

Supplementary Table 1. Overview of key variables in dataset

Variable Name (<i>data_field_name</i>)	Description
Organism Group (<i>taxgroup_name</i>)	Organism group related to taxonomy for purposes of calculating SNP clusters. The organisms groups are manually constructed and may include sister species and outgroups.
Strain (<i>strain</i>)	Microbial strain name, if provided by the submitter. This field contains values exactly as they were entered by the data submitters.
Isolate identifiers (<i>isolate_identifiers</i>)	A list of alternative identifiers the isolate may be known by.
Serovar (<i>serovar</i>)	Combined field of sub-species, serotype, or serovar, if provided by the submitter.
Isolate (<i>target_acc</i>)	Pathogen Detection accession of the isolate. The accession begins with the prefix “PDT” (stands for Pathogen Detection Target).
Host (<i>host</i>)	Host species, if provided by the submitter.
Create date (<i>creation_date</i>)	The date on which this isolate was first seen by the Pathogen Detection System. Format: YYYY-MM_DD.
Location (<i>geo_loc_name</i>)	<p>Geographical origin of the sample, if provided by the submitter. Matches the country qualifier of GenBank records.</p> <p>Location data field typically contains two parts: Country:Region</p> <ul style="list-style-type: none">- Country is controlled- Region is not controlled and can be anything (state abbreviation, province name, city name, zip code, etc.
Lat/Lon (<i>lat_lon</i>)	The geographical coordinates (latitude and longitude) of the location where the sample was collected, if provided by the submitter.
Isolation source (<i>isolation_source</i>)	Describes the physical, environmental and/or local geographical source of the biological sample from which the sample was derived, if provided by the submitter.

Isolation type (<i>epi_type</i>)	<p>Isolation type of an isolate:</p> <ul style="list-style-type: none"> - Clinical OR environmental/other OR NULL <p>The isolation type (<i>epi_type</i>) is used to calculate the SNP distance values Min-same and Min-diff.</p>
SNP cluster (<i>erd_group</i>)	<p>Pathogen SNP cluster accession.</p> <ul style="list-style-type: none"> - SNP cluster: group of isolates whose genome assemblies are closely related, depending on the clustering methodology used. - ERD stands for Epidemiologically Related Distance. <p>Each SNP cluster can be viewed as a phylogenetic distance tree in the SNP Tree Viewer.</p>
Min-same (<i>minsame</i>)	<p>Minimum SNP distance from this isolate to one of the same isolation type.</p> <ul style="list-style-type: none"> - Ex: minimum SNP distance from one clinical isolate to another clinical isolate, or from one environmental isolate to another environmental isolate
Min-diff (<i>mindiff</i>)	<p>Minimum SNP distance from this isolate to one of a different isolate type.</p> <ul style="list-style-type: none"> - Ex: minimum SNP distance from a clinical isolate to an environmental isolate. <p>Value will appear in this column only if the isolate has been found by Pathogen Detection Project data processing pipeline, belongs to a SNP cluster and another isolate in that cluster has a different “Isolation type” that is not NULL.</p>
AMR genotypes (<i>AMR_genotypes</i>)	Antimicrobial resistance (AMR) genes found in the isolate during analysis (with AMRFinderPlus).
Stress genotype (<i>stress_genotypes</i>)	Stress resistance genes found in the isolate during analysis (with AMRFinderPlus).

Virulence genotypes (<i>virulence_genotypes</i>)	Virulence genes found in the isolate during analysis (with AMRFinderList). The genes that have been identified in an isolate's genome sequence are grouped into genotype categories - complete, partial, partial end of contig.
--	--