

Epidemiology of Laboratory-Acquired Infections (LAIs):

Laboratory-acquired infections (LAIs) were considered significant because of the high risk in the laboratory workforce relative to the public, although the exposure to infectious agents can be higher in other groups of healthcare workers. Sulkin and Pike in 1949 studied several works of literature and mail surveys with an attempt to evaluate the risk of infection associated with employment in a clinical or research laboratory. Follow-up studies and reviews led to the identification and description of hazards unique to these laboratories, which later formed a basis for the development of approaches to prevent the emergence of LAIs.

The incidence of laboratory-acquired infections varies among institutions conducting surveys to a specific or group of laboratories and facilities. Monitoring and evaluation of LAIs are still absent for many institutions which could be caused by the difficulties in the reporting schemes and lack of accurate data interpretation. For instance, reporting of LAI is not similar to the reporting of notifiable diseases which is highly regulated for each healthcare institution across countries as implemented by their ministries of health. Laboratory-acquired infections may not always manifest as a disease entity. An example would be a person infected with tuberculosis, who could have an infection with TB bacilli but with no signs and symptoms, thus, cannot be considered as TB disease. No national and global recording and reporting of LAI is in place. Though LAI incidence is reported in several publications recently, the variables and the levels of measurement under study differ, hence, combination and comparison of such studies is not a simple task. However, the need for data collection for current LAIs should highlight the importance of improving biosafety which outweighs the above issues. LAI databases were then created to contain all recently published studies and to verify its relevant findings. While these address the need for acquiring new information, it will not replace the reporting schemes implemented by individual institutions.

Regarding potential risks for zoonotic diseases, viruses predominate, followed by bacteria and parasites. The importance of risk assessment and management was also emphasized, including preventive practices. A strict biosafety measure is a must for these working environments to protect themselves and the community.