Mercy Hospital

Type	A	B	C	D	E	All
Operations	359	1836	299	2086	149	4729
Successful	292	1449	178	434	13	2366
Rate	0.81	0.79	0.60	0.21	0.09	0.50

Hope Hospital

Type	A	B	C	D	E	All
Operations	88	514	222	86	45	955
Successful	70	391	113	12	2	588
Rate	0.80	0.76	0.51	0.14	0.04	0.62

Fraction of Mercy Hospital's operations that were successful:

$$
\begin{aligned}
0.50 &\approx \frac{2366}{4729} \\
&= \frac{292 + 1449 + 178 + 434 + 13}{4729} \\
&\approx \frac{359(0.81) + 1836(0.79) + 299(0.60) + 2086(0.21) + 149(0.09)}{4729} \\
&= \frac{359}{4729}(0.81) + \frac{1836}{4729}(0.79) + \frac{299}{4729}(0.60) + \frac{2086}{4729}(0.21) + \frac{149}{4729}(0.09)
\end{aligned}
$$

Fraction of all operations that were both successful <u>and</u> done at Hope:

$$
\begin{aligned}
0.103 &\approx \frac{588}{4729 + 955} \\
&\approx \frac{4729}{4729 + 955}(0) + \frac{955}{4729 + 955}(0.62)
\end{aligned}
$$

Fraction of all successful operations that were done at Mercy:

$$
\begin{aligned}
0.80 &\approx \frac{2366}{2366 + 588} \\
&= \frac{2366}{2366 + 588}(1) + \frac{588}{2366 + 588}(0)
\end{aligned}
$$

Fraction of all Mercy operations that were likely successes (A,B,C):

$$
0.53 \approx \frac{359 + 1836 + 299}{4729} \quad \left(= \frac{359}{4729}(1) + \frac{1836}{4729}(1) + \frac{299}{4729}(1) + \frac{2086}{4729}(0) + \frac{149}{4729}(0) \right)
$$

Fraction of all Hope operations that were likely successes (A,B,C):

$$
0.86 \approx \frac{88 + 514 + 222}{955}
$$