

Abstract

世界的にみた血友病コミュニティーにおける FVIII 製剤の消費と国家経済レベルに関する国家間の比較

A country-by-country comparison of FVIII concentrate consumption and economic capacity for the global haemophilia community

J. S. Stonebraker, R. E. Amand and A. J. Nagle

本稿では、110 か国のデータを例にとり、国家経済レベルに基づく第 VIII 因子 (FVIII) 製剤の消費量を推定する方法を提示する。様々な医療経済指標を検討した結果、購買力平価 (purchasing power parity ; PPP) 国民総所得 (GNI) が、その国において消費される FVIII 製剤の量と最も相関することが示された。他国の経済資源を基に自国の FVIII 製剤の消費量を評価し他国と比較することができるように、FVIII 製剤消費量と経済レベルの指数の算出には、現時点で入手可能な FVIII 製剤消費量のデータと様々な医療経済学的指標を用いた。本稿は、各国の政府関係者、医療関係者および患者団体が血友病医療のための予算を立てるうえで極めて重要と考えられる。

Table 1. Purchasing power parity (PPP) GNI per capita had the strongest correlation with FVIII consumption. To provide health-economic data for each country in the study, PPP GNI per capita, GNI per capita, PPP health-care expenditure per capita, health-care expenditure per capita, GDP per head in PPP, and GDP per capita were selected and used to estimate a country's economic capacity. *R* is the correlation coefficient and is a measure of strength of the linear relationship between the variables *x* and *y*. *R* = 1 is perfect positive correlation, *R* = -1 is perfect negative correlation and *R* = 0 is no linear relationship between the variables *y* and *x*. *R*² is the coefficient of determination and is the proportion of variability in *y* explained by *y*'s linear relationship with *x*.

Health-economic indicator	<i>R</i>	<i>R</i> ²
PPP GNI per capita [19]	0.87	0.76
GNI per capita [19]	0.85	0.73
PPP health-care expenditure per capita [19]	0.84	0.71
Health-care expenditure per capita [22]	0.84	0.70
Health-care expenditure per capita [19]	0.83	0.70
GDP per head in PPP [21]	0.80	0.64
GDP per capita [20]	0.80	0.64
Mobile phones per 1000 people [19]	0.77	0.59
Index on overall health system attainment [22]	0.73	0.53
Human development index [21]	0.68	0.47
Electric power consumption per capita [19]	0.68	0.46
Index on overall health system performance [22]	0.63	0.39
Health-care expenditure as a per cent of GDP [19]	0.57	0.33
Life expectancy at birth [19]	0.57	0.33
Infant mortality rate [20]	-0.55	0.30
Gini Index [19]	-0.50	0.25
Crude birth rate [21]	-0.46	0.21
Number of in-country haemophilia treatment centres [12]	0.46	0.21
Hospital beds per 1000 people [19]	0.42	0.18
Physicians per 1000 people [19]	0.39	0.15
Index on performance of health level [22]	0.39	0.15

Table 2. Countries with similar levels of economic capacity were categorized into four *Economic Index* groups: 0–25, 26–50, 51–75, and 76–100. Of the 110 countries considered in study, 56 countries were determined to be in the 0–25 *Economic Index* group, 19 countries in the 26–50 *Economic Index* group, nine countries in the 51–75 *Economic Index* group, and 26 countries in the 76–100 *Economic Index* group.

Country	FVIII Use Index	Economic Index	FVIII Use Index – Economic Index	Country	FVIII Use Index	Economic Index	FVIII Use Index – Economic Index
0–25 Economic Index group				26–50 Economic Index group			
Ethiopia	no data	2	no data	Panama	22	26	–4
Somalia	no data	2	no data	Libya	no data	27	no data
Nigeria	no data	3	no data	Colombia	3	27	–25
Nepal	0	3	–3	Trinidad and Tobago	12	28	–16
Sudan	no data	4	no data	Lebanon	27	28	–1
Kenya	no data	4	no data	Estonia	32	29	3
Bangladesh	0	5	–5	Brazil	36	29	7
Senegal	no data	5	no data	Costa Rica	30	30	0
Azerbaijan	0	5	–5	Mexico	6	30	–23
Mauritania	no data	5	no data	Poland	49	31	18
Mongolia	no data	5	no data	South Africa	no data	31	no data
Vietnam	0	6	–6	Croatia	no data	32	no data
Pakistan	0	6	–6	Puerto Rico	no data	35	no data
India	0	7	–6	Hungary	94	36	58
Georgia	9	7	2	Chile	4	38	–34
West Bank and Gaza	no data	7	no data	Slovakia	85	39	46
Indonesia	0	7	–7	Saudi Arabia	47	44	3
Albania	7	7	0	Uruguay	24	46	–22
Sri Lanka	no data	8	no data	Czech Republic	75	49	26
Cuba	1	8	–7	51–75 Economic Index group			
Armenia	no data	9	no data	South Korea	39	55	–16
Bosnia and Herzegovina	2	9	–7	Barbados	19	57	–38
Zimbabwe	4	9	–5	Argentina	32	59	–27
Bolivia	no data	10	no data	Slovenia	no data	65	no data
Nicaragua	no data	10	no data	Kuwait	24	66	–42
Honduras	1	10	–9	Malta	no data	68	no data
China	1	10	–9	Portugal	81	70	11
Ukraine	no data	10	no data	Greece	48	70	–22
Egypt	2	10	–8	Cyprus	no data	71	no data
Yugoslavia (Serbia–	6	11	–5	76–100 Economic Index group			
Guatemala	3	11	–8	Spain	88	80	8
Morocco	no data	11	no data	Singapore	21	81	–60
Philippines	0	11	–11	New Zealand	97	83	14
Syria	12	12	0	Taiwan	3	84	–21
Macedonia	3	12	–9	United Arab Emirates	57	87	–30
Ecuador	0	13	–13	Israel	100	90	10
Paraguay	no data	14	no data	Hong Kong	54	92	–38
Jamaica	no data	14	no data	Ireland	100	95	5
Algeria	no data	15	no data	Sweden	100	99	1
Jordan	12	15	–3	Finland	100	100	0
El Salvador	3	15	–12	Australia	100	100	0
Bulgaria	23	16	7	Austria	100	100	0
Romania	10	16	–6	Belgium	92	100	–8
Dominican Republic	0	17	–17	Canada †	100	100	0
Belize	no data	17	no data	Denmark	100	100	0
Peru	2	17	–15	France †	100	100	0
Iran	27	18	9	Germany †	100	100	0
Tunisia	no data	19	no data	Iceland	no data	100	no data
Russia	12	21	–9	Italy †	100	100	0
Latvia	19	21	–2	Japan †	100	100	0
Thailand	4	22	–18	Luxembourg	100	100	0
Belarus	7	22	–15	Netherlands	100	100	0
Lithuania	14	23	–9	Norway	98	100	–2
Venezuela	16	24	–8	Switzerland	98	100	–2
Turkey	24	24	0	United Kingdom †	100	100	0
Malaysia	29	25	4	United States †	100	100	0

† G7 country.