

- Necessity is the mother of invention.
  - Economic, environmental, and social needs drove research.
- Key performance indicators drive terminology, units, and air flow rates.



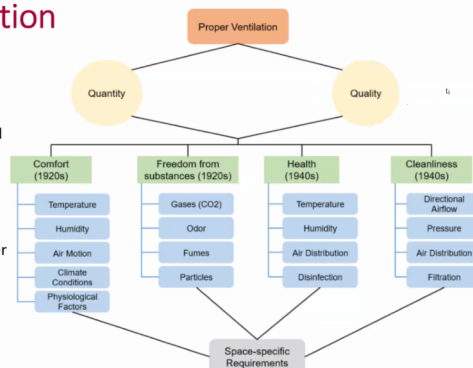
ASHRAE ACR Literature Review

## "Proper" Ventilation

### Ventilation

**Requirements** are expressed as the quantity and quality of air required to achieve 'proper' ventilation

The term '**proper**' has evolved over time and application range





## Units of Ventilation

- Identifiable key variables seem to drive type of units used for design.
  - Per person
  - Per animal
  - Contaminant concentration
- Air change rate appears to be mostly used when no other easily identifiable/measurable driver is observed.

## Early Ventilation Tables

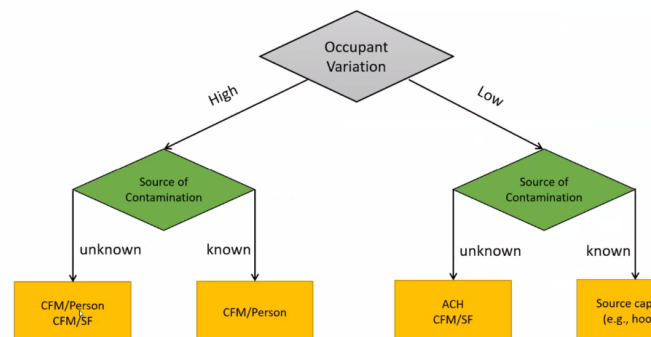
Minimum Outdoor Air Requirement to Remove Objectionable Body Odors under Laboratory conditions (from ASHVE Guide, 1953, page - 113)

Nuances in assumed cleanliness of occupants vs. ventilation rate

Assumption was the poorer children emitted more odors than middle class children which in turn emitted more odors than wealthy children (attending private school).

Type of Occupants	Air space per person ft <sup>3</sup>	Outdoor Air Supply CFM per person
<b>Heating Season with/without recirculation, air not conditioned</b>		
Sedentary adults of average socio-economic status	100	25
	200	16
	300	12
Laborers	200	23
Grade School children of average socio-economic status	100	29
	200	21
	300	17
Grade School children of lower socio-economic status	200	38
	100	22
Children attending private School	100	22
<b>Heating Season, total air circulation 30 CFM per person</b>		
Sedentary Adults	200	12
<b>Summer Season, air-cooled and dehumidified by spray dehumidifier, spray water changed daily. Total air circulation 30 CFM per person</b>		
Sedentary adults	200	<4

## Flow chart of ventilation rate units



## Ventilation rates recommended for Public buildings, as recommended by General Morin

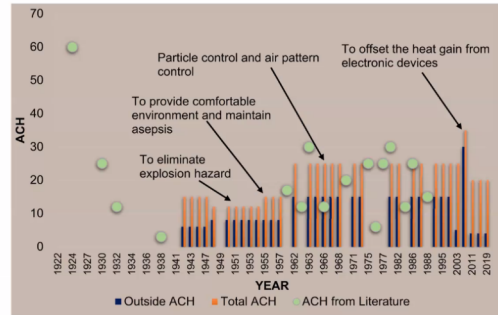
These values emanate from "...his own observations and the consideration of those obtained by others".

Space Function	Airflow (CF per hour per person)	Temperature (°F)
Hospitals for ordinary patients	2000-2400	61-64
Ditto, in cases of epidemics	5000	61-64
Workshops, ordinary trades	2000	59
Ditto, unhealthy trades	3500	59
Prisons	1700	59
Theatres	1400-1700	68-72
Meeting halls	1000-2000	66-72
Schools for children	400-500	66-68
Schools for adults	800-1000	66-68

- No documentation where these numbers came from though.
- Review the objectives

## Operating Room Air Change Recommendations

- Time variation of ASHRAE recommendations for Operating Room (bar-chart) versus ACH magnitudes from scientific literature (circle markers).
- The main reasons for change in the recommendations are stated in the graph.
- Literature identified in Table 8 of report (pages 39-41)



- Great bibliography with indexing of the keywords, goals of the source
- No single numerical answer was found

### Airflow Rate Conclusions, cont.

- Laboratories are highly variable space types as the contaminant(s) of concern vary greatly between labs (temperature, odors, VOCs, particles, radiation, etc.). This results in engineered solutions that determine appropriate air flow rates based on appropriate inputs.
- Healthcare spaces are the most complex and least controlled environments. Patient outcomes are a complex KPI to measure that is often confidential. Patient factors (health, age, etc.) are highly variable and uncontrolled. Procedure types (cleanliness) vary greatly from patient-to-patient. Generic air change rates are used as alternatives haven't been developed yet.

### Future Work

- Develop quality standards for ventilation publications as a response to the fact that most published works do not define terms, provide original measurements, or conduct controlled experiments.
- Key studies from the 19th and 20th centuries should be redone rather than referenced as measurement technology has advanced considerably.
- A research agenda needs to be established and funded. For the last 150 years funding has been poor and inconsistent (reactionary). Social/economic needs are always present and affect nearly everyone on the planet.
- Reactionary research is the common mode through history
- February 17<sup>th</sup> vote with the MTG
- Need to find out how to publish with ASHRAE
- DSE to clean up the screenshots as this is pre-publication

Comment: we should ask for funding for next research, the governmental agencies coming to request ASHRAE but should be a coordinated effort.

20	<p>Miscellaneous</p> <ul style="list-style-type: none"> <li>- Fauber notes that FGI guidelines are soliciting comment on what they should be reviewing in the next five years.</li> </ul>	Lemire
21	<p>Closing Remarks</p> <p>Next meeting Tampa end of June</p>	Lemire

