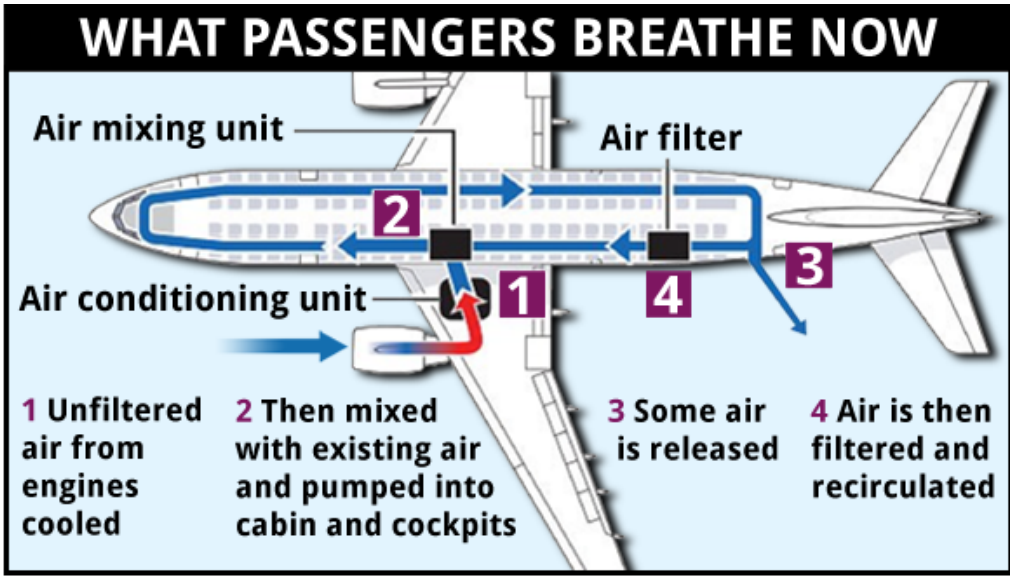
- The air we breath inside of aircraft cabins is subject to mechanical processes which, when malfunctioning, can cause severe, negative public health effects.

- In order to create breathable air at 40,000 feet in the sky, most modern aircraft pull oxygen from over their wings, warm this oxygen over the engines, and then compress it before venting the air into the cabin. This air is then filtered and a portion of it is recirculated.



- When the engine or compressor malfunctions, engine oil, jet fuel, or other fluids can leak into the process and be gasified. Passengers and crew then breath in these compounds. This is known as a "fume event".

- These chemical compounds can be potent nerve agents when inhaled or absorbed through the skin. Effects of exposure to these agents include brain damage, nerve damage. Prolonged exposure to low doses of these, like the kind flight crews may have, can be equivalent to one acute event.

- Concerningly, our aircraft are not currently equipped to detect when a fume event is occurring nor are there clear reporting requirements. Passengers and flight attendants often report a "dirty sock" or "mildew" smell during these events.

- The Cabin Air Safety Act of 2021 (H.R. 2208/S. 1112) would directly address this issue by requiring the FAA to create reporting processes for when these events occur. The bill also requires sensors to be placed onboard aircraft to alert the crew when a fume event is happening so they can respond appropriately.