KEY WORDS AND PHRASES FOR BACTERIAL QUORUM SENSING, PATHOGENICITY ISLANDS, AND SECRETION SYSTEMS CONCEPT MAP

The ability of a microbe to cause disease and inflict damage upon its host.

This enables the initial bacteria to attach to host cells in order to resist flushing and begin colonization.

The degree of pathogenicity within a group or species of microbes.

As the bacteria begin to replicate, these enable the bacteria, by way of twitching motility, to crawl along the surface of the mucous membranes and spread out.

Autoinducers produced by one bacterium cross the membrane of another and bind to receptors in its cytoplasm.

This enables the initial bacteria to swim through mucus towards host tissues such as mucous membranes.

Communicating with members of their own species.

As the pili retract these enable a more intimate attachment of the bacterium.

When *P. aeruginosa* first enters the body, motility genes coding for flagella, and adhesin genes coding for pili and cell wall adhesins are expressed.

Enables the bacteria to get nutrients from damaged host cells.

Once *P. aeruginosa* is able to replicate and achieve a high population density, quorum sensing leads to activation virulence genes coding for exoenzyme, toxins, and formation of a biofilm.

type 6 secretion system

Biofilm formation.

Communicating with bacteria that are not of their genus and species.

Molecules expressed and secreted by that enable them to colonize the host, evade or inhibit the immune responses of the host, enter into or out of a host cell, and/or obtain nutrition from the host.

type 3 secretion system

The production, release, and community-wide sensing of molecules called autoinducers that modulate gene expression in response to the density of a bacterial population.