COVID SQL REPORT

By Gaurav chandra

```sql
--total cases vs total deaths
--this shows the likelihood of dying bcuz of covid
select  location,date,total_cases,total_deaths ,(total_deaths/population)*100 as total_death_percentage
from dbo.coviddeaths
where continent is not null and total_cases is not null and total_deaths is not null
order by 1,2
```

Results | Messages

	location	date	total_cases	total_deaths	total_death_percentage
1	Afghanistan	2020-03-24 00:00:00.000	40	1	2.43138793446106E-06
2	Afghanistan	2020-03-25 00:00:00.000	42	1	2.43138793446106E-06
3	Afghanistan	2020-03-26 00:00:00.000	74	1	2.43138793446106E-06
4	Afghanistan	2020-03-27 00:00:00.000	74	1	2.43138793446106E-06
5	Afghanistan	2020-03-28 00:00:00.000	80	2	4.86277586892213E-06
6	Afghanistan	2020-03-29 00:00:00.000	91	2	4.86277586892213E-06
7	Afghanistan	2020-03-30 00:00:00.000	106	3	7.29416380338319E-06
8	Afghanistan	2020-03-31 00:00:00.000	114	4	9.72555173784425E-06
9	Afghanistan	2020-04-01 00:00:00.000	166	4	9.72555173784425E-06
10	Afghanistan	2020-04-02 00:00:00.000	192	4	9.72555173784425E-06
11	Afghanistan	2020-04-03 00:00:00.000	194	4	9.72555173784425E-06
12	Afghanistan	2020-04-04 00:00:00.000	254	5	1.21569396723053E-05
13	Afghanistan	2020-04-05 00:00:00.000	274	5	1.21569396723053E-05
14	Afghanistan	2020-04-06 00:00:00.000	299	7	1.70197155412274E-05

```sql
-- here,i have made a stored procedure with a variable location so that we can filter the above data as
per location

drop procedure if exists Death_Percentage

create procedure Death_Percentage
@location nvarchar(255)
as
drop table if exists #death_percentage
create table #death_percentage(
location nvarchar(255),date datetime,total_cases float,total_deaths float,death_percentage float
)
insert into #death_percentage
select  location,date,total_cases,total_deaths ,(total_deaths/total_cases)*100 as death_percentage
from dbo.coviddeaths
where location like @location
order by 1,2
select * from #death_percentage

--in order for the stored procedure to work properly ,you must first command the drop procedure line
first,and then
--select the rest of code including select * from #table and then run the execute command
exec Death_Percentage @location = '%India%'
```

Results Messages

	location	date	total_cases	total_deaths	death_percentage
69	India	2020-03-11 00:00:00.000	60	NULL	NULL
70	India	2020-03-12 00:00:00.000	73	NULL	NULL
71	India	2020-03-13 00:00:00.000	81	1	1.23456790123...
72	India	2020-03-14 00:00:00.000	84	2	2.38095238095...
73	India	2020-03-15 00:00:00.000	107	2	1.86915887850...
74	India	2020-03-16 00:00:00.000	114	2	1.75438596491...
75	India	2020-03-17 00:00:00.000	137	3	2.18978102189...
76	India	2020-03-18 00:00:00.000	151	3	1.98675496688...
77	India	2020-03-19 00:00:00.000	173	4	2.3121387283237
78	India	2020-03-20 00:00:00.000	223	4	1.79372197309...
79	India	2020-03-21 00:00:00.000	283	4	1.41342756183...
80	India	2020-03-22 00:00:00.000	360	7	1.94444444444...
81	India	2020-03-23 00:00:00.000	434	9	2.07373271889...
82	India	2020-03-24 00:00:00.000	519	9	1.73410404624...

```
--looking at country with highest infection rate
select  location,population,max(total_cases)as HighestInfectionCount,max(total_cases/population)*100 as
PercentPopulationInfection
from dbo.coviddeaths
where continent is not null --and total_cases is not null
group by location,population
order by PercentPopulationInfection desc
```

Results Messages

	location	population	HighestInfectionCount	PercentPopulationInfection
1	Cyprus	896007	660854	73.7554505712567
2	San Marino	33690	24311	72.1608785989908
3	Brunei	449002	308777	68.7696268613503
4	Austria	8939617	6079122	68.0020408033141
5	Faeroe Islands	53117	34658	65.2484138787959
6	Slovenia	2119843	1344388	63.4192249142979
7	Gibraltar	32677	20550	62.8882700370291
8	Martinique	367512	229975	62.5761879884194
9	South Korea	51815808	31904667	61.5732307021054
10	Andorra	79843	48015	60.1367684080007
11	Jersey	110796	66391	59.9218383335138
12	Greece	10384972	6095350	58.6939473693333
13	Saint Pierre and Miquelon	5885	3426	58.2158028887001
14	Denmark	5882259	3414069	58.0400999003954

```
--showing countries with highest death count per population
select  location,max(total_deaths)as TotalDeathCount,max(total_deaths/population)*100 as
PercentPopulationDeaths
from dbo.coviddeaths
where continent is not null and total_deaths is not null
group by location
order by PercentPopulationDeaths desc
```

Results Messages

	location	TotalDeathCount	PercentPopulationDeaths
1	Peru	220673	0.648093010699571
2	Bulgaria	38405	0.566282141358944
3	Bosnia and Herzegovina	16348	0.505577495801802
4	Hungary	48790	0.489500470739129
5	North Macedonia	9677	0.462216864109102
6	Georgia	17087	0.456336621367728
7	Croatia	18267	0.453234834298962
8	Montenegro	2827	0.450818234297907
9	Slovenia	9379	0.442438425864557
10	Czechia	42806	0.407909670201706
11	Slovakia	21167	0.37507165380073
12	San Marino	125	0.371029979222321
13	Moldova	12123	0.370394925989759
14	Greece	37052	0.356784784783243

Query executed successfully.

```sql
--looking at country with highest fully vaccinated population percentage
select  location,max(population) as Population,max(people_fully_vaccinated)as
PeopleFullyVaccinated,(max(people_fully_vaccinated)/max(population))*100 as
PercentPopulationFullyVaccinated
from dbo.covidvaccination
where continent is not null
group by location,population
order by 4 desc
```

Results Messages

	location	Population	PeopleFullyVaccinated	PercentPopulationFullyVaccinated
1	United Arab Emirates	9441138	9792266	103.719127927163
2	Pitcairn	47	47	100
3	Cuba	11212198	9999902	89.1877043198845
4	Nicaragua	6948395	6091122	87.6622874778996
5	Tuvalu	11335	9505	83.8553153947949
6	Japan	123951696	99991170	80.6694649825526
7	Aruba	106459	84307	79.1919894043716
8	Seychelles	107135	83565	77.9997199794652
9	Mauritius	1299478	977728	75.2400579309538
10	Tonga	106867	77360	72.389044326125
11	Rwanda	13776702	9897876	71.8450322871178
12	China	1425887360	969720000	68.0081770273916
13	Bahrain	1472237	996404	67.6795923482428
14	Nauru	12691	8585	67.6463635647309

Query executed successfully. LAPTOP-6U8M0FEH\SQLEX

```sql
--LET'S BREAK THINGS DOWN BY CONTINENT
--showing the continent with highest deathcount per population

with cont_death(continent,location,Total_Population,TotalDeathCount)as
(select  continent,location,max(population)as Total_Population,max(total_deaths)as TotalDeathCount from
dbo.coviddeaths
where continent is not null and total_deaths is not null
group by continent,location)
select continent ,Sum(Total_Population) as TotalPopulation ,sum(TotalDeathCount) as
TotalDeathCount,(sum(TotalDeathCount)/sum(Total_Population) )*100 as Total_Population_Death_Percentage
from cont_death group by continent order by 4 desc;
```

Results Messages

	continent	TotalPopulation	TotalDeathCount	Total_Population_Death_Percentage
1	South America	436812878	1356605	0.310568911386353
2	Europe	747410462	2067653	0.276642234103488
3	North America	600323657	1602137	0.266878871308582
4	Oceania	45023680	27682	0.0614832017285126
5	Asia	4656877758	1633287	0.0350725761953746
6	Africa	1426155208	258966	0.0181583321750209

```
--showing the continent with highest FullyVaccination per population

with cont_vac(continent,location,Total_Population,TotalPeopleFullyVaccination)as
(select continent,location,max(population)as Total_Population,max(people_fully_vaccinated)as
TotalPeopleFullyVaccination from dbo.covidvaccination
where continent is not null and people_fully_vaccinated is not null
group by continent,location)
select continent ,Sum(Total_Population) as TotalPopulation ,sum(cast(TotalPeopleFullyVaccination as
bigint)) as Total_People_Fully_Vaccination,(sum(cast(TotalPeopleFullyVaccination as
bigint))/sum(Total_Population) )*100 as Total_Population_Vaccination_Percentage
from cont_vac group by continent order by 4 desc;
```

100 %

Results Messages

	continent	TotalPopulation	Total_People_Fully_Vaccination	Total_Population_Vaccination_Percentage
1	South America	436512111	151395754	34.6830592290256
2	Asia	4695768810	1513079421	32.2221872971638
3	Oceania	44599400	10315554	23.1293560003049
4	Europe	805712636	102370153	12.7055414580838
5	Africa	1421176393	127281055	8.95603498812128
6	North America	596159797	22043269	3.69754369733188

```
--GLOBAL NUMBERS i.e Total Cases ,Deaths & Death% of whole world as per a particular date
select date,sum(new_cases) as TotalCases,sum(new_deaths) as TotalDeaths
,(sum(new_deaths)/sum(new_cases))*100 as death_percentage
from dbo.coviddeaths
where continent is not null and new_cases >0 and  new_cases is not null and new_deaths is not null
group by date
order by 1,2
```

100 %

Results Messages

	date	TotalCases	TotalDeaths	death_percentage
1	2020-01-04 00:00:00.000	3	0	0
2	2020-01-06 00:00:00.000	3	0	0
3	2020-01-08 00:00:00.000	1	0	0
4	2020-01-09 00:00:00.000	1	0	0
5	2020-01-11 00:00:00.000	1	0	0
6	2020-01-12 00:00:00.000	42	1	2.38095238095238
7	2020-01-13 00:00:00.000	1	0	0
8	2020-01-14 00:00:00.000	6	0	0
9	2020-01-17 00:00:00.000	4	1	25
10	2020-01-18 00:00:00.000	4	0	0
11	2020-01-19 00:00:00.000	77	1	1.2987012987013
12	2020-01-20 00:00:00.000	79	1	1.26582278481013
13	2020-01-21 00:00:00.000	93	2	2.1505376344086
14	2020-01-22 00:00:00.000	148	11	7.43243243243243

Query executed successfully. LAPTOP-6U8M0FEI

```sql
--creating views to store data for later visualisation
drop view if exists globalnumbers

create view globalnumbers as
select date,sum(new_cases) as TotalCases,sum(new_deaths) as TotalDeaths
,(sum(new_deaths)/sum(new_cases))*100 as death_percentage
from dbo.coviddeaths
where continent is not null and new_cases >0 and  new_cases is not null and new_deaths is not null
group by date
```

Messages

```
Msg 111, Level 15, State 1, Line 172
'CREATE VIEW' must be the first statement in a query batch.

Completion time: 2023-07-31T16:36:49.3280253+05:30
```

```sql
--this gives the total data till now of whole world irrespective of location
select sum(new_cases) as TotalCases,sum(new_deaths) as TotalDeaths ,(sum(new_deaths)/sum(new_cases))*100
as death_percentage
from dbo.coviddeaths
where continent is not null and new_cases >0 and  new_cases is not null and new_deaths is not null
```

Results Messages

	TotalCases	TotalDeaths	death_percentage
1	767761009	6913334	0.900453906744306

```sql
--looking at New Vaccinations added Date wise
select dea.continent , dea.location ,dea.date,dea.population,vac.new_vaccinations
, sum(cast(vac.new_vaccinations as bigint)) over (partition by dea.location order by dea.location ,
dea.date)
as cumulative_vaccination
from dbo.coviddeaths dea join dbo.covidvaccination vac
on dea.location = vac.location and dea.date = vac.date
where dea.continent is not null and vac.new_vaccinations is not null
order by 2,3
```

Results Messages

	continent	location	date	population	new_vaccinations	cumulative_vaccination
1	Asia	Afghanistan	2021-05-27 00:00:00.000	41128772	2859	2859
2	Asia	Afghanistan	2021-06-03 00:00:00.000	41128772	4015	6874
3	Asia	Afghanistan	2022-01-27 00:00:00.000	41128772	6868	13742
4	Asia	Afghanistan	2022-04-27 00:00:00.000	41128772	383	14125
5	Asia	Afghanistan	2022-09-12 00:00:00.000	41128772	9447	23572
6	Asia	Afghanistan	2022-11-02 00:00:00.000	41128772	36587	60159
7	Asia	Afghanistan	2022-11-16 00:00:00.000	41128772	14800	74959
8	Asia	Afghanistan	2023-04-25 00:00:00.000	41128772	3316	78275
9	Europe	Albania	2021-01-13 00:00:00.000	2842318	60	60
10	Europe	Albania	2021-01-14 00:00:00.000	2842318	78	138
11	Europe	Albania	2021-01-15 00:00:00.000	2842318	42	180
12	Europe	Albania	2021-01-16 00:00:00.000	2842318	61	241
13	Europe	Albania	2021-01-17 00:00:00.000	2842318	36	277
14	Europe	Albania	2021-01-18 00:00:00.000	2842318	42	319

Query executed successfully. LAPTOP-6U8M0EEH\SQLEXPRESS

```sql
--looking at New Vaccinations added Date wise for India
select dea.continent , dea.location ,dea.date,dea.population,vac.new_vaccinations
, sum(cast(vac.new_vaccinations as bigint)) over (partition by dea.location order by dea.location ,
dea.date)
as cumulative_vaccination
from dbo.coviddeaths dea join dbo.covidvaccination vac
on dea.location = vac.location and dea.date = vac.date
where dea.continent is not null and vac.new_vaccinations is not null and dea.location='India'
order by 2,3
```

100 %

Results | Messages

	continent	location	date	population	new_vaccinations	cumulative_vaccination
1	Asia	India	2021-01-16 00:00:00.000	1417173120	191181	191181
2	Asia	India	2021-01-17 00:00:00.000	1417173120	33120	224301
3	Asia	India	2021-01-18 00:00:00.000	1417173120	229748	454049
4	Asia	India	2021-01-19 00:00:00.000	1417173120	220786	674835
5	Asia	India	2021-01-20 00:00:00.000	1417173120	131649	806484
6	Asia	India	2021-01-21 00:00:00.000	1417173120	237050	1043534
7	Asia	India	2021-01-22 00:00:00.000	1417173120	347058	1390592
8	Asia	India	2021-01-23 00:00:00.000	1417173120	191609	1582201
9	Asia	India	2021-01-24 00:00:00.000	1417173120	33303	1615504
10	Asia	India	2021-01-25 00:00:00.000	1417173120	408305	2023809
11	Asia	India	2021-01-26 00:00:00.000	1417173120	5671	2029480
12	Asia	India	2021-01-27 00:00:00.000	1417173120	326499	2355979
13	Asia	India	2021-01-28 00:00:00.000	1417173120	572074	2928053
14	Asia	India	2021-01-29 00:00:00.000	1417173120	571974	3500027

Query executed successfully. LAPTOP-6U8M0EEH\SQLEXPRE

```sql
--using cte to calculate the vaccination per population percentage also.

with PopvsVac(continent,location,date,population,new_vaccinations,cumulative_vaccination)
as
(select dea.continent , dea.location ,dea.date,dea.population,vac.new_vaccinations
, sum(cast(vac.new_vaccinations as bigint)) over (partition by dea.location order by dea.location ,
dea.date)
as cumulative_vaccination
from dbo.coviddeaths dea join dbo.covidvaccination vac
on dea.location = vac.location and dea.date = vac.date
where dea.continent is not null and vac.new_vaccinations is not null
)
select *,(cumulative_vaccination/population)*100 as VaccinationPerPopulationPercentage from PopvsVac
```

Results | Messages

	continent	location	date	population	new_vaccinations	cumulative_vaccination	VaccinationPerPopulationPercentage
1	Asia	Afghanistan	2021-05-27 00:00:00.000	41128772	2859	2859	0.00695133810462418
2	Asia	Afghanistan	2021-06-03 00:00:00.000	41128772	4015	6874	0.0167133606614853
3	Asia	Afghanistan	2022-01-27 00:00:00.000	41128772	6868	13742	0.0334121329953639
4	Asia	Afghanistan	2022-04-27 00:00:00.000	41128772	383	14125	0.0343433545742625
5	Asia	Afghanistan	2022-09-12 00:00:00.000	41128772	9447	23572	0.0573126763911162
6	Asia	Afghanistan	2022-11-02 00:00:00.000	41128772	36587	60159	0.146269866749243
7	Asia	Afghanistan	2022-11-16 00:00:00.000	41128772	14800	74959	0.182254408179267
8	Asia	Afghanistan	2023-04-25 00:00:00.000	41128772	3316	78275	0.19031689056994
9	Europe	Albania	2021-01-13 00:00:00.000	2842318	60	60	0.00211095310236223
10	Europe	Albania	2021-01-14 00:00:00.000	2842318	78	138	0.00485519213543312
11	Europe	Albania	2021-01-15 00:00:00.000	2842318	42	180	0.00633285930708668
12	Europe	Albania	2021-01-16 00:00:00.000	2842318	61	241	0.00847899496115494
13	Europe	Albania	2021-01-17 00:00:00.000	2842318	36	277	0.00974556682257228
14	Europe	Albania	2021-01-18 00:00:00.000	2842318	42	319	0.0112232339942258

Query executed successfully. LAPTOP-6U8M0EEH\SQLEXPRESS LAPTOP-6U8M0EEH\chand

```sql
--Here i tried to recreate the above table but now using Temp table not Cte
-- Also I have filtered the data for india only,
drop table if exists #PercentPopulationVaccinated

create table #PercentPopulationVaccinated
(continent nvarchar(255),location nvarchar(255),date datetime,population int,new_vaccinations
bigint,cumulative_vaccination numeric
)
insert into #PercentPopulationVaccinated
select dea.continent , dea.location ,dea.date,dea.population,vac.new_vaccinations
, sum(cast(vac.new_vaccinations as bigint)) over (partition by dea.location order by dea.location ,
dea.date)
as cumulative_vaccination
from dbo.coviddeaths dea join dbo.covidvaccination vac
on dea.location = vac.location and dea.date = vac.date
where dea.continent is not null and vac.new_vaccinations is not null
order by 2,3

select *,(cumulative_vaccination/population)*100 as VaccinationPerPopulationPercentage from
#PercentPopulationVaccinated
where location = 'India';
```

Results Messages

	continent	location	date	population	new_vaccinations	cumulative_vaccination	VaccinationPerPopulationPercentage
1	Asia	India	2021-01-16 00:00:00.000	1417173120	191181	191181	0.01349030600
2	Asia	India	2021-01-17 00:00:00.000	1417173120	33120	224301	0.01582735300
3	Asia	India	2021-01-18 00:00:00.000	1417173120	229748	454049	0.03203906300
4	Asia	India	2021-01-19 00:00:00.000	1417173120	220786	674835	0.04761838800
5	Asia	India	2021-01-20 00:00:00.000	1417173120	131649	806484	0.05690793700
6	Asia	India	2021-01-21 00:00:00.000	1417173120	237050	1043534	0.07363489900
7	Asia	India	2021-01-22 00:00:00.000	1417173120	347058	1390592	0.09812435600
8	Asia	India	2021-01-23 00:00:00.000	1417173120	191609	1582201	0.11164486300
9	Asia	India	2021-01-24 00:00:00.000	1417173120	33303	1615504	0.11399482300
10	Asia	India	2021-01-25 00:00:00.000	1417173120	408305	2023809	0.14280605300
11	Asia	India	2021-01-26 00:00:00.000	1417173120	5671	2029480	0.14320621600
12	Asia	India	2021-01-27 00:00:00.000	1417173120	326499	2355979	0.16624496800
13	Asia	India	2021-01-28 00:00:00.000	1417173120	572074	2928053	0.20661223000
14	Asia	India	2021-01-29 00:00:00.000	1417173120	571974	3500027	0.24697243700

Query executed successfully. LAPTOP-6U8M0FEH\SQLEXPRESS ... LAPTOP-6U8M0FEH\cha

```sql
--looking at country with highest fully vaccinated population percentage

with GlobalVaccination(Population , PeopleFullyVaccinated) as
(select  max(population) as Population,max(people_fully_vaccinated)as PeopleFullyVaccinated
from dbo.covidvaccination
where continent is not null
group by location,population)
select sum(Population) as Total_Population , sum(cast(PeopleFullyVaccinated as bigint)) as
Total_Population_Fully_vaccinated ,
(sum(cast(PeopleFullyVaccinated as bigint))/sum(Population))*100 as
Population_Fully_Vaccinated_Percentage from GlobalVaccination
```

Results Messages

	Total_Population	Total_Population_Fully_vaccinated	Population_Fully_Vaccinated_Percentage
1	8045247353	1926485206	23.9456305253515