

```
In [30]: import pandas as pd
from matplotlib import pyplot as plt
from pylab import rcParams
rcParams['figure.figsize'] = 7,7
import seaborn as sns
import numpy as np
from scipy import stats
#from scipy.stats import person_r
sns.set(color_codes=True, font_scale=1.2)

%matplotlib inline
%config InlineBackend.figure_format = 'retina'
%load_ext autoreload
%autoreload 2
```

The autoreload extension is already loaded. To reload it, use:

```
%reload_ext autoreload
```

```
In [4]: !pip install heatmapz
```

```
Requirement already satisfied: heatmapz in c:\users\user\anaconda3\lib\site-packages (0.0.4)
Requirement already satisfied: matplotlib>=3.0.3 in c:\users\user\anaconda3\lib\site-packages (from heatmapz) (3.5.2)
Requirement already satisfied: pandas in c:\users\user\anaconda3\lib\site-packages (from heatmapz) (1.4.4)
Requirement already satisfied: seaborn in c:\users\user\anaconda3\lib\site-packages (from heatmapz) (0.11.2)
Requirement already satisfied: fonttools>=4.22.0 in c:\users\user\anaconda3\lib\site-packages (from matplotlib>=3.0.3->heatmapz) (4.25.0)
Requirement already satisfied: numpy>=1.17 in c:\users\user\anaconda3\lib\site-packages (from matplotlib>=3.0.3->heatmapz) (1.21.5)
Requirement already satisfied: python-dateutil>=2.7 in c:\users\user\anaconda3\lib\site-packages (from matplotlib>=3.0.3->heatmapz) (2.8.2)
Requirement already satisfied: pyparsing>=2.2.1 in c:\users\user\anaconda3\lib\site-packages (from matplotlib>=3.0.3->heatmapz) (3.0.9)
Requirement already satisfied: packaging>=20.0 in c:\users\user\anaconda3\lib\site-packages (from matplotlib>=3.0.3->heatmapz) (21.3)
Requirement already satisfied: cycler>=0.10 in c:\users\user\anaconda3\lib\site-packages (from matplotlib>=3.0.3->heatmapz) (0.11.0)
Requirement already satisfied: pillow>=6.2.0 in c:\users\user\anaconda3\lib\site-packages (from matplotlib>=3.0.3->heatmapz) (9.2.0)
Requirement already satisfied: kiwisolver>=1.0.1 in c:\users\user\anaconda3\lib\site-packages (from matplotlib>=3.0.3->heatmapz) (1.4.2)
Requirement already satisfied: pytz>=2020.1 in c:\users\user\anaconda3\lib\site-packages (from pandas->heatmapz) (2022.1)
Requirement already satisfied: scipy>=1.0 in c:\users\user\anaconda3\lib\site-packages (from seaborn->heatmapz) (1.9.1)
Requirement already satisfied: six>=1.5 in c:\users\user\anaconda3\lib\site-packages (from python-dateutil>=2.7->matplotlib>=3.0.3->heatmapz) (1.12.0)
```

```
In [267...]: # Import the two methods from heatmap Library
from heatmap import heatmap, corrplot
```

```
df= pd.DataFrame(pd.read_csv('C:\\KEMRI - WP\\Book17.csv', index_col =0))
df.head()
```

Out[267]:

	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Disease of the skin	Pneumonia	Typhoid fever	Urinary Tract Infection	Diarrhoea	Brucellosis	Infe
<b>Hospitals</b>									
Kamayech Dispensary	0	0	0	0	0	0	0	0	0
Nachecheyet Dispensary	181	48	10	29	0	41	102	0	0
Kalemreikai Dispensary	223	134	2	15	1	4	60	0	0
Serewo Health Centre	965	239	84	25	11	5	119	0	0
Adurkoiit Dispensary	248	118	16	1	2	0	44	0	0

In [162]:

```
data = df[['Upper Respiratory Tract Infections',
           'Confirmed Malaria (only Positive cases)', 'Disease of the skin',
           'Pneumonia', 'Typhoid fever', 'Urinary Tract Infection', 'Diarrhoea',
           'Brucellosis', 'Eye Infections', 'Arthritis, Joint pains etc.']]
```

In [175]:

```
data.describe().round(2)
```

Out[175]:

	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Disease of the skin	Pneumonia	Typhoid fever	Urinary Tract Infection	Diarrhoea	Brucellosis	Infe
<b>count</b>	57.00	57.00	57.00	57.00	57.00	57.00	57.00	57.00	57.00
<b>mean</b>	230.82	41.68	30.44	25.16	25.02	20.88	60.51	3.26	0.00
<b>std</b>	231.08	54.89	38.72	41.81	74.58	43.35	60.00	9.53	0.00
<b>min</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>25%</b>	76.00	1.00	3.00	0.00	0.00	0.00	20.00	0.00	0.00
<b>50%</b>	176.00	21.00	16.00	17.00	2.00	8.00	49.00	0.00	0.00
<b>75%</b>	333.00	52.00	41.00	36.00	24.00	24.00	71.00	2.00	0.00
<b>max</b>	965.00	239.00	138.00	289.00	513.00	304.00	286.00	64.00	0.00

In [176]:

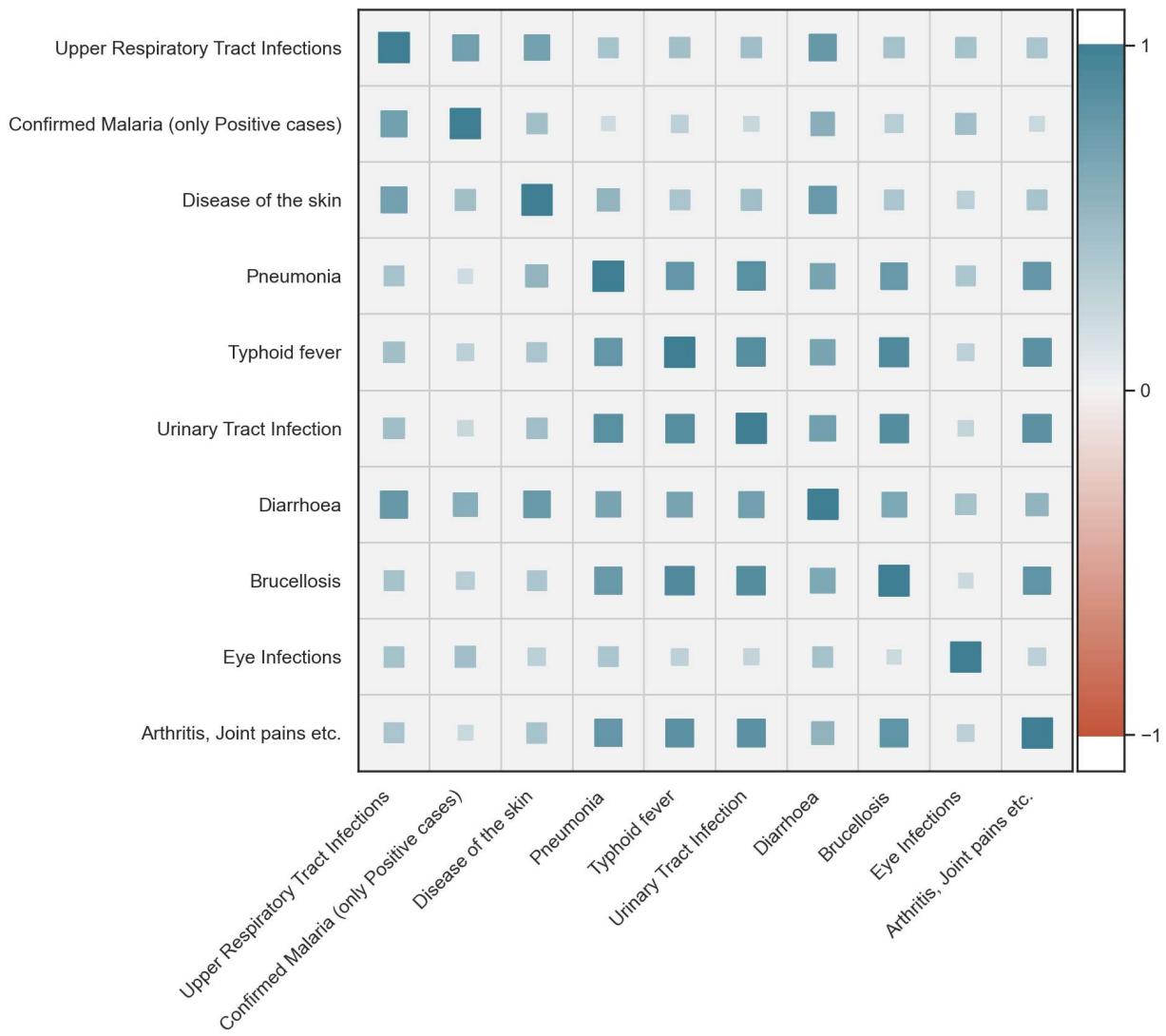
```
cor = data.corr()
cor
```

Out[176]:

	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Disease of the skin	Pneumonia	Typhoid fever	Urinary Tract Infection	Diarrhoea	Brucellosi
Upper Respiratory Tract Infections	1.000000	0.720707	0.706057	0.412282	0.439881	0.452651	0.779927	0.429527
Confirmed Malaria (only Positive cases)	0.720707	1.000000	0.437073	0.193756	0.294474	0.232005	0.599290	0.330206
Disease of the skin	0.706057	0.437073	1.000000	0.531221	0.403524	0.444612	0.767115	0.393437
Pneumonia	0.412282	0.193756	0.531221	1.000000	0.800153	0.860401	0.675662	0.768016
Typhoid fever	0.439881	0.294474	0.403524	0.800153	1.000000	0.868173	0.670683	0.911937
Urinary Tract Infection	0.452651	0.232005	0.444612	0.860401	0.868173	1.000000	0.713925	0.880451
Diarrhoea	0.779927	0.599290	0.767115	0.675662	0.670683	0.713925	1.000000	0.651436
Brucellosis	0.429527	0.330206	0.393437	0.768019	0.911937	0.880459	0.651433	1.000000
Eye Infections	0.429018	0.450063	0.305301	0.393602	0.292243	0.256516	0.428118	0.208601
Arthritis, Joint pains etc.	0.411735	0.224109	0.415333	0.802476	0.840718	0.849581	0.538847	0.816751

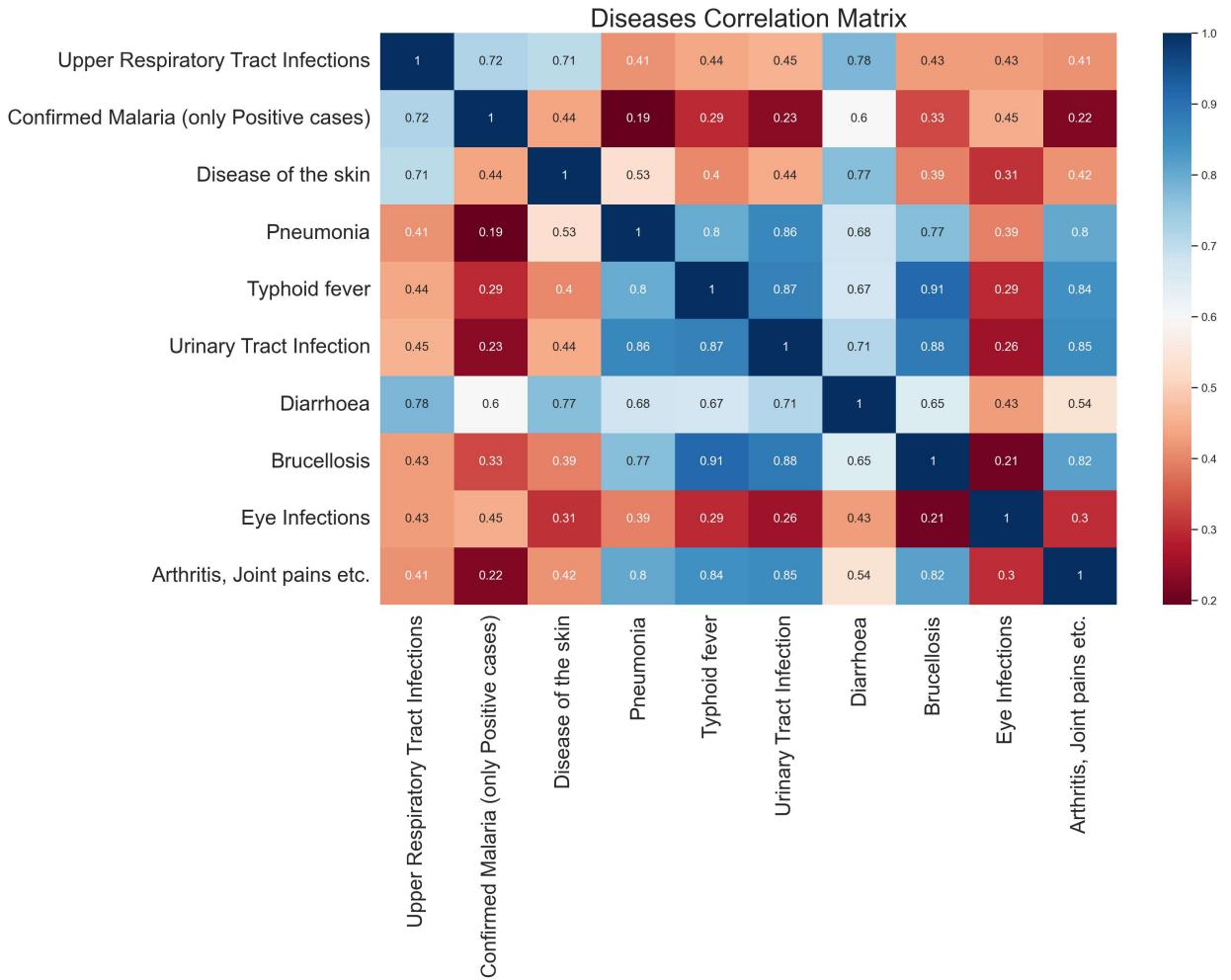
In [177...]

```
plt.figure(figsize=(8, 8))
corrplot(data.corr(), size_scale=300);
```



```
In [178]: plt.figure(figsize=(16,10))
plt.title('Diseases Correlation Matrix', fontsize =25)
plt.xticks(fontsize=20)
plt.yticks(fontsize=20)
sns.heatmap(cor, cmap='RdBu', annot=True)
```

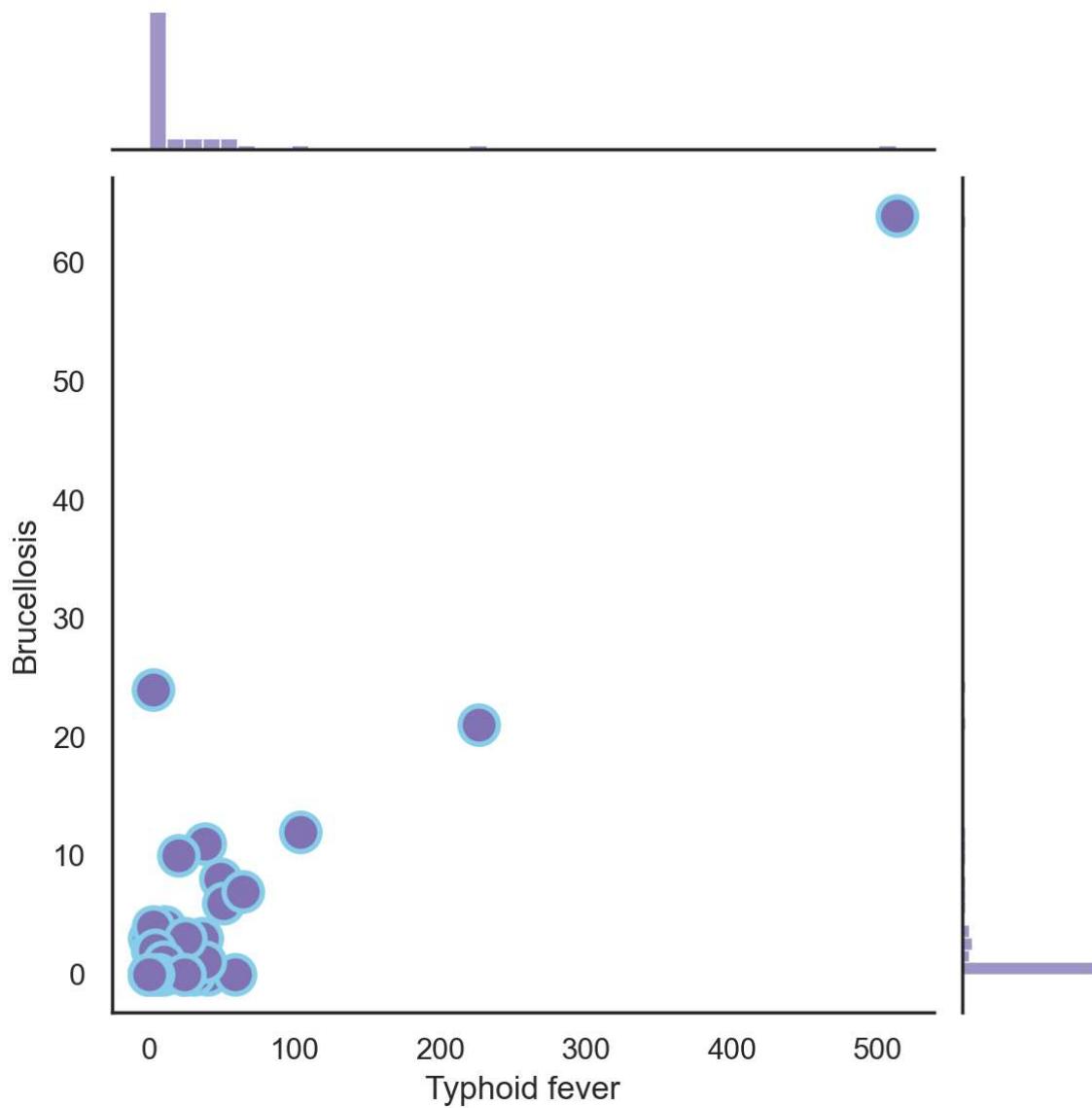
```
Out[178]: <AxesSubplot:title={'center':'Diseases Correlation Matrix'}>
```

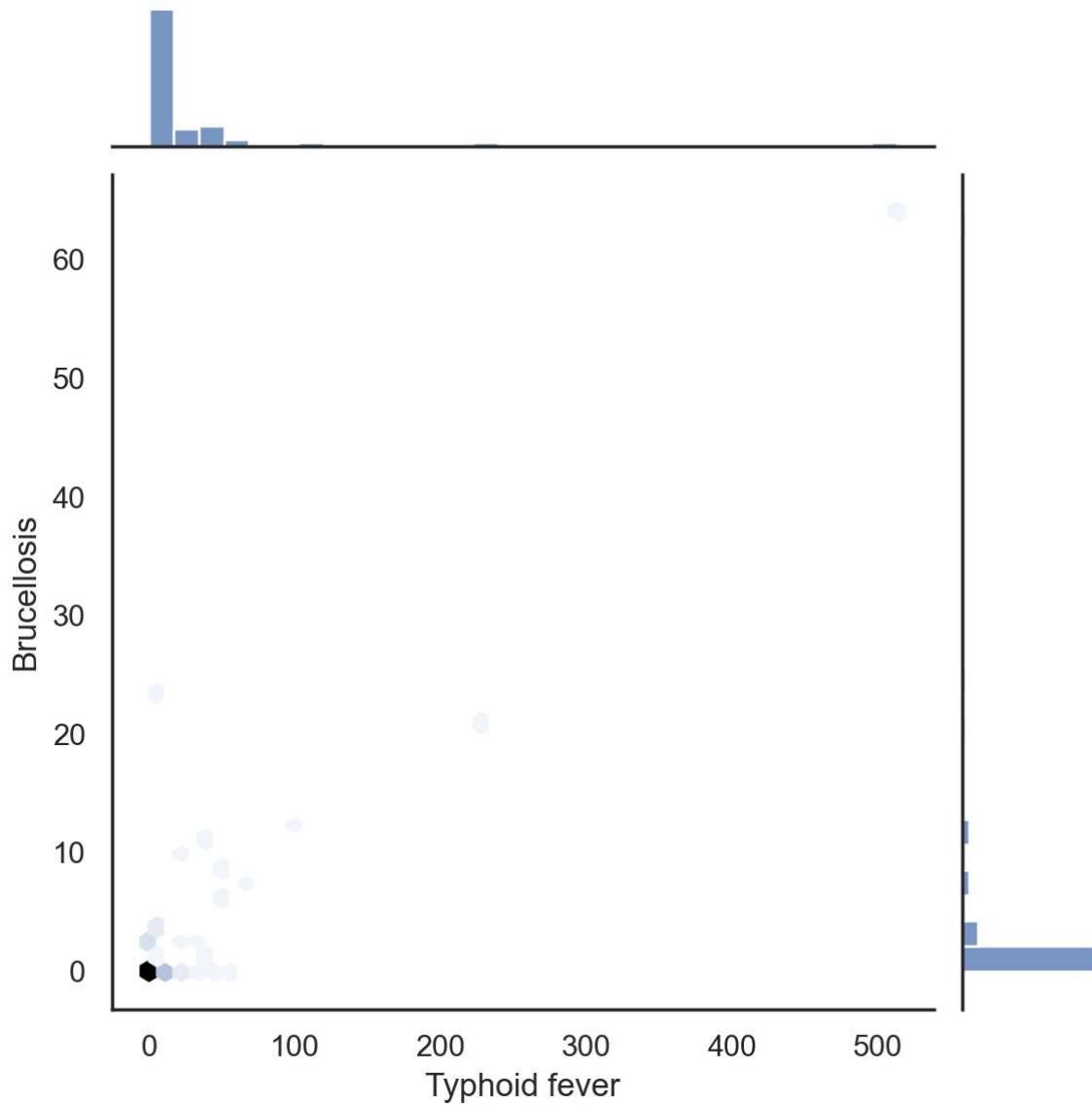


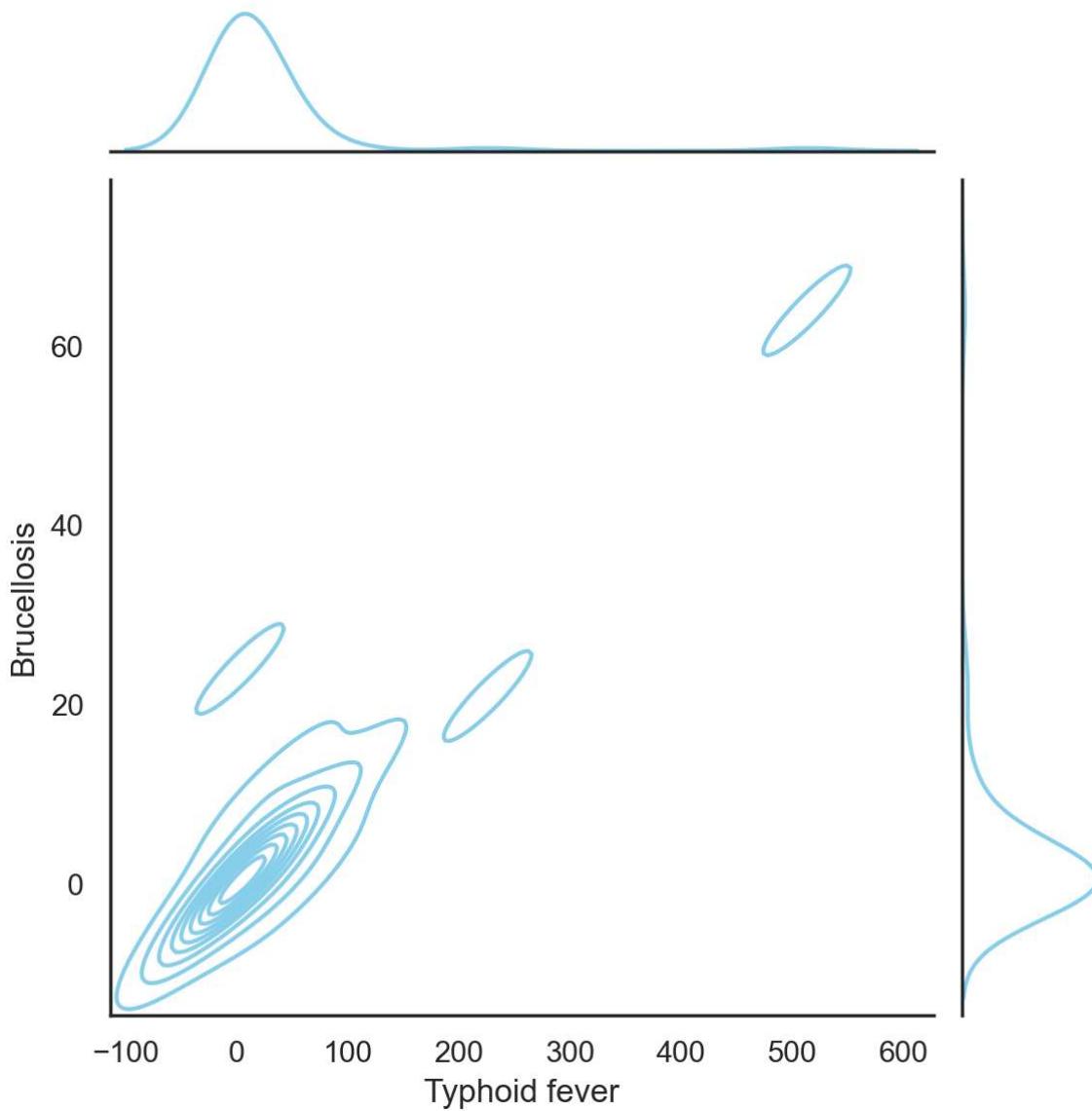
In [179]:

```
# Custom the inside plot: options are: "scatter" / "reg" / "resid" / "kde" / "hex"
sns.jointplot(x=df["Typhoid fever"], y=df["Brucellosis"], kind='scatter', s=200, color="red")
sns.jointplot(x=df["Typhoid fever"], y=df["Brucellosis"], kind='hex', marginal_kws=dict(bins=15))
sns.set(style="white", color_codes=True)
sns.jointplot(x=df["Typhoid fever"], y=df["Brucellosis"], kind='kde', color="skyblue")

plt.show()
```

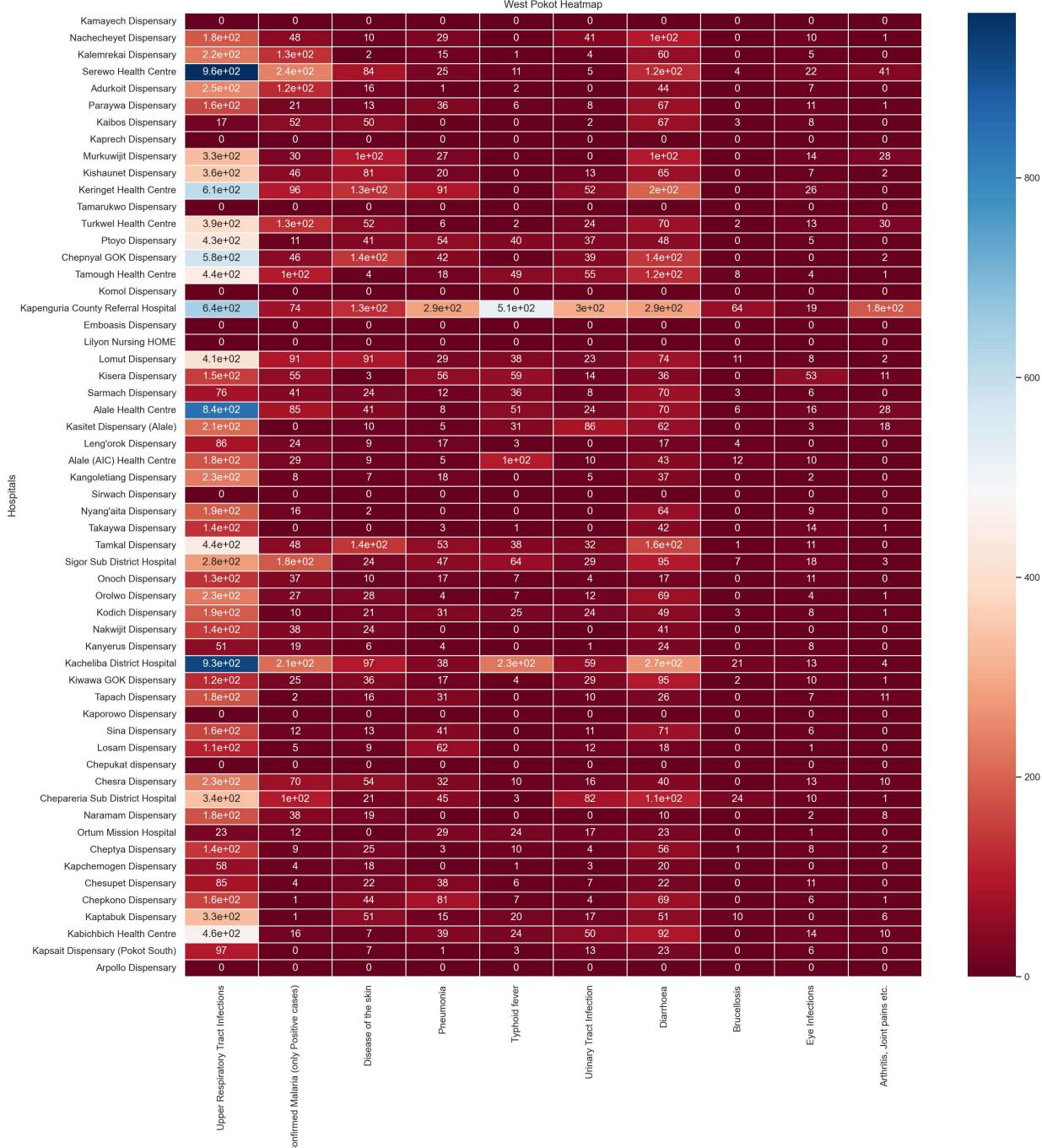




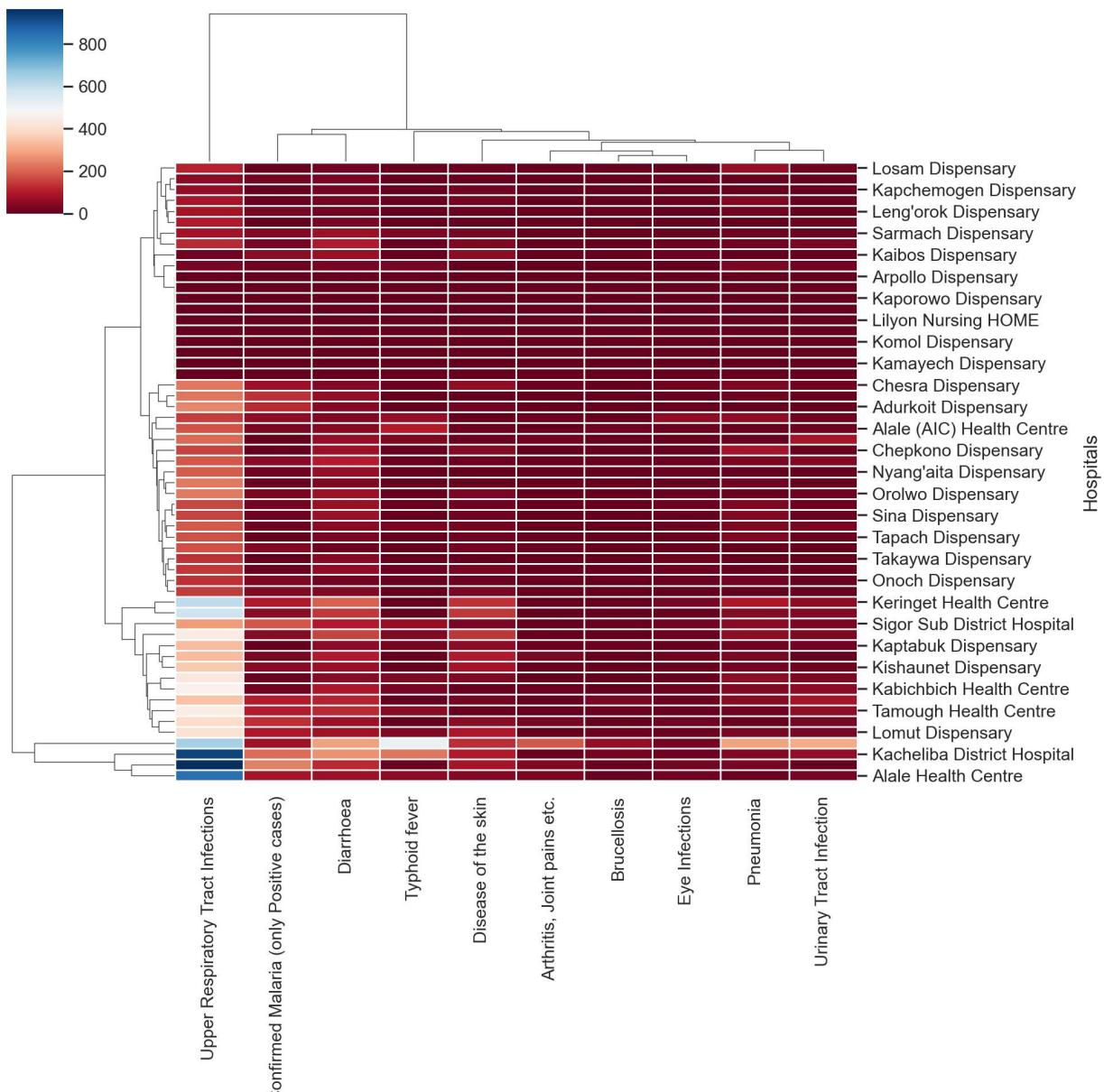


```
In [167]: plt.figure(figsize=(19,20))
plt.title('West Pokot Heatmap')
xlabel='Diseases'
sns.heatmap(data, cmap='RdBu', linewidths=.5, annot=True)
```

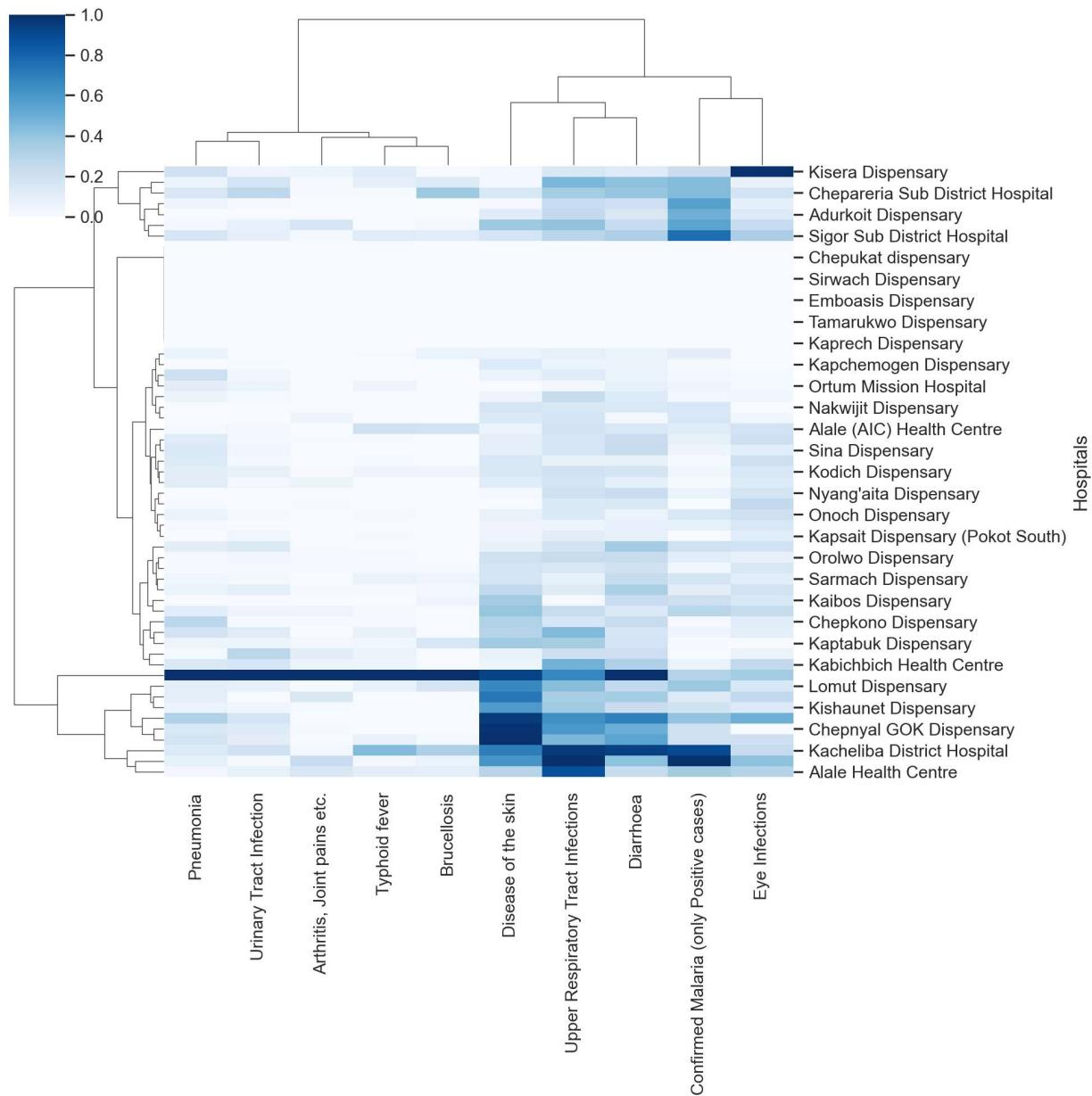
```
Out[167]: <AxesSubplot:title={'center':'West Pokot Heatmap'}, ylabel='Hospitals'>
```



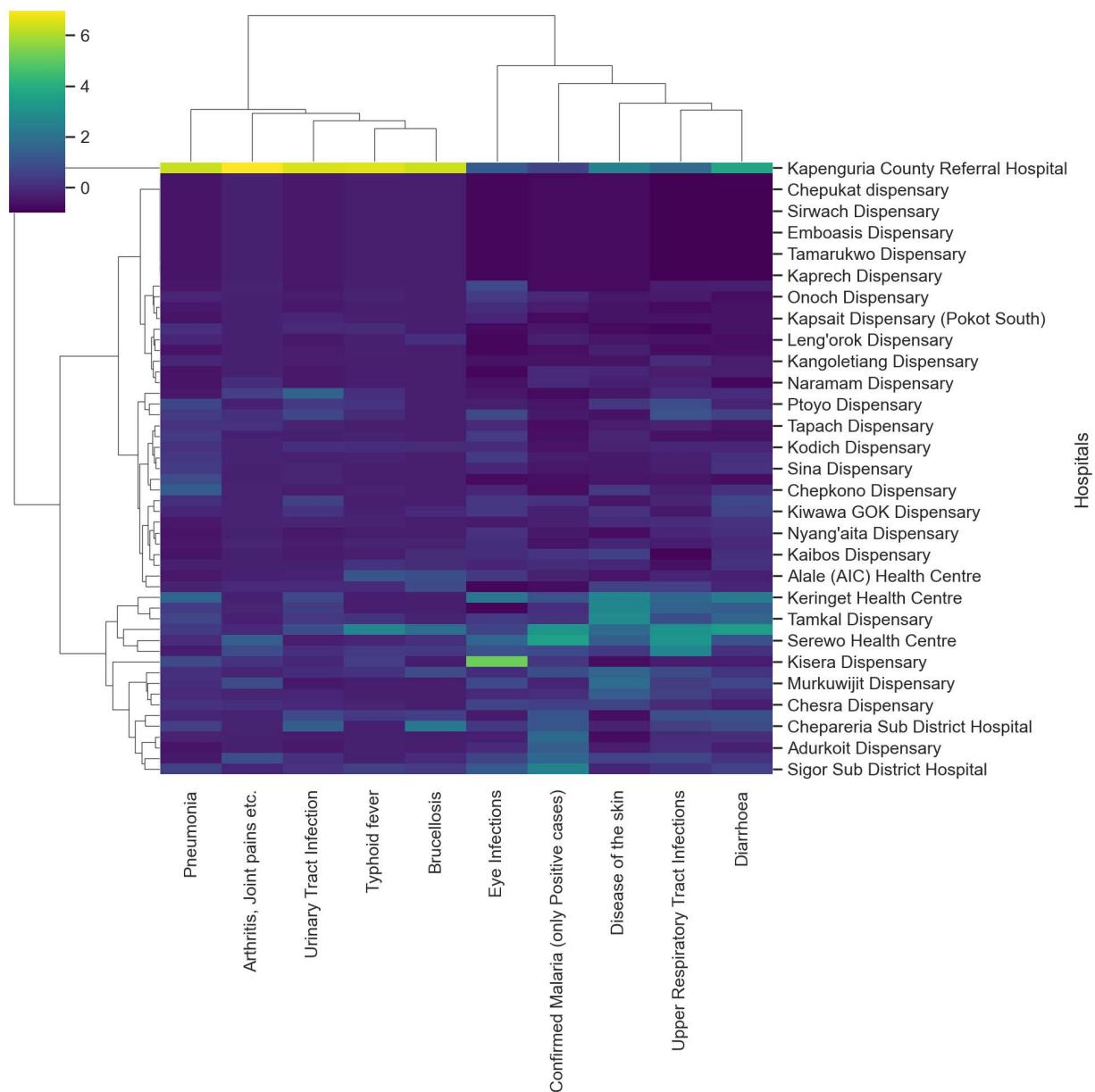
```
In [169]: # plot
sns.clustermap(data, cmap='RdBu', linewidths=.5)
plt.show()
```



```
In [170]: # Standardize:  
sns.clustermap(data, standard_scale=1, method="ward", cmap="Blues")  
plt.show()
```



```
In [171]: # Normalize
sns.clustermap(data, z_score=1, method="ward", cmap="viridis")
plt.show()
```



```
In [180]: data.T['Kamayech Dispensary']
```

```
Out[180]:
```

Upper Respiratory Tract Infections	0
Confirmed Malaria (only Positive cases)	0
Disease of the skin	0
Pneumonia	0
Typhoid fever	0
Urinary Tract Infection	0
Diarrhoea	0
Brucellosis	0
Eye Infections	0
Arthritis, Joint pains etc.	0

Name: Kamayech Dispensary, dtype: int64

```
In [181]: res =[]
```

```
for col in data.T.columns:
    res.append(list(data.T.sort_values(by =col, ascending=False).index))
```

```
In [182]: len(res), data.shape, data.T.shape
```

```
Out[182]: (57, (57, 10), (10, 57))
```

```
In [183... ranked_data = pd.DataFrame(res, index = data.T.columns, columns = [x for x in range(1
```

Out[183]:

1

2

3

4

5

6

7

Hospitals							
Kamayech Dispensary	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Disease of the skin	Pneumonia	Typhoid fever	Urinary Tract Infection	Diarrhoea Bi
Nachecheyet Dispensary	Upper Respiratory Tract Infections	Diarrhoea	Confirmed Malaria (only Positive cases)	Urinary Tract Infection	Pneumonia	Disease of the skin	Eye Infections Jo
Kalemreka Dispensary	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Diarrhoea	Pneumonia	Eye Infections	Urinary Tract Infection	Disease of the skin
Serewo Health Centre	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Diarrhoea	Disease of the skin	Arthritis, Joint pains etc.	Pneumonia	Eye Infections
Adurkoit Dispensary	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Diarrhoea	Disease of the skin	Eye Infections	Typhoid fever	Pneumonia
Paraywa Dispensary	Upper Respiratory Tract Infections	Diarrhoea	Pneumonia	Confirmed Malaria (only Positive cases)	Disease of the skin	Eye Infections	Urinary Tract Infection
Kaibos Dispensary	Diarrhoea	Confirmed Malaria (only Positive cases)	Disease of the skin	Upper Respiratory Tract Infections	Eye Infections	Brucellosis	Urinary Tract Pn
Kaprech Dispensary	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Disease of the skin	Pneumonia	Typhoid fever	Urinary Tract Infection	Diarrhoea Bi
Murkuwijit Dispensary	Upper Respiratory Tract Infections	Diarrhoea	Disease of the skin	Confirmed Malaria (only Positive cases)	Arthritis, Joint pains etc.	Pneumonia	Eye Infections
Kishaunet Dispensary	Upper Respiratory Tract Infections	Disease of the skin	Diarrhoea	Confirmed Malaria (only Positive cases)	Pneumonia	Urinary Tract Infection	Eye Infections Jo

	1	2	3	4	5	6	7
<b>Hospitals</b>							
<b>Keringet Health Centre</b>	Upper Respiratory Tract Infections	Diarrhoea	Disease of the skin	Confirmed Malaria (only Positive cases)	Pneumonia	Urinary Tract Infection	Eye Infections
<b>Tamarukwo Dispensary</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Disease of the skin	Pneumonia	Typhoid fever	Urinary Tract Infection	Diarrhoea Bi
<b>Turkwel Health Centre</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Diarrhoea	Disease of the skin	Arthritis, Joint pains etc.	Urinary Tract Infection	Eye Infections Pn
<b>Ptovo Dispensary</b>	Upper Respiratory Tract Infections	Pneumonia	Diarrhoea	Disease of the skin	Typhoid fever	Urinary Tract Infection	Confirmed Malaria (only Positive cases) II
<b>Chepnyal GOK Dispensary</b>	Upper Respiratory Tract Infections	Diarrhoea	Disease of the skin	Confirmed Malaria (only Positive cases)	Pneumonia	Urinary Tract Infection	Arthritis, Joint pains etc.
<b>Tamough Health Centre</b>	Upper Respiratory Tract Infections	Diarrhoea	Confirmed Malaria (only Positive cases)	Urinary Tract Infection	Typhoid fever	Pneumonia	Brucellosis D
<b>Komol Dispensary</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Disease of the skin	Pneumonia	Typhoid fever	Urinary Tract Infection	Diarrhoea Bi
<b>Kapenguria County Referral Hospital</b>	Upper Respiratory Tract Infections	Typhoid fever	Urinary Tract Infection	Pneumonia	Diarrhoea	Arthritis, Joint pains etc.	Disease of the skin Co
<b>Emboasis Dispensary</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Disease of the skin	Pneumonia	Typhoid fever	Urinary Tract Infection	Diarrhoea Bi
<b>Lilyon Nursing HOME</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Disease of the skin	Pneumonia	Typhoid fever	Urinary Tract Infection	Diarrhoea Bi

	1	2	3	4	5	6	7
<b>Hospitals</b>							
<b>Lomut Dispensary</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Disease of the skin	Diarrhoea	Typhoid fever	Pneumonia	Urinary Tract Infection
<b>Kisera Dispensary</b>	Upper Respiratory Tract Infections	Typhoid fever	Pneumonia	Confirmed Malaria (only Positive cases)	Eye Infections	Diarrhoea	Urinary Tract Infection
<b>Sarmach Dispensary</b>	Upper Respiratory Tract Infections	Diarrhoea	Confirmed Malaria (only Positive cases)	Typhoid fever	Disease of the skin	Pneumonia	Urinary Tract Infection
<b>Alale Health Centre</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Diarrhoea	Typhoid fever	Disease of the skin	Arthritis, Joint pains etc.	Urinary Tract Infection
<b>Kasitet Dispensary (Alale)</b>	Upper Respiratory Tract Infections	Urinary Tract Infection	Diarrhoea	Typhoid fever	Arthritis, Joint pains etc.	Disease of the skin	Pneumonia
<b>Leng'orok Dispensary</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Pneumonia	Diarrhoea	Disease of the skin	Brucellosis	Typhoid fever
<b>Alale (AIC) Health Centre</b>	Upper Respiratory Tract Infections	Typhoid fever	Diarrhoea	Confirmed Malaria (only Positive cases)	Brucellosis	Urinary Tract Infection	Eye Infections
<b>Kangoletiang Dispensary</b>	Upper Respiratory Tract Infections	Diarrhoea	Pneumonia	Confirmed Malaria (only Positive cases)	Disease of the skin	Urinary Tract Infection	Eye Infections
<b>Sirwach Dispensary</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Disease of the skin	Pneumonia	Typhoid fever	Urinary Tract Infection	Diarrhoea
<b>Nyang'aita Dispensary</b>	Upper Respiratory Tract Infections	Diarrhoea	Confirmed Malaria (only Positive cases)	Eye Infections	Disease of the skin	Pneumonia	Typhoid fever

	1	2	3	4	5	6	7
<b>Hospitals</b>							
<b>Takaywa Dispensary</b>	Upper Respiratory Tract Infections	Diarrhoea	Eye Infections	Pneumonia	Typhoid fever	Arthritis, Joint pains etc.	Confirmed Malaria (only Positive cases) D
<b>Tamkal Dispensary</b>	Upper Respiratory Tract Infections	Diarrhoea	Disease of the skin	Pneumonia	Confirmed Malaria (only Positive cases)	Typhoid fever	Urinary Tract Infection II
<b>Sigor Sub District Hospital</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Diarrhoea	Typhoid fever	Pneumonia	Urinary Tract Infection	Disease of the skin II
<b>Onoch Dispensary</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Pneumonia	Diarrhoea	Eye Infections	Disease of the skin	Typhoid fever
<b>Orolwo Dispensary</b>	Upper Respiratory Tract Infections	Diarrhoea	Disease of the skin	Confirmed Malaria (only Positive cases)	Urinary Tract Infection	Typhoid fever	Pneumonia II
<b>Kodich Dispensary</b>	Upper Respiratory Tract Infections	Diarrhoea	Pneumonia	Typhoid fever	Urinary Tract Infection	Disease of the skin	Confirmed Malaria (only Positive cases) II
<b>Nakwijit Dispensary</b>	Upper Respiratory Tract Infections	Diarrhoea	Confirmed Malaria (only Positive cases)	Disease of the skin	Pneumonia	Typhoid fever	Urinary Tract Infection BI
<b>Kanyerus Dispensary</b>	Upper Respiratory Tract Infections	Diarrhoea	Confirmed Malaria (only Positive cases)	Eye Infections	Disease of the skin	Pneumonia	Urinary Tract Infection
<b>Kacheliba District Hospital</b>	Upper Respiratory Tract Infections	Diarrhoea	Typhoid fever	Confirmed Malaria (only Positive cases)	Disease of the skin	Urinary Tract Infection	Pneumonia BI
<b>Kiwawa GOK Dispensary</b>	Upper Respiratory Tract Infections	Diarrhoea	Disease of the skin	Urinary Tract Infection	Confirmed Malaria (only Positive cases)	Pneumonia	Eye Infections

	1	2	3	4	5	6	7
<b>Hospitals</b>							
<b>Tapach Dispensary</b>	Upper Respiratory Tract Infections	Pneumonia	Diarrhoea	Disease of the skin	Arthritis, Joint pains etc.	Urinary Tract Infection	Eye Infections
<b>Kaporowo Dispensary</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Disease of the skin	Pneumonia	Typhoid fever	Urinary Tract Infection	Diarrhoea Bi
<b>Sina Dispensary</b>	Upper Respiratory Tract Infections	Diarrhoea	Pneumonia	Disease of the skin	Confirmed Malaria (only Positive cases)	Urinary Tract Infection	Eye Infections
<b>Losam Dispensary</b>	Upper Respiratory Tract Infections	Pneumonia	Diarrhoea	Urinary Tract Infection	Disease of the skin	Confirmed Malaria (only Positive cases)	Eye Infections
<b>Chepukat dispensary</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Disease of the skin	Pneumonia	Typhoid fever	Urinary Tract Infection	Diarrhoea Bi
<b>Chesra Dispensary</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Disease of the skin	Diarrhoea	Pneumonia	Urinary Tract Infection	Eye Infections
<b>Chepareria Sub District Hospital</b>	Upper Respiratory Tract Infections	Diarrhoea	Confirmed Malaria (only Positive cases)	Urinary Tract Infection	Pneumonia	Brucellosis	Disease of the skin II
<b>Naramam Dispensary</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Disease of the skin	Diarrhoea	Arthritis, Joint pains etc.	Eye Infections	Pneumonia
<b>Ortum Mission Hospital</b>	Pneumonia	Typhoid fever	Upper Respiratory Tract Infections	Diarrhoea	Urinary Tract Infection	Confirmed Malaria (only Positive cases)	Eye Infections D
<b>Cheptya Dispensary</b>	Upper Respiratory Tract Infections	Diarrhoea	Disease of the skin	Typhoid fever	Confirmed Malaria (only Positive cases)	Eye Infections	Urinary Tract Pn Infection

1 2 3 4 5 6 7

**Hospitals**

<b>Kapchemogen Dispensary</b>	Upper Respiratory Tract Infections	Diarrhoea	Disease of the skin	Confirmed Malaria (only Positive cases)	Urinary Tract Infection	Typhoid fever	Pneumonia	Bi
<b>Chesupet Dispensary</b>	Upper Respiratory Tract Infections	Pneumonia	Disease of the skin	Diarrhoea	Eye Infections	Urinary Tract Infection	Typhoid fever	C
<b>Chepkono Dispensary</b>	Upper Respiratory Tract Infections	Pneumonia	Diarrhoea	Disease of the skin	Typhoid fever	Eye Infections	Urinary Tract Infection	C
<b>Kaptabuk Dispensary</b>	Upper Respiratory Tract Infections	Disease of the skin	Diarrhoea	Typhoid fever	Urinary Tract Infection	Pneumonia	Brucellosis	Jo
<b>Kabichbich Health Centre</b>	Upper Respiratory Tract Infections	Diarrhoea	Urinary Tract Infection	Pneumonia	Typhoid fever	Confirmed Malaria (only Positive cases)	Eye Infections	Jo
<b>Kapsait Dispensary (Pokot South)</b>	Upper Respiratory Tract Infections	Diarrhoea	Urinary Tract Infection	Disease of the skin	Eye Infections	Typhoid fever	Pneumonia	C
<b>Arpollo Dispensary</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Disease of the skin	Pneumonia	Typhoid fever	Urinary Tract Infection	Diarrhoea	Bi

In [184]: [len(x) for x in data.columns]

Out[184]: [34, 39, 19, 9, 13, 23, 9, 11, 14, 27]

```
import random
random.seed(10)
colors_ = lambda n: list(map(lambda i: "#" + "%06x" % random.randint(0, 0xFFFFFF), range(n)))
color_dict = dict(zip(list(res[0]), colors_(len(res[0]))))
color_dict
```

```
Out[185]: {'Upper Respiratory Tract Infections': '#10aefd',
'Confirmed Malaria (only Positive cases)': '#db9758',
'Disease of the skin': '#f71252',
'Pneumonia': '#07981e',
'Typhoid fever': '#6985b5',
'Urinary Tract Infection': '#ecd75a',
'Diarrhoea': '#fb8b34',
'Brucellosis': '#8e1730',
'Eye Infections': '#52099b',
'Arthritis, Joint pains etc.': '#119d58'}
```

```
In [186... def color_positive_green(val):
"""
Takes a scalar and returns a string with
the css property ``color: green`` for positive
strings, black otherwise.
"""
color = color_dict.get(val)
if not color:
    color ='#c1c1c1'
return 'color: %s' % color

ranked_data.style.applymap(color_positive_green)
```

Out[186]:

	1	2	3	4	5	6	7
<b>Hospitals</b>							
<b>Kamayech Dispensary</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Disease of the skin	Pneumonia	Typhoid fever	Urinary Tract Infection	Diarrhoea Br
<b>Nachecheyet Dispensary</b>	Upper Respiratory Tract Infections	Diarrhoea	Confirmed Malaria (only Positive cases)	Urinary Tract Infection	Pneumonia	Disease of the skin	Eye Infections Jo
<b>Kalemrekai Dispensary</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Diarrhoea	Pneumonia	Eye Infections	Urinary Tract Infection	Disease of the skin
<b>Serewo Health Centre</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Diarrhoea	Disease of the skin	Arthritis, Joint pains etc.	Pneumonia	Eye Infections
<b>Adurkoit Dispensary</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Diarrhoea	Disease of the skin	Eye Infections	Typhoid fever	Pneumonia
<b>Paraywa Dispensary</b>	Upper Respiratory Tract Infections	Diarrhoea	Pneumonia	Confirmed Malaria (only Positive cases)	Disease of the skin	Eye Infections	Urinary Tract Infection
<b>Kaibos Dispensary</b>	Diarrhoea	Confirmed Malaria (only Positive cases)	Disease of the skin	Upper Respiratory Tract Infections	Eye Infections	Brucellosis	Urinary Tract Pn
<b>Kaprech Dispensary</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Disease of the skin	Pneumonia	Typhoid fever	Urinary Tract Infection	Diarrhoea Br
<b>Murkuwijit Dispensary</b>	Upper Respiratory Tract Infections	Diarrhoea	Disease of the skin	Confirmed Malaria (only Positive cases)	Arthritis, Joint pains etc.	Pneumonia	Eye Infections
<b>Kishaunet Dispensary</b>	Upper Respiratory Tract Infections	Disease of the skin	Diarrhoea	Confirmed Malaria (only Positive cases)	Pneumonia	Urinary Tract Infection	Eye Infections Jo

	1	2	3	4	5	6	7
<b>Hospitals</b>							
<b>Keringet Health Centre</b>	Upper Respiratory Tract Infections	Diarrhoea	Disease of the skin	Confirmed Malaria (only Positive cases)	Pneumonia	Urinary Tract Infection	Eye Infections
<b>Tamarukwo Dispensary</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Disease of the skin	Pneumonia	Typhoid fever	Urinary Tract Infection	Diarrhoea Br
<b>Turkwel Health Centre</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Diarrhoea	Disease of the skin	Arthritis, Joint pains etc.	Urinary Tract Infection	Eye Infections Pn
<b>Ptoto Dispensary</b>	Upper Respiratory Tract Infections	Pneumonia	Diarrhoea	Disease of the skin	Typhoid fever	Urinary Tract Infection	Confirmed Malaria (only Positive cases) In
<b>Chepnyal GOK Dispensary</b>	Upper Respiratory Tract Infections	Diarrhoea	Disease of the skin	Confirmed Malaria (only Positive cases)	Pneumonia	Urinary Tract Infection	Arthritis, Joint pains etc.
<b>Tamough Health Centre</b>	Upper Respiratory Tract Infections	Diarrhoea	Confirmed Malaria (only Positive cases)	Urinary Tract Infection	Typhoid fever	Pneumonia	Brucellosis D
<b>Komol Dispensary</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Disease of the skin	Pneumonia	Typhoid fever	Urinary Tract Infection	Diarrhoea Br
<b>Kapenguria County Referral Hospital</b>	Upper Respiratory Tract Infections	Typhoid fever	Urinary Tract Infection	Pneumonia	Diarrhoea	Arthritis, Joint pains etc.	Disease of the skin Co
<b>Emboasis Dispensary</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Disease of the skin	Pneumonia	Typhoid fever	Urinary Tract Infection	Diarrhoea Br
<b>Lilyon Nursing HOME</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Disease of the skin	Pneumonia	Typhoid fever	Urinary Tract Infection	Diarrhoea Br

	1	2	3	4	5	6	7
<b>Hospitals</b>							
<b>Lomut Dispensary</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Disease of the skin	Diarrhoea	Typhoid fever	Pneumonia	Urinary Tract Infection Br
<b>Kisera Dispensary</b>	Upper Respiratory Tract Infections	Typhoid fever	Pneumonia	Confirmed Malaria (only Positive cases)	Eye Infections	Diarrhoea	Urinary Tract Infection Jo
<b>Sarmach Dispensary</b>	Upper Respiratory Tract Infections	Diarrhoea	Confirmed Malaria (only Positive cases)	Typhoid fever	Disease of the skin	Pneumonia	Urinary Tract Infection II
<b>Alale Health Centre</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Diarrhoea	Typhoid fever	Disease of the skin	Arthritis, Joint pains etc.	Urinary Tract Infection II
<b>Kasitet Dispensary (Alale)</b>	Upper Respiratory Tract Infections	Urinary Tract Infection	Diarrhoea	Typhoid fever	Arthritis, Joint pains etc.	Disease of the skin	Pneumonia II
<b>Leng'orok Dispensary</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Pneumonia	Diarrhoea	Disease of the skin	Brucellosis	Typhoid fever
<b>Alale (AIC) Health Centre</b>	Upper Respiratory Tract Infections	Typhoid fever	Diarrhoea	Confirmed Malaria (only Positive cases)	Brucellosis	Urinary Tract Infection	Eye Infections D
<b>Kangoletiang Dispensary</b>	Upper Respiratory Tract Infections	Diarrhoea	Pneumonia	Confirmed Malaria (only Positive cases)	Disease of the skin	Urinary Tract Infection	Eye Infections
<b>Sirwach Dispensary</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Disease of the skin	Pneumonia	Typhoid fever	Urinary Tract Infection	Diarrhoea Br
<b>Nyang'aita Dispensary</b>	Upper Respiratory Tract Infections	Diarrhoea	Confirmed Malaria (only Positive cases)	Eye Infections	Disease of the skin	Pneumonia	Typhoid fever

	1	2	3	4	5	6	7
<b>Hospitals</b>							
<b>Takaywa Dispensary</b>	Upper Respiratory Tract Infections	Diarrhoea	Eye Infections	Pneumonia	Typhoid fever	Arthritis, Joint pains etc.	Confirmed Malaria (only Positive cases) D
<b>Tamkal Dispensary</b>	Upper Respiratory Tract Infections	Diarrhoea	Disease of the skin	Pneumonia	Confirmed Malaria (only Positive cases)	Typhoid fever	Urinary Tract Infection I
<b>Sigor Sub District Hospital</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Diarrhoea	Typhoid fever	Pneumonia	Urinary Tract Infection	Disease of the skin I
<b>Onoch Dispensary</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Pneumonia	Diarrhoea	Eye Infections	Disease of the skin	Typhoid fever
<b>Orolwo Dispensary</b>	Upper Respiratory Tract Infections	Diarrhoea	Disease of the skin	Confirmed Malaria (only Positive cases)	Urinary Tract Infection	Typhoid fever	Pneumonia I
<b>Kodich Dispensary</b>	Upper Respiratory Tract Infections	Diarrhoea	Pneumonia	Typhoid fever	Urinary Tract Infection	Disease of the skin	Confirmed Malaria (only Positive cases) I
<b>Nakwijit Dispensary</b>	Upper Respiratory Tract Infections	Diarrhoea	Confirmed Malaria (only Positive cases)	Disease of the skin	Pneumonia	Typhoid fever	Urinary Tract Infection Br
<b>Kanyerus Dispensary</b>	Upper Respiratory Tract Infections	Diarrhoea	Confirmed Malaria (only Positive cases)	Eye Infections	Disease of the skin	Pneumonia	Urinary Tract Infection
<b>Kacheliba District Hospital</b>	Upper Respiratory Tract Infections	Diarrhoea	Typhoid fever	Confirmed Malaria (only Positive cases)	Disease of the skin	Urinary Tract Infection	Pneumonia Br
<b>Kiwawa GOK Dispensary</b>	Upper Respiratory Tract Infections	Diarrhoea	Disease of the skin	Urinary Tract Infection	Confirmed Malaria (only Positive cases)	Pneumonia	Eye Infections

	1	2	3	4	5	6	7
<b>Hospitals</b>							
<b>Tapach Dispensary</b>	Upper Respiratory Tract Infections	Pneumonia	Diarrhoea	Disease of the skin	Arthritis, Joint pains etc.	Urinary Tract Infection	Eye Infections
<b>Kaporowo Dispensary</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Disease of the skin	Pneumonia	Typhoid fever	Urinary Tract Infection	Diarrhoea Br
<b>Sina Dispensary</b>	Upper Respiratory Tract Infections	Diarrhoea	Pneumonia	Disease of the skin	Confirmed Malaria (only Positive cases)	Urinary Tract Infection	Eye Infections
<b>Losam Dispensary</b>	Upper Respiratory Tract Infections	Pneumonia	Diarrhoea	Urinary Tract Infection	Disease of the skin	Confirmed Malaria (only Positive cases)	Eye Infections
<b>Chepukat dispensary</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Disease of the skin	Pneumonia	Typhoid fever	Urinary Tract Infection	Diarrhoea Br
<b>Chesra Dispensary</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Disease of the skin	Diarrhoea	Pneumonia	Urinary Tract Infection	Eye Infections
<b>Chepareria Sub District Hospital</b>	Upper Respiratory Tract Infections	Diarrhoea	Confirmed Malaria (only Positive cases)	Urinary Tract Infection	Pneumonia	Brucellosis	Disease of the skin II
<b>Naramam Dispensary</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Disease of the skin	Diarrhoea	Arthritis, Joint pains etc.	Eye Infections	Pneumonia
<b>Ortum Mission Hospital</b>	Pneumonia	Typhoid fever	Upper Respiratory Tract Infections	Diarrhoea	Urinary Tract Infection	Confirmed Malaria (only Positive cases)	Eye Infections D
<b>Cheptya Dispensary</b>	Upper Respiratory Tract Infections	Diarrhoea	Disease of the skin	Typhoid fever	Confirmed Malaria (only Positive cases)	Eye Infections	Urinary Tract Infection Pn

1 2 3 4 5 6 7

**Hospitals**

	1	2	3	4	5	6	7
<b>Kapchemogen Dispensary</b>	Upper Respiratory Tract Infections	Diarrhoea	Disease of the skin	Confirmed Malaria (only Positive cases)	Urinary Tract Infection	Typhoid fever	Pneumonia Br
<b>Chesupet Dispensary</b>	Upper Respiratory Tract Infections	Pneumonia	Disease of the skin	Diarrhoea	Eye Infections	Urinary Tract Infection	Typhoid fever
<b>Chepkono Dispensary</b>	Upper Respiratory Tract Infections	Pneumonia	Diarrhoea	Disease of the skin	Typhoid fever	Eye Infections	Urinary Tract Infection
<b>Kaptabuk Dispensary</b>	Upper Respiratory Tract Infections	Disease of the skin	Diarrhoea	Typhoid fever	Urinary Tract Infection	Pneumonia	Brucellosis Jo
<b>Kabichbich Health Centre</b>	Upper Respiratory Tract Infections	Diarrhoea	Urinary Tract Infection	Pneumonia	Typhoid fever	Confirmed Malaria (only Positive cases)	Eye Infections Jo
<b>Kapsait Dispensary (Pokot South)</b>	Upper Respiratory Tract Infections	Diarrhoea	Urinary Tract Infection	Disease of the skin	Eye Infections	Typhoid fever	Pneumonia
<b>Arpollo Dispensary</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Disease of the skin	Pneumonia	Typhoid fever	Urinary Tract Infection	Diarrhoea Br

In [187]: ranked\_data.style.background\_gradient(cmap=sns.light\_palette("green", as\_cmap=True))

Out[187]:

1

2

3

4

5

6

7

Hospitals							
Kamayech Dispensary	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Disease of the skin	Pneumonia	Typhoid fever	Urinary Tract Infection	Diarrhoea
Nachecheyet Dispensary	Upper Respiratory Tract Infections	Diarrhoea	Confirmed Malaria (only Positive cases)	Urinary Tract Infection	Pneumonia	Disease of the skin	Eye Infections
Kalemreka Dispensary	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Diarrhoea	Pneumonia	Eye Infections	Urinary Tract Infection	Disease of the skin
Serewo Health Centre	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Diarrhoea	Disease of the skin	Arthritis, Joint pains etc.	Pneumonia	Eye Infections
Adurkoit Dispensary	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Diarrhoea	Disease of the skin	Eye Infections	Typhoid fever	Pneumonia
Paraywa Dispensary	Upper Respiratory Tract Infections	Diarrhoea	Pneumonia	Confirmed Malaria (only Positive cases)	Disease of the skin	Eye Infections	Urinary Tract Infection
Kaibos Dispensary	Diarrhoea	Confirmed Malaria (only Positive cases)	Disease of the skin	Upper Respiratory Tract Infections	Eye Infections	Brucellosis	Urinary Tract Pn
Kaprech Dispensary	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Disease of the skin	Pneumonia	Typhoid fever	Urinary Tract Infection	Diarrhoea
Murkuwijit Dispensary	Upper Respiratory Tract Infections	Diarrhoea	Disease of the skin	Confirmed Malaria (only Positive cases)	Arthritis, Joint pains etc.	Pneumonia	Eye Infections
Kishaunet Dispensary	Upper Respiratory Tract Infections	Disease of the skin	Diarrhoea	Confirmed Malaria (only Positive cases)	Pneumonia	Urinary Tract Infection	Eye Infections

	1	2	3	4	5	6	7
<b>Hospitals</b>							
<b>Keringet Health Centre</b>	Upper Respiratory Tract Infections	Diarrhoea	Disease of the skin	Confirmed Malaria (only Positive cases)	Pneumonia	Urinary Tract Infection	Eye Infections
<b>Tamarukwo Dispensary</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Disease of the skin	Pneumonia	Typhoid fever	Urinary Tract Infection	Diarrhoea Bi
<b>Turkwel Health Centre</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Diarrhoea	Disease of the skin	Arthritis, Joint pains etc.	Urinary Tract Infection	Eye Infections Pn
<b>Ptovo Dispensary</b>	Upper Respiratory Tract Infections	Pneumonia	Diarrhoea	Disease of the skin	Typhoid fever	Urinary Tract Infection	Confirmed Malaria (only Positive cases) II
<b>Chepnyal GOK Dispensary</b>	Upper Respiratory Tract Infections	Diarrhoea	Disease of the skin	Confirmed Malaria (only Positive cases)	Pneumonia	Urinary Tract Infection	Arthritis, Joint pains etc.
<b>Tamough Health Centre</b>	Upper Respiratory Tract Infections	Diarrhoea	Confirmed Malaria (only Positive cases)	Urinary Tract Infection	Typhoid fever	Pneumonia	Brucellosis D
<b>Komol Dispensary</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Disease of the skin	Pneumonia	Typhoid fever	Urinary Tract Infection	Diarrhoea Bi
<b>Kapenguria County Referral Hospital</b>	Upper Respiratory Tract Infections	Typhoid fever	Urinary Tract Infection	Pneumonia	Diarrhoea	Arthritis, Joint pains etc.	Disease of the skin Co
<b>Emboasis Dispensary</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Disease of the skin	Pneumonia	Typhoid fever	Urinary Tract Infection	Diarrhoea Bi
<b>Lilyon Nursing HOME</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Disease of the skin	Pneumonia	Typhoid fever	Urinary Tract Infection	Diarrhoea Bi

	1	2	3	4	5	6	7
<b>Hospitals</b>							
<b>Lomut Dispensary</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Disease of the skin	Diarrhoea	Typhoid fever	Pneumonia	Urinary Tract Infection
<b>Kisera Dispensary</b>	Upper Respiratory Tract Infections	Typhoid fever	Pneumonia	Confirmed Malaria (only Positive cases)	Eye Infections	Diarrhoea	Urinary Tract Infection
<b>Sarmach Dispensary</b>	Upper Respiratory Tract Infections	Diarrhoea	Confirmed Malaria (only Positive cases)	Typhoid fever	Disease of the skin	Pneumonia	Urinary Tract Infection
<b>Alale Health Centre</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Diarrhoea	Typhoid fever	Disease of the skin	Arthritis, Joint pains etc.	Urinary Tract Infection
<b>Kasitet Dispensary (Alale)</b>	Upper Respiratory Tract Infections	Urinary Tract Infection	Diarrhoea	Typhoid fever	Arthritis, Joint pains etc.	Disease of the skin	Pneumonia
<b>Leng'orok Dispensary</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Pneumonia	Diarrhoea	Disease of the skin	Brucellosis	Typhoid fever
<b>Alale (AIC) Health Centre</b>	Upper Respiratory Tract Infections	Typhoid fever	Diarrhoea	Confirmed Malaria (only Positive cases)	Brucellosis	Urinary Tract Infection	Eye Infections
<b>Kangoletiang Dispensary</b>	Upper Respiratory Tract Infections	Diarrhoea	Pneumonia	Confirmed Malaria (only Positive cases)	Disease of the skin	Urinary Tract Infection	Eye Infections
<b>Sirwach Dispensary</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Disease of the skin	Pneumonia	Typhoid fever	Urinary Tract Infection	Diarrhoea
<b>Nyang'aita Dispensary</b>	Upper Respiratory Tract Infections	Diarrhoea	Confirmed Malaria (only Positive cases)	Eye Infections	Disease of the skin	Pneumonia	Typhoid fever

	1	2	3	4	5	6	7
<b>Hospitals</b>							
<b>Takaywa Dispensary</b>	Upper Respiratory Tract Infections	Diarrhoea	Eye Infections	Pneumonia	Typhoid fever	Arthritis, Joint pains etc.	Confirmed Malaria (only Positive cases) D
<b>Tamkal Dispensary</b>	Upper Respiratory Tract Infections	Diarrhoea	Disease of the skin	Pneumonia	Confirmed Malaria (only Positive cases)	Typhoid fever	Urinary Tract Infection II
<b>Sigor Sub District Hospital</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Diarrhoea	Typhoid fever	Pneumonia	Urinary Tract Infection	Disease of the skin II
<b>Onoch Dispensary</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Pneumonia	Diarrhoea	Eye Infections	Disease of the skin	Typhoid fever
<b>Orolwo Dispensary</b>	Upper Respiratory Tract Infections	Diarrhoea	Disease of the skin	Confirmed Malaria (only Positive cases)	Urinary Tract Infection	Typhoid fever	Pneumonia II
<b>Kodich Dispensary</b>	Upper Respiratory Tract Infections	Diarrhoea	Pneumonia	Typhoid fever	Urinary Tract Infection	Disease of the skin	Confirmed Malaria (only Positive cases) II
<b>Nakwijit Dispensary</b>	Upper Respiratory Tract Infections	Diarrhoea	Confirmed Malaria (only Positive cases)	Disease of the skin	Pneumonia	Typhoid fever	Urinary Tract Infection BI
<b>Kanyerus Dispensary</b>	Upper Respiratory Tract Infections	Diarrhoea	Confirmed Malaria (only Positive cases)	Eye Infections	Disease of the skin	Pneumonia	Urinary Tract Infection
<b>Kacheliba District Hospital</b>	Upper Respiratory Tract Infections	Diarrhoea	Typhoid fever	Confirmed Malaria (only Positive cases)	Disease of the skin	Urinary Tract Infection	Pneumonia BI
<b>Kiwawa GOK Dispensary</b>	Upper Respiratory Tract Infections	Diarrhoea	Disease of the skin	Urinary Tract Infection	Confirmed Malaria (only Positive cases)	Pneumonia	Eye Infections

	1	2	3	4	5	6	7
<b>Hospitals</b>							
<b>Tapach Dispensary</b>	Upper Respiratory Tract Infections	Pneumonia	Diarrhoea	Disease of the skin	Arthritis, Joint pains etc.	Urinary Tract Infection	Eye Infections
<b>Kaporowo Dispensary</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Disease of the skin	Pneumonia	Typhoid fever	Urinary Tract Infection	Diarrhoea Bi
<b>Sina Dispensary</b>	Upper Respiratory Tract Infections	Diarrhoea	Pneumonia	Disease of the skin	Confirmed Malaria (only Positive cases)	Urinary Tract Infection	Eye Infections
<b>Losam Dispensary</b>	Upper Respiratory Tract Infections	Pneumonia	Diarrhoea	Urinary Tract Infection	Disease of the skin	Confirmed Malaria (only Positive cases)	Eye Infections
<b>Chepukat dispensary</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Disease of the skin	Pneumonia	Typhoid fever	Urinary Tract Infection	Diarrhoea Bi
<b>Chesra Dispensary</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Disease of the skin	Diarrhoea	Pneumonia	Urinary Tract Infection	Eye Infections
<b>Chepareria Sub District Hospital</b>	Upper Respiratory Tract Infections	Diarrhoea	Confirmed Malaria (only Positive cases)	Urinary Tract Infection	Pneumonia	Brucellosis	Disease of the skin II
<b>Naramam Dispensary</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Disease of the skin	Diarrhoea	Arthritis, Joint pains etc.	Eye Infections	Pneumonia
<b>Ortum Mission Hospital</b>	Pneumonia	Typhoid fever	Upper Respiratory Tract Infections	Diarrhoea	Urinary Tract Infection	Confirmed Malaria (only Positive cases)	Eye Infections D
<b>Cheptya Dispensary</b>	Upper Respiratory Tract Infections	Diarrhoea	Disease of the skin	Typhoid fever	Confirmed Malaria (only Positive cases)	Eye Infections	Urinary Tract Pn Infection

1 2 3 4 5 6 7

**Hospitals**

<b>Kapchemogen Dispensary</b>	Upper Respiratory Tract Infections	Diarrhoea	Disease of the skin	Confirmed Malaria (only Positive cases)	Urinary Tract Infection	Typhoid fever	Pneumonia	Br
<b>Chesupet Dispensary</b>	Upper Respiratory Tract Infections	Pneumonia	Disease of the skin	Diarrhoea	Eye Infections	Urinary Tract Infection	Typhoid fever	C
<b>Chepkono Dispensary</b>	Upper Respiratory Tract Infections	Pneumonia	Diarrhoea	Disease of the skin	Typhoid fever	Eye Infections	Urinary Tract Infection	C
<b>Kaptabuk Dispensary</b>	Upper Respiratory Tract Infections	Disease of the skin	Diarrhoea	Typhoid fever	Urinary Tract Infection	Pneumonia	Brucellosis	Jo
<b>Kabichbich Health Centre</b>	Upper Respiratory Tract Infections	Diarrhoea	Urinary Tract Infection	Pneumonia	Typhoid fever	Confirmed Malaria (only Positive cases)	Eye Infections	Jo
<b>Kapsait Dispensary (Pokot South)</b>	Upper Respiratory Tract Infections	Diarrhoea	Urinary Tract Infection	Disease of the skin	Eye Infections	Typhoid fever	Pneumonia	C
<b>Arpollo Dispensary</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Disease of the skin	Pneumonia	Typhoid fever	Urinary Tract Infection	Diarrhoea	Br

In [303]:

```
data_public=df[df.Ownership=='Public']
clean_public=data_public.filter(['Upper Respiratory Tract Infections',
                               'Confirmed Malaria (only Positive cases)', 'Disease of the skin',
                               'Pneumonia', 'Typhoid fever', 'Urinary Tract Infection', 'Diarrhoea',
                               'Brucellosis', 'Eye Infections', 'Arthritis, Joint pains etc.'])
clean_public.head()
```

Out[303]:

	Upper Respiratory Tract Infections	Confirmed						Urinary Tract Infection	Diarrhoea	Brucellosi
		Malaria (only Positive cases)	Disease of the skin	Pneumonia	Typhoid fever					

**Hospitals**

Kamayech Dispensary	0	0	0	0	0	0	0	0	0	0
Nachecheyet Dispensary	181	48	10	29	0	41	102	0	0	0
Kalemrekaï Dispensary	223	134	2	15	1	4	60	0	0	0
Serewo Health Centre	965	239	84	25	11	5	119	0	0	0
Adurkoiit Dispensary	248	118	16	1	2	0	44	0	0	0



In [304...]: `cor_pub = clean_public.corr().round(2)`  
`cor_pub`

Out[304]:

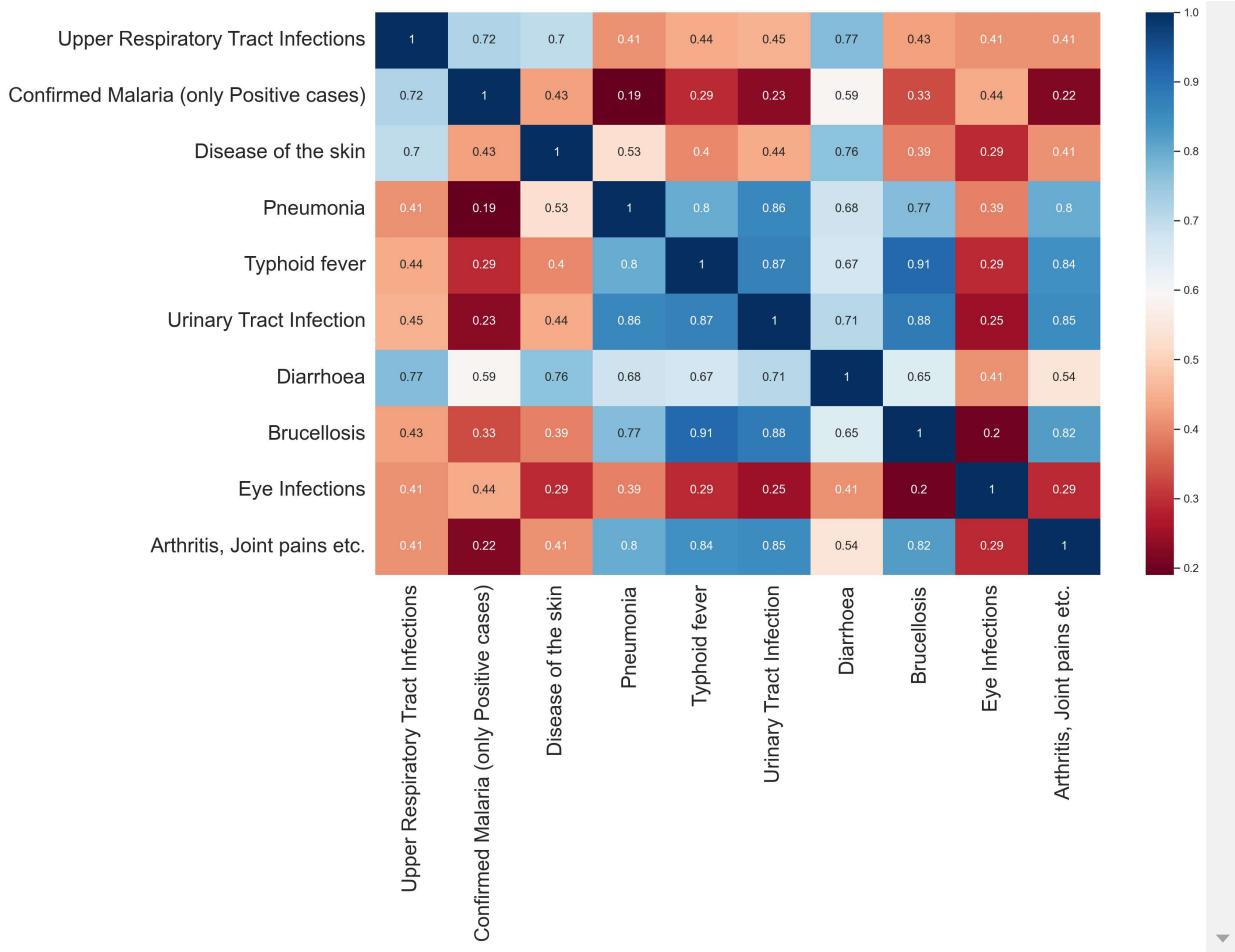
	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Disease of the skin	Pneumonia	Typhoid fever	Urinary Tract Infection	Diarrhoea	Brucellosis
Upper Respiratory Tract Infections	1.00	0.72	0.70	0.41	0.44	0.45	0.77	0.43
Confirmed Malaria (only Positive cases)	0.72	1.00	0.43	0.19	0.29	0.23	0.59	0.33
Disease of the skin	0.70	0.43	1.00	0.53	0.40	0.44	0.76	0.39
Pneumonia	0.41	0.19	0.53	1.00	0.80	0.86	0.68	0.77
Typhoid fever	0.44	0.29	0.40	0.80	1.00	0.87	0.67	0.91
Urinary Tract Infection	0.45	0.23	0.44	0.86	0.87	1.00	0.71	0.88
Diarrhoea	0.77	0.59	0.76	0.68	0.67	0.71	1.00	0.65
Brucellosis	0.43	0.33	0.39	0.77	0.91	0.88	0.65	1.00
Eye Infections	0.41	0.44	0.29	0.39	0.29	0.25	0.41	0.20
Arthritis, Joint pains etc.	0.41	0.22	0.41	0.80	0.84	0.85	0.54	0.82



In [305...]

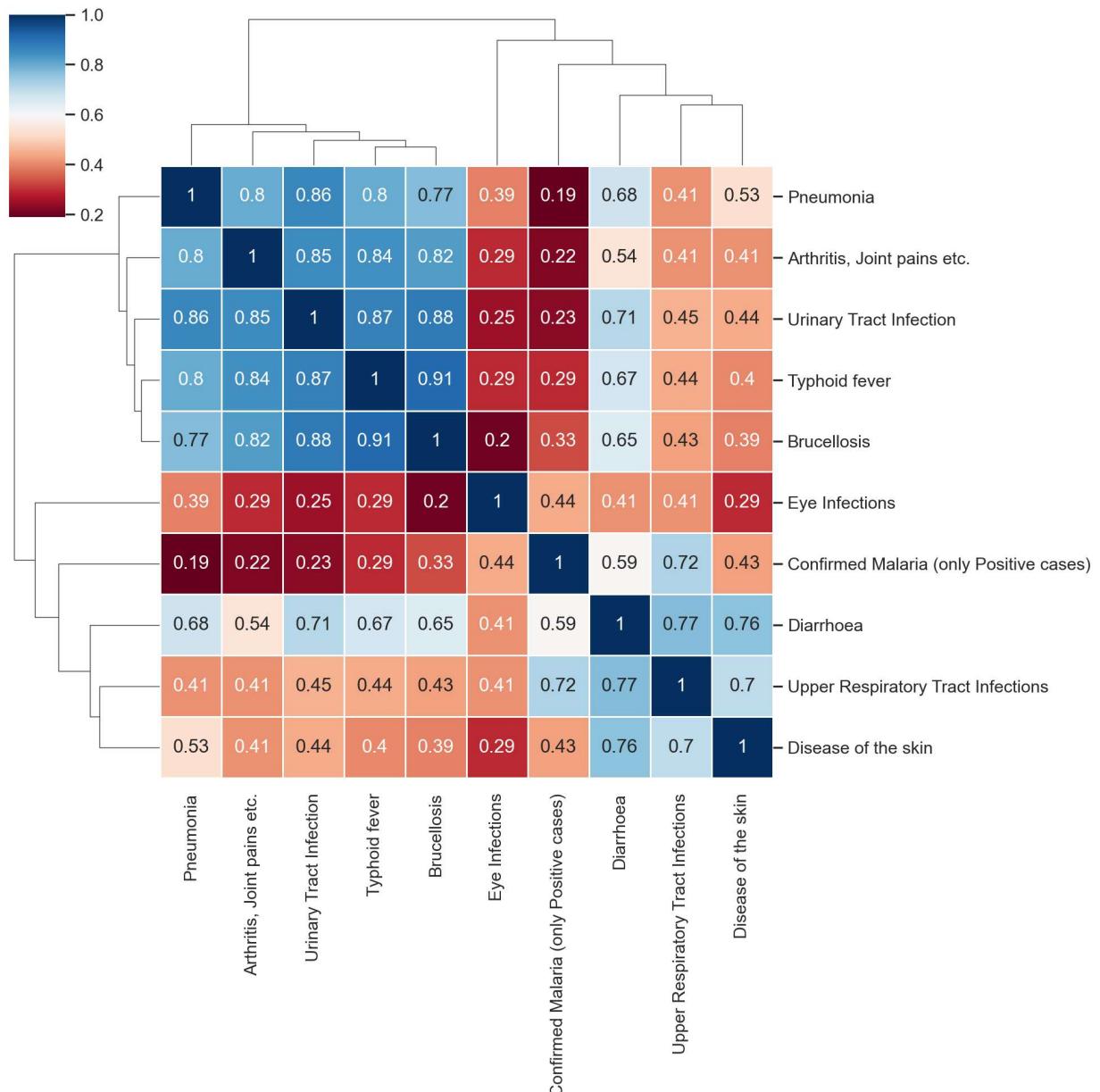
```
plt.figure(figsize=(16,10))
# plt.title('Diseases Correlation Matrix in Public Hospitals')
plt.xticks(fontsize=20)
plt.yticks(fontsize=20)
sns.heatmap(cor_pub, annot=True, cmap='RdBu')
```

Out[305]: &lt;AxesSubplot:&gt;



In [306]: `sns.clustermap(cor_pub, cmap='RdBu', linewidths=.5, annot=True)`

Out[306]: `<seaborn.matrix.ClusterGrid at 0x1fd32e37220>`



In [308]: `clean_public.T['Kamayech Dispensary']`

Out[308]:

Upper Respiratory Tract Infections	0
Confirmed Malaria (only Positive cases)	0
Disease of the skin	0
Pneumonia	0
Typhoid fever	0
Urinary Tract Infection	0
Diarrhoea	0
Brucellosis	0
Eye Infections	0
Arthritis, Joint pains etc.	0

Name: Kamayech Dispensary, dtype: int64

In [310]: `res = []`

```

for col in clean_public.T.columns:
    res.append(list(clean_public.T.sort_values(by = col, ascending=False).index))

ranked_data = pd.DataFrame(res, index = clean_public.T.columns, columns = [x for x in
    
```

```
def color_positive_green(val):
    """
    Takes a scalar and returns a string with
    the css property ``color: green`` for positive
    strings, black otherwise.
    """
    color = color_dict.get(val)
    if not color:
        color ='#c1c1c1'
    return 'color: %s' % color

ranked_data.style.applymap(color_positive_green)
```

Out[310]:

	1	2	3	4	5	6	7
<b>Hospitals</b>							
<b>Kamayech Dispensary</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Disease of the skin	Pneumonia	Typhoid fever	Urinary Tract Infection	Diarrhoea Br
<b>Nachecheyet Dispensary</b>	Upper Respiratory Tract Infections	Diarrhoea	Confirmed Malaria (only Positive cases)	Urinary Tract Infection	Pneumonia	Disease of the skin	Eye Infections Jo
<b>Kalemrekai Dispensary</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Diarrhoea	Pneumonia	Eye Infections	Urinary Tract Infection	Disease of the skin
<b>Serewo Health Centre</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Diarrhoea	Disease of the skin	Arthritis, Joint pains etc.	Pneumonia	Eye Infections
<b>Adurkoit Dispensary</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Diarrhoea	Disease of the skin	Eye Infections	Typhoid fever	Pneumonia
<b>Paraywa Dispensary</b>	Upper Respiratory Tract Infections	Diarrhoea	Pneumonia	Confirmed Malaria (only Positive cases)	Disease of the skin	Eye Infections	Urinary Tract Infection
<b>Kaibos Dispensary</b>	Diarrhoea	Confirmed Malaria (only Positive cases)	Disease of the skin	Upper Respiratory Tract Infections	Eye Infections	Brucellosis	Urinary Tract Pn
<b>Kaprech Dispensary</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Disease of the skin	Pneumonia	Typhoid fever	Urinary Tract Infection	Diarrhoea Br
<b>Murkuwijit Dispensary</b>	Upper Respiratory Tract Infections	Diarrhoea	Disease of the skin	Confirmed Malaria (only Positive cases)	Arthritis, Joint pains etc.	Pneumonia	Eye Infections
<b>Kishaunet Dispensary</b>	Upper Respiratory Tract Infections	Disease of the skin	Diarrhoea	Confirmed Malaria (only Positive cases)	Pneumonia	Urinary Tract Infection	Eye Infections Jo

	1	2	3	4	5	6	7
<b>Hospitals</b>							
<b>Keringet Health Centre</b>	Upper Respiratory Tract Infections	Diarrhoea	Disease of the skin	Confirmed Malaria (only Positive cases)	Pneumonia	Urinary Tract Infection	Eye Infections
<b>Tamarukwo Dispensary</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Disease of the skin	Pneumonia	Typhoid fever	Urinary Tract Infection	Diarrhoea Br
<b>Turkwel Health Centre</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Diarrhoea	Disease of the skin	Arthritis, Joint pains etc.	Urinary Tract Infection	Eye Infections Pn
<b>Ptoto Dispensary</b>	Upper Respiratory Tract Infections	Pneumonia	Diarrhoea	Disease of the skin	Typhoid fever	Urinary Tract Infection	Confirmed Malaria (only Positive cases) In
<b>Chepnyal GOK Dispensary</b>	Upper Respiratory Tract Infections	Diarrhoea	Disease of the skin	Confirmed Malaria (only Positive cases)	Pneumonia	Urinary Tract Infection	Arthritis, Joint pains etc.
<b>Tamough Health Centre</b>	Upper Respiratory Tract Infections	Diarrhoea	Confirmed Malaria (only Positive cases)	Urinary Tract Infection	Typhoid fever	Pneumonia	Brucellosis D
<b>Komol Dispensary</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Disease of the skin	Pneumonia	Typhoid fever	Urinary Tract Infection	Diarrhoea Br
<b>Kapenguria County Referral Hospital</b>	Upper Respiratory Tract Infections	Typhoid fever	Urinary Tract Infection	Pneumonia	Diarrhoea	Arthritis, Joint pains etc.	Disease of the skin Co
<b>Emboasis Dispensary</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Disease of the skin	Pneumonia	Typhoid fever	Urinary Tract Infection	Diarrhoea Br
<b>Lomut Dispensary</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Disease of the skin	Diarrhoea	Typhoid fever	Pneumonia	Urinary Tract Infection Br

	1	2	3	4	5	6	7
<b>Hospitals</b>							
<b>Kisera Dispensary</b>	Upper Respiratory Tract Infections	Typhoid fever	Pneumonia	Confirmed Malaria (only Positive cases)	Eye Infections	Diarrhoea	Urinary Tract Infection
<b>Sarmach Dispensary</b>	Upper Respiratory Tract Infections	Diarrhoea	Confirmed Malaria (only Positive cases)	Typhoid fever	Disease of the skin	Pneumonia	Urinary Tract Infection
<b>Alale Health Centre</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Diarrhoea	Typhoid fever	Disease of the skin	Arthritis, Joint pains etc.	Urinary Tract Infection
<b>Kasitet Dispensary (Alale)</b>	Upper Respiratory Tract Infections	Urinary Tract Infection	Diarrhoea	Typhoid fever	Arthritis, Joint pains etc.	Disease of the skin	Pneumonia
<b>Leng'orok Dispensary</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Pneumonia	Diarrhoea	Disease of the skin	Brucellosis	Typhoid fever
<b>Alale (AIC) Health Centre</b>	Upper Respiratory Tract Infections	Typhoid fever	Diarrhoea	Confirmed Malaria (only Positive cases)	Brucellosis	Urinary Tract Infection	Eye Infections
<b>Kangoletiang Dispensary</b>	Upper Respiratory Tract Infections	Diarrhoea	Pneumonia	Confirmed Malaria (only Positive cases)	Disease of the skin	Urinary Tract Infection	Eye Infections
<b>Sirwach Dispensary</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Disease of the skin	Pneumonia	Typhoid fever	Urinary Tract Infection	Diarrhoea Br
<b>Nyang'aita Dispensary</b>	Upper Respiratory Tract Infections	Diarrhoea	Confirmed Malaria (only Positive cases)	Eye Infections	Disease of the skin	Pneumonia	Typhoid fever
<b>Takaywa Dispensary</b>	Upper Respiratory Tract Infections	Diarrhoea	Eye Infections	Pneumonia	Typhoid fever	Arthritis, Joint pains etc.	Confirmed Malaria (only Positive cases)

	1	2	3	4	5	6	7
<b>Hospitals</b>							
<b>Tamkal Dispensary</b>	Upper Respiratory Tract Infections	Diarrhoea	Disease of the skin	Pneumonia	Confirmed Malaria (only Positive cases)	Typhoid fever	Urinary Tract Infection
<b>Sigor Sub District Hospital</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Diarrhoea	Typhoid fever	Pneumonia	Urinary Tract Infection	Disease of the skin
<b>Onoch Dispensary</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Pneumonia	Diarrhoea	Eye Infections	Disease of the skin	Typhoid fever
<b>Orolwo Dispensary</b>	Upper Respiratory Tract Infections	Diarrhoea	Disease of the skin	Confirmed Malaria (only Positive cases)	Urinary Tract Infection	Typhoid fever	Pneumonia
<b>Kodich Dispensary</b>	Upper Respiratory Tract Infections	Diarrhoea	Pneumonia	Typhoid fever	Urinary Tract Infection	Disease of the skin	Confirmed Malaria (only Positive cases)
<b>Nakwijit Dispensary</b>	Upper Respiratory Tract Infections	Diarrhoea	Confirmed Malaria (only Positive cases)	Disease of the skin	Pneumonia	Typhoid fever	Urinary Tract Infection
<b>Kanyerus Dispensary</b>	Upper Respiratory Tract Infections	Diarrhoea	Confirmed Malaria (only Positive cases)	Eye Infections	Disease of the skin	Pneumonia	Urinary Tract Infection
<b>Kacheliba District Hospital</b>	Upper Respiratory Tract Infections	Diarrhoea	Typhoid fever	Confirmed Malaria (only Positive cases)	Disease of the skin	Urinary Tract Infection	Pneumonia
<b>Kiwawa GOK Dispensary</b>	Upper Respiratory Tract Infections	Diarrhoea	Disease of the skin	Urinary Tract Infection	Confirmed Malaria (only Positive cases)	Pneumonia	Eye Infections
<b>Tapach Dispensary</b>	Upper Respiratory Tract Infections	Pneumonia	Diarrhoea	Disease of the skin	Arthritis, Joint pains etc.	Urinary Tract Infection	Eye Infections

	1	2	3	4	5	6	7
<b>Hospitals</b>							
<b>Kaporowo Dispensary</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Disease of the skin	Pneumonia	Typhoid fever	Urinary Tract Infection	Diarrhoea Br
<b>Sina Dispensary</b>	Upper Respiratory Tract Infections	Diarrhoea	Pneumonia	Disease of the skin	Confirmed Malaria (only Positive cases)	Urinary Tract Infection	Eye Infections
<b>Losam Dispensary</b>	Upper Respiratory Tract Infections	Pneumonia	Diarrhoea	Urinary Tract Infection	Disease of the skin	Confirmed Malaria (only Positive cases)	Eye Infections
<b>Chepukat dispensary</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Disease of the skin	Pneumonia	Typhoid fever	Urinary Tract Infection	Diarrhoea Br
<b>Chesra Dispensary</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Disease of the skin	Diarrhoea	Pneumonia	Urinary Tract Infection	Eye Infections
<b>Chepareria Sub District Hospital</b>	Upper Respiratory Tract Infections	Diarrhoea	Confirmed Malaria (only Positive cases)	Urinary Tract Infection	Pneumonia	Brucellosis	Disease of the skin
<b>Naramam Dispensary</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Disease of the skin	Diarrhoea	Arthritis, Joint pains etc.	Eye Infections	Pneumonia
<b>Cheptya Dispensary</b>	Upper Respiratory Tract Infections	Diarrhoea	Disease of the skin	Typhoid fever	Confirmed Malaria (only Positive cases)	Eye Infections	Urinary Tract Infection Pn
<b>Kapchemogen Dispensary</b>	Upper Respiratory Tract Infections	Diarrhoea	Disease of the skin	Confirmed Malaria (only Positive cases)	Urinary Tract Infection	Typhoid fever	Pneumonia Br
<b>Chesupet Dispensary</b>	Upper Respiratory Tract Infections	Pneumonia	Disease of the skin	Diarrhoea	Eye Infections	Urinary Tract Infection	Typhoid fever

1 2 3 4 5 6 7

**Hospitals**

	Upper Respiratory Tract Infections	Pneumonia	Diarrhoea	Disease of the skin	Typhoid fever	Eye Infections	Urinary Tract Infection	Confirmed Malaria (only Positive cases)	Eye Infections	Joint pains etc.
<b>Chepkono Dispensary</b>										
<b>Kaptabuk Dispensary</b>	Upper Respiratory Tract Infections	Disease of the skin	Diarrhoea	Typhoid fever	Urinary Tract Infection	Pneumonia	Brucellosis	Joint pains etc.		
<b>Kabichbich Health Centre</b>	Upper Respiratory Tract Infections	Diarrhoea	Urinary Tract Infection	Pneumonia	Typhoid fever	Confirmed Malaria (only Positive cases)	Eye Infections	Joint pains etc.		
<b>Kapsait Dispensary (Pokot South)</b>	Upper Respiratory Tract Infections	Diarrhoea	Urinary Tract Infection	Disease of the skin	Eye Infections	Typhoid fever	Pneumonia	Confirmed Malaria (only Positive cases)	Eye Infections	Joint pains etc.
<b>Arpollo Dispensary</b>	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Disease of the skin	Pneumonia	Typhoid fever	Urinary Tract Infection	Diarrhoea	Brucellosis	Joint pains etc.	

In [292]:

```
data_private=df[df.Ownership=='Non Public']
data_private
```

Out[292]:

	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Disease of the skin	Pneumonia	Typhoid fever	Urinary Tract Infection	Diarrhoea	Brucellosis	Joint pains etc.
<b>Hospitals</b>									
<b>Lilyon Nursing HOME</b>	0	0	0	0	0	0	0	0	0
<b>Ortum Mission Hospital</b>	23	12	0	29	24	17	23	0	0

In [294]:

```
clean_private=data_private.filter(['Upper Respiratory Tract Infections',
                                  'Confirmed Malaria (only Positive cases)', 'Disease of the skin',
                                  'Pneumonia', 'Typhoid fever', 'Urinary Tract Infection', 'Diarrhoea',
                                  'Brucellosis', 'Eye Infections', 'Arthritis, Joint pains etc.'])
clean_private
```

Out[294]:

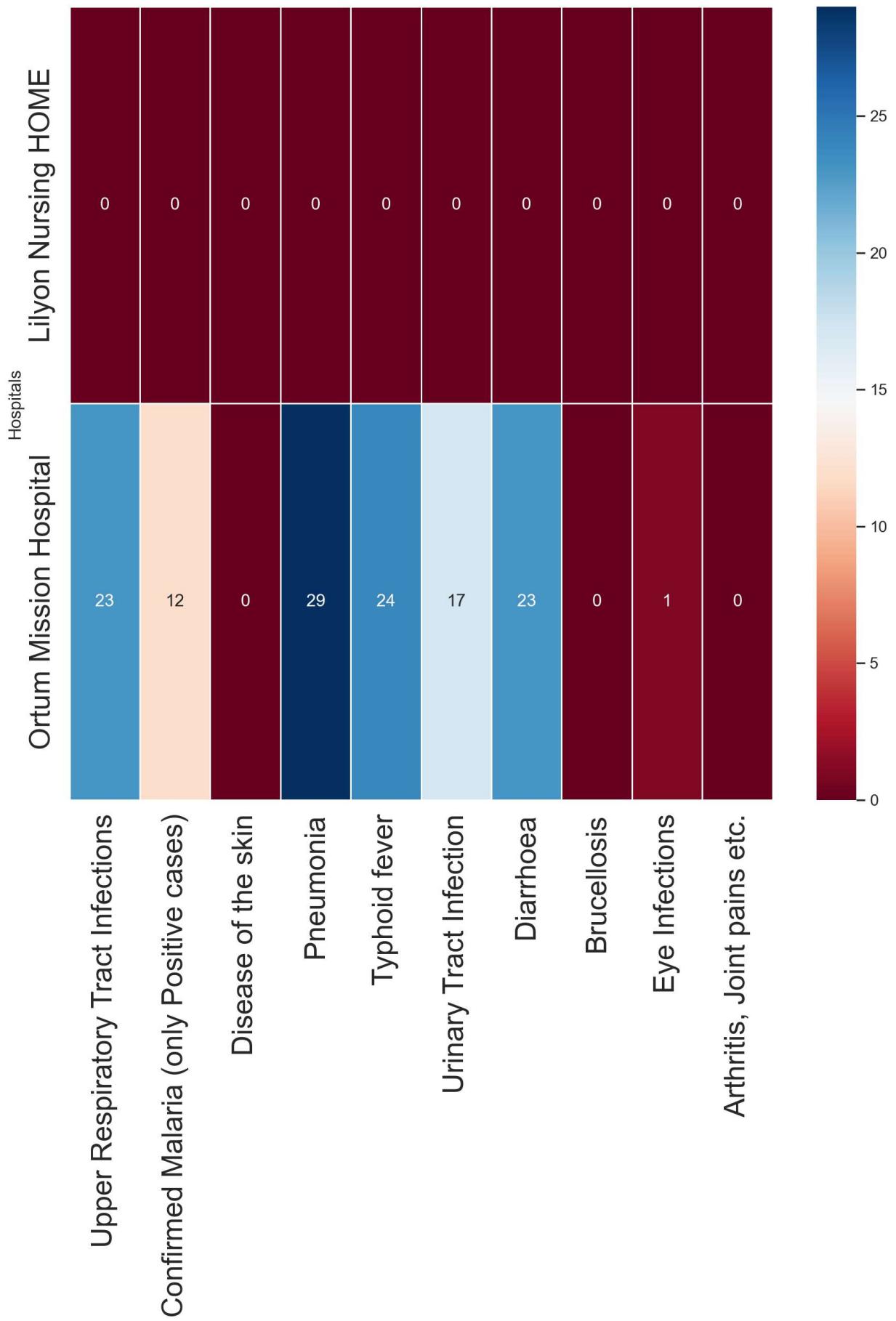
	Upper Respiratory Tract Infections	Confirmed					Urinary Tract Infection	Diarrhoea	Brucellosis	I
		Malaria (only Positive cases)	Disease of the skin	Pneumonia	Typhoid fever					
<b>Hospitals</b>										
Lilyon Nursing HOME		0	0	0	0	0	0	0	0	0
Ortum Mission Hospital		23	12	0	29	24	17	23	0	

In [296]:

```
plt.figure(figsize=(11,10))
plt.xticks(fontsize=20)
plt.yticks(fontsize=20)
# plt.title('West Pokot Private Heatmap')
xlabel='Diseases'
sns.heatmap(clean_private, cmap='RdBu', linewidths=.5, annot=True)

#No corr since only one private hospitals reported infection cases, no other to compare
```

Out[296]:



```
In [312]: clean_private.T['Lilyon Nursing HOME']
```

```
Out[312]: Upper Respiratory Tract Infections      0
          Confirmed Malaria (only Positive cases)  0
          Disease of the skin                      0
          Pneumonia                                0
          Typhoid fever                            0
          Urinary Tract Infection                  0
          Diarrhoea                                0
          Brucellosis                             0
          Eye Infections                           0
          Arthritis, Joint pains etc.              0
          Name: Lilyon Nursing HOME, dtype: int64
```

```
In [313... res =[]

for col in clean_private.T.columns:
    res.append(list(clean_private.T.sort_values(by =col, ascending=False).index))

ranked_data = pd.DataFrame(res, index = clean_private.T.columns, columns = [x for x in
    range(1, len(clean_private.T.columns)+1)

def color_positive_green(val):
    """
    Takes a scalar and returns a string with
    the css property ``color: green`` for positive
    strings, black otherwise.
    """
    color = color_dict.get(val)
    if not color:
        color ='#c1c1c1'
    return 'color: %s' % color

ranked_data.style.applymap(color_positive_green)
```

```
Out[313]: 1 2 3 4 5 6 7 8
```

<b>Hospitals</b>								
Lilyon Nursing HOME	Upper Respiratory Tract Infections	Confirmed Malaria (only Positive cases)	Disease of the skin	Pneumonia	Typhoid fever	Urinary Tract Infection	Diarrhoea	Brucellosis
Ortum Mission Hospital	Pneumonia	Typhoid fever	Upper Respiratory Tract Infections	Diarrhoea	Urinary Tract Infection	Confirmed Malaria (only Positive cases)	Eye Infections	Disease of the skin

```
In [75]: pip install plotly
```

Note: you may need to restart the kernel to use updated packages. Requirement already satisfied: plotly in c:\users\user\anaconda3\lib\site-packages (5.9.0)  
Requirement already satisfied: tenacity>=6.2.0 in c:\users\user\anaconda3\lib\site-packages (from plotly) (8.0.1)

```
from scipy.cluster import hierarchy
x = np.array([[1, 13157], [2, 3449], [3, 2376], [4, 1735], [5, 1434], [6, 1426], [7, 1190], [8, 440], [9, 408], [10, 186]])
names = clean_private
fig = ff.create_dendrogram(x, orientation='right', labels=names)
fig.update_layout(width=800, height=800)
fig.show()
```

In [ ]: