Disease	Number	The results ++	+−	−+	−−
d_1	3215	2110	301	704	100
d_2	2125	396	132	1187	410
d_3	4660	510	3568	73	509
Total	10000				

	d_1	d_2	d_3
$P(++ \mid d_i)$	$\frac{2110}{3215}$	$\frac{396}{2125}$	$\frac{510}{4660}$
$P(+- \mid d_i)$	$\frac{301}{3215}$	$\frac{132}{2125}$	$\frac{3568}{4660}$
$P(-+ \mid d_i)$	$\frac{704}{3215}$	$\frac{1187}{2125}$	$\frac{73}{4660}$
$P(-- \mid d_i)$	$\frac{100}{3215}$	$\frac{410}{2125}$	$\frac{509}{4660}$

$$
\begin{aligned}
P(d_1 \mid ++) &= \frac{P(d_1)P(++ \mid d_1)}{P(d_1)P(++ \mid d_1) + P(d_2)P(++ \mid d_2) + P(d_3)P(++ \mid d_3)} \\
&= \frac{0.3215 \times \frac{2110}{3215}}{0.3215 \times \frac{2110}{3215} + 0.2125 \times \frac{396}{2125} + 0.4660 \times \frac{510}{4660})} \\
&= \frac{2110}{2110 + 396 + 510} = 0.6996\ldots
\end{aligned}
$$

	d_1	d_2	d_3
$P(d_i \mid ++)$	.6996	.1313	.1691
$P(d_i \mid +-)$	.0752	.0330	.8918
$P(d_i \mid -+)$	.3585	.6044	.0372
$P(d_i \mid --)$	.0981	.4024	.4995