The Swiss Cheese Model of accident causation is widely used in industries throughout the world, including mining, in risk analysis and risk management. It uses cheese slices in a diagram to show how accidents can occur unexpectedly when certain events, conditions, or hazards “line up” at the same time in an unprotected system.

**What Are the Holes?**
The holes represent weaknesses in individual parts of the system. They continually vary in size and position across the slices.

**When Does a “Failure” Occur?**
When a hole in each slice momentarily aligns, there is an opportunity for an accident to happen. That’s when a hazard passes through holes in all of the slices and can lead to a failure.

**What Can Lead to Failure?**
1. Organizational influences
2. Unsafe supervision
3. Preconditions for unsafe acts
4. The unsafe acts themselves
   - Most accidents can be traced to one or more of these four failure “domains.”

**Who’s to Blame for Failure?**
It’s inevitable that humans will make mistakes. But in the Swiss Cheese Model, most errors are caused by an organization having incomplete layers of protection, which allow errors to line up and “pass through the cheese” until an accident occurs.

**Active & Latent Failures**
Active failures occur immediately and are often caused by a person or persons’ actions or inactions. These failures can be directly linked to an accident. Latent failures include conditions that may be “hidden” for long periods of time until, one day, they contribute to an accident. The Swiss Cheese Model considers both types of failures.

**Who Created the Swiss Cheese Model?**
James Reason developed the concept and first described it in his 1990 book “Human Error.” He is currently Professor Emeritus of Psychology at the University of Manchester, England.

**Sources:**

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