DRUGS THAT COST THE MOST, EFFICACY, GLOBAL PRICES

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The tables below show: the Ten Most Costly Drugs in 2017 for Medicare Part D (Outpatient Prescriptions) and the Ten Most Costly Drugs in 2017 for Medicare Part B (Physician Administered Drugs); drug efficacy as determined by Cochrane Reviews, and comparative global prices obtained from internet sites. **The patient and taxpayer pay for these drugs. If they are beneficial, we should use *similar or identical* drugs that cost significantly less from other countries.**

Sometimes there are financial conflicts that arise when one treatment is considered over another. Sometimes Big Pharma makes a drug that simply alters something in the blood like the amount of hepatitis C virus, but the drug does not extend life or improve the quality of life. And sometimes medical papers show a new drug is cost effective by using statistical manipulation, computer modeling, arbitrary blood/cellular cutoff values like PD-L1, and arbitrary Willingness-To-Pay (WTP) price points. It has been said that the chief beneficiaries of treatments that don't change survival and cause harm, including cancer and death, are often some in the medical community, pharmaceutical companies, and their stockholders.

We need to think in terms of **EFFECTIVE** or **NONEFFECTIVE** treatment and tell patients about treatments in those terms. Doctors are considered unimpeachable in the eyes of the public and, according to some, “easy prey” whose behavior could be easily swayed by marketing.

Big Pharma sometimes promotes their drugs as being effective by using the same playbook – obtain science/medical information funded by U.S. taxpayers, pay doctors to do studies, pay for the studies, review medical manuscripts before they are submitted to desirable medical journals, get published, pay “thought leader” doctors to read verbatim the seminar slides provided by Big Pharma touting the drug’s positive effects, pay doctors to listen to these “seminars,” and get those drugs into pharmacies. The doctors who attend these seminars promoted by Big Pharma are more likely to write prescriptions for the drug being discussed.

And perhaps, as I have written in the past, aggressive treatment to keep a person alive in the last several weeks of his or her life would stop if the patient and the family were truly informed about the futility of such efforts. The costs of health care provided to a patient in terminal stages in a hospital are enormous and consume anywhere from 20 to 30 percent of all the health-care dollars. The patient and the family may be responsible for this because they “want everything done.” The physician is partly responsible because “our technology should help these patients.” And the legal profession may, in part, be responsible as well; if everything is not done, will the family sue the physician?

I have used Cochrane Reviews for evaluation of each drug’s efficacy and some published articles when Cochrane has not. Cochrane reviewed the available published medical papers, but some of these papers compare the drug only to placebo and not to existing inexpensive treatments, thus conferring a favorable outcome for the drug.

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The Ten Most Costly Drugs in 2017 for Medicare Part D (Outpatient Prescriptions)

Data are from the Centers for Medicare and Medicaid Services
Drug Spending Dashboards for Medicare Part D and Part B

DRUG / Medicare Cost	APPROVED FDA USE / Independent EFFICACY by COCHRANE Reviews	U.S. Cost	Canada Cost	U.K. Cost	INDIA Cost
Lenalidomide (Revlimid – Celgene) **$3.31 billion** ($4.28 billion of Celgene's $6.49 billion of revenues in 2013)	**Multiple Myeloma** **Myelodysplastic Syndromes** **Cochrane Conclusion Nov 2019: There is an increased survival benefit only when used with dexamethasone, but 40% to 82% of patients stopped treatment because of adverse events.** https://www.cochrane.org/CD013487/HAEMATOL_multiple-drug-combinations-bortezomib-lenalidomide-and-thalidomide-initial-treatment-adults Lenalidomide is similar to **thalidomide**, a decades-old drug with similar effects that was banned until now because it caused thalidomide babies – restricted growth of arms and legs, etc. Cost then was pennies. Now, cost is high.	$752 per 2.5 mg cap $21,051 for 28 caps $200 per 50 mg cap	$300 per 2.5 mg cap $9000 for 28 caps	$165 per 2.5 mg cap $4300-$5600 but UK Nat'l Institute Health and Care Excellence **rejected drug**: **"not enough evidence**	$3.75 per 25 mg cap (twenty-five) $113 for 30 caps $0.08 per 50 mg cap
Dr Simone's Recommendation YELLOW: **Use similar/identical drug** at a fraction of the cost.					
Apixaban (Eliquis - Bristol Myers Squibb) **$3.08 billion**	**Blood Thinner used in Atrial Fibrillation (AF)** **Cochrane Conclusion Mar 2018:** Treatment with factor Xa inhibitors significantly reduced the number of strokes and systemic embolic events compared with warfarin in people with AF. **The absolute effect of factor Xa inhibitors compared with warfarin treatment was, however, rather small**. Factor Xa inhibitors also reduced the number of ICHs, all-cause deaths and major bleedings compared with warfarin, although the **evidence for a reduction in the latter is less robust**. https://www.cochrane.org/CD008980/STROKE_comparing-two-types-blood-thinning-drugs-factor-xa-inhibitors-and-vitamin-k-antagonists-prevent	**U.S.** $8.24 per 5 mg tablet $494 for 60 tabs 5 mg	**Canada** $1.24 per 5 mg tablet $74 for 60 tabs 5 mg	**U.K.** $2.75 per 5 mg tablet $165 60 tabs 5 mg	**INDIA** $0.40 per 5 mg tablet $24 for 60 tabs 5mg
Dr Simone's Recommendation YELLOW: **Use similar/identical drug** at a fraction of the cost.					

Sitaglipitin Phosphate (Januvia - Merck) **$2.79 billion**	**Blood Sugar Treatment** **Rescue therapy was used in 7% of patients treated with Januvia 100 mg and 14% of patients treated with placebo**. **Overall, sitagliptin increased the incidence in infections, gastrointestinal disorders, musculoskeletal disorders, and nervous system.** https://www.centerwatch.com/directories/1067-fda-approved-drugs/listing/3674-januvia-sitagliptin-phosphate https://www.ema.europa.eu/en/documents/scientific-discussion/januvia-epar-scientific-discussion_en.pdf	**US** $18.80 per 100 mg tab $565 Januvia for 30 tablets 100 mg	**Canada** $1.50 per 100 mg tab $45 generic for 30 tablets 100 mg	**UK** $2.17 per 100 mg tab $65 Januvia for 30 tablets 100 mg	**INDIA** $0.60 per 100 mg tab $18 Januvia for 30 tabs 100 mg
Dr Simone's Recommendation RED: **Use another drug at a fraction of the cost.**					
Insulin Glargine (Lantus - Sanofi) **$2.63 billion**	**Blood Sugar Treatment** **Cochrane Conclusion Apr 2007:** **Our analysis suggests, if at all, only a minor clinical benefit. No evidence for a beneficial effect of long-acting analogues (insulin glargine or detemir) on outcomes like mortality, morbidity, quality of life or costs could be obtained. We suggest a cautious approach to therapy with insulin glargine or detemir.** https://www.cochrane.org/CD005613/ENDOC_long-acting-insulin-analogues-versus-nph-insulin-human-isophane-insulin-for-type-2-diabetes-mellitus	**U.S.** $306 for 100 units/ml 10 cc vial	**Canada** $141 for 100 units/ml 10 cc vial	**U.K.** $32 for 100 units/ml 10 cc vial	**INDIA** $20 for 100 units/ml 10 cc vial
Dr Simone's Recommendation YELLOW: **Use similar/identical drug** at a fraction of the cost.					
Rivaroxaban (Xarelto - Janssen) No generic **$2.61 billion**	**Blood thinner used in Atrial Fibrillation (AF)** **Cochrane Conclusion Mar 2018:** Treatment with factor Xa inhibitors significantly reduced the number of strokes and systemic embolic events compared with warfarin in people with AF. **The absolute effect of factor Xa inhibitors compared with warfarin treatment was, however, rather small**. Factor Xa inhibitors also reduced the number of ICHs, all-cause deaths and major bleedings compared with warfarin,	**U.S.** $16.76 per 20 mg tab $503 for 30 tabs 20 mg	**Canada** $8.32 per 20 mg tab $233 for 28 tabs 20 mg	**U.K.** $2.80 per 20 mg tab $78 for 28 tabs 20 mg	**INDIA** $2.00 per 20 mg tab $57 for 28 tabs 20 mg

	although the **evidence for a reduction in the latter is less robust**. https://www.cochrane.org/CD008980/STROKE_comparing-two-types-blood-thinning-drugs-factor-xa-inhibitors-and-vitamin-k-antagonists-prevent				
Dr Simone's Recommendation YELLOW: **Use similar/identical drug** at a fraction of the cost.					
Ledipasvir/Sofosbuvir (Harvoni – Gilead) **$2.56 billion**	**Hepatitis C Treatment** **Gilead drug insert:** "Cure means the Hep C virus is not detected in the blood when measured three months after treatment is complete." **Cochrane Conclusion Jun 2017: Review of 138 randomized trials shows that these drugs do not extend life or improve the quality of life** Jakobsen JC, Nielsen E, Feinberg J *et al*. Direct-acting antivirals for chronic hepatitis C.(CD012143.) Cochrane Database Syst Rev. 2017; 6 https://www.cochrane.org/CD012143/LIVER_direct-acting-antivirals-chronic-hepatitis-c	**U.S.** $96,000 for 12 week	**Canada** $68,000 for 12 week	**U.K.** $77,000 for 12 week	**INDIA** $78 (seventy-eight) for 12 week
Dr Simone's Recommendation RED: **No benefit**					
Pregabalin (Lyrica – Pfizer) No generic in U.S. **$2.52 billion**	**Diabetic Peripheral Neuropathy Treatment** **Cochrane Conclusion Nov 2013: Lack of evidence** for most types of neuropathic pain https://www.cochrane.org/CD010567/SYMPT_antiepileptic-drugs-treat-neuropathic-pain-or-fibromyalgia-overview-cochrane-reviews **Epilepsy** **Cochrane Conclusion Oct 2012: Inferior efficacy compared to lamotrigine $4.00 for 30 tab 150 mg** https://www.cochrane.org/CD009429/EPILEPSY_pregabalin-monotherapy-for-epilepsy **Fibromyalgia** **Cochrane Conclusion Sep 2016: Only 10% of people have pain reduction** with 300-600 mg over 12-	**U.S.** $12.60 per 165 mg tab $376 for 30 tabs Lyrica 165 mg	**Canada** $4.33 per 150 mg cap $130 for 30 caps generic 150 mg Canada Expert Drug Advisory Committee says **drug not be listed.**	**U.K.** $4.71 per 150 mg tab $132 for 28 tabs Lyrica 150 mg	**INDIA** $1.15 per 150 mg cap $34.50 for 30 caps Lyrica 150 mg

	26 weeks https://www.cochrane.org/CD011790/SYMPT_pregabalin-treating-fibromyalgia-pain-adults				
Dr Simone's Recommendation RED: Use another drug at a fraction of the cost.					
Fluticasone/ Salmeterol (Advair – Glaxo-Smith Kline) **$2.37 billion**	**Asthma Treatment** **Cochrane Conclusion Dec 2011:** [We can] **not conclude that either therapy is superior (**fluticasone/salmeterol vs. budesonide/formoterol [Symbicort]). **Results for lung function outcomes showed that the drugs were sufficiently similar.** https://www.cochrane.org/CD004106/AIRWAYS_different-combinations-of-inhaled-steroids-and-long-acting-beta-agonists-for-chronic-asthma-fluticasonesalmeterol-versus-budesonideformoterol **This product is a combination of two inexpensive drugs, but the combination makes it patentable and more expensive than the individual drugs (C.B. Simone, M.MS., M.D.)**	**U.S.** $343 for 1 inhaler 250 mcg/50 mcg	**Canada** $135 for 1 inhaler 250 mcg/**25** mcg	**U.K.** $34 for 1 inhaler 250 mcg/50 mcg	**INDIA** $25 for 1 inhaler 250 mcg/50 mcg
Dr Simone's Recommendation YELLOW: Use similar/identical drugs at a fraction of the cost.					
Adalimumab (Humira – AbbVie) **$2.02 billion**	**Arthritis** (Rheumatoid, Juvenile, Idiopathic) **Cochrane Conclusion Jul 2005:** Adalimumab in combination with methotrexate is efficacious and safe. **Adalimumab itself is less effective**. https://www.cochrane.org/CD005113/MUSKEL_adalimumab-for-rheumatoid-arthritis **Crohn's, Ulcerative Colitis** **Cochrane Conclusion Nov 2019:** High-certainty evidence suggests that adalimumab is **superior to placebo** for induction of clinical remission and clinical response in people with moderate to severely active disease. **However, no firm conclusions can be drawn regarding the safety.** https://www.cochrane.org/CD012878/IBD_adalimumab-treatment-active-crohns-disease	**U.S.** $5500 40 mg/ 0.4 ml 2 pens	**Canada** $1500 40 mg/ 0.4 ml 2 pens	**U.K.** $939 40 mg/ 0.4 ml 2 pens	**INDIA** $190 40 mg/ 0.4 ml 2 pens

	Plaque Psoriasis **Jun 2009: Five randomized controlled trials demonstrated … adalimumab is less efficient than methotrexate and cyclosporine.** Schmitt J, Wozel G. *Biologics*. 2009. 3:303-318 doi: 10.2147/btt.2009.3251				
Dr Simone's Recommendation YELLOW: **Use similar/identical drug** at a fraction of the cost.					
Tiotropium Bromide (Spiriva Respimat - Boehringer Ingelheim Pharmaceuticals) **$1.66 billion**	**Asthma Treatment** **Cochrane Conclusion Jul 2004:** [There] **is no justification for routinely introducing anticholinergics Tiotropium Bromide as part of add-on treatment for patients whose asthma is not well controlled on standard therapies.** https://www.cochrane.org/CD003269/AIRWAYS_anticholinergic-agents-chronic-asthma-adults	**U.S.** $458 for 2.5 mcg/ 4 ml 60 dose	**Canada** $135 for 2.5mcg/ 4 ml 60 dose	**U.K.** $157 for 2.5mcg/ 4 ml 60 dose	**INDIA** $6 for **9** mcg/ **12** ml 50 dose
Dr Simone's Recommendation RED: **"No justification"**					

The Ten Most Costly Drugs in 2017 for Medicare Part B (Physician Administered Drugs)

Data are from the Centers for Medicare and Medicaid Services
Drug Spending Dashboards for Medicare Part D and Part B

DRUG / Medicare Cost	APPROVED FDA USE / Independent EFFICACY by COCHRANE Reviews	U.S. Cost	Canada Cost	U.K. Cost	INDIA Cost
Afilbercept (Eylea – Regeneron) **$2.47 billion**	**Age-Related Macular Degeneration Wet (AMD)** **and** **Macular Edema Following Central Retinal Vein Occlusion (RVO)** **Cochrane Conclusion May 2014:** **Compared to no treatment, repeated intravitreal injection of [all] anti-VEGF agents in eyes with Central RVO macular oedema improved visual**	**U.S.** $1850 2 mg (0.05 mL) administered by intravitreal injection every 4 -8 weeks bevacizu	**Canada** $389 2 mg (0.05 mL)	**U.K.** $490 2 mg (0.05 mL)	**INDIA** $308 2 mg (0.05 mL)

	outcomes at six months. [aflibercept (VEGF Trap-Eye, Eylea), bevacizumab (Avastin), pegaptanib sodium (Macugen) and ranibizumab (Lucentis)] https://www.cochrane.org/CD007325/EYES_anti-vascular-endothelial-growth-factor-for-macular-oedema-secondary-to-central-retinal-vein-occlusion **Diabetic Macular Edema (DME)** **Cochrane Conclusion Oct 2018: Anti-VEGF drugs are effective at improving vision in people with DMO with three to four in every 10 people likely to experience an improvement of 3 or more lines VA at one year.** https://www.cochrane.org/CD007419/EYES_anti-vascular-endothelial-growth-factor-anti-vegf-drugs-diabetic-macular-oedema **Diabetic Retinopathy (DR)** **Cochrane Conclusion Nov 2014 The quality of the evidence was low or very low for efficacy and safety over current standard treatments.** https://www.cochrane.org/CD008721/EYES_injections-of-anti-vascular-endothelial-growth-factor-for-advanced-diabetic-retinopathy	mab (Avastin) $60 1.25 mg syringe pegaptanib ranibizumab $1170			
Dr Simone's Recommendation YELLOW: **Use similar/identical drug** at a fraction of the cost.					
Rituximab (Rituxan - Genentech) **$1.75 billion**	**Non-Hodgkin's Lymphoma** **Cochrane Conclusion Apr 2009: Rituximab maintenance therapy should be added to standard therapy of patients with relapsed or refractory follicular lymphoma following a successful induction treatment.** https://www.cochrane.org/CD006552/HAEMATOL_rituximab-as-maintenance-therapy-for-patients-with-follicular-lymphoma **Chronic Lymphocytic Leukemia** **Cochrane Conclusion Nov 2012: This meta-analysis showed that patients receiving chemotherapy plus rituximab benefit in terms of**	**U.S.** $990 10 ml of 10 mg/ml	**Canada** $466 10 ml of 10 mg/ml	**U.K.** $228 10 ml of 10 mg/ml	**INDIA** $108 10 ml of 10 mg/ml

	Overall Survival as well as Progression Free Survival compared to those with chemotherapy alone. Therefore, it supports the recommendation of rituximab in combination with FluC as an option for the first-line treatment as well as for the people with relapsed or refractory CLL https://www.cochrane.org/CD008079/HAEMATOL_the-role-of-the-monoclonal-anti-cd20-antibodies-for-treatment-of-patients-with-chronic-lymphocytic-leukaemia **Rheumatoid Arthritis** **Cochrane Conclusion Jan 2015: Evidence from eight studies suggests that rituximab (two 1000 mg doses) in combination with methotrexate is significantly more efficacious than methotrexate alone for improving the symptoms of RA and preventing disease progression.** https://www.cochrane.org/CD007356/MUSKEL_rituximab-for-rheumatoid-arthritis **Myasthenia Gravis** **May 2018: Sustained clinical improvement was associated with rituximab after 1 cycle, with prolonged time to relapse and reduction in steroid dosage.** **Beecher G, Anderson D, Siddiqi ZA.** *Muscle Nerve* **58**: 453–456, **2018**. **https://doi.org/10.1002/mus.26156**				
Dr Simone's Recommendation GREEN: Use similar/identical drug at a fraction of the cost					
Nivolumab (Opdivo – Bristol-Myers Squibb) **$1.47 billion**	**Metastatic Non-Small Cell Lung Cancer** with progression on or after platinum-based chemotherapy for patients with EGFR or ALK genomic tumor aberrations **Data are too sparse to make a clear statement – some European countries do not list this drug.** **Unresectable or Metastatic Melanoma** **Data are too sparse to make a clear statement – some European**	**U.S.** $12,500 for 240 mg Typical dosing is 240 mg every two weeks	**Canada** $6,540 for 240 mg	**U.K.** $3500 for 240 mg	**INDIA** $900 for **200** mg

	countries do not list this drug. **Untreated Renal Cell Cancer** **Data are too sparse to make a clear statement – some European countries do not list this drug.** **Hodgkin's Lymphoma** **Cochrane Conclusion Jul 2018:** **Currently, data are too sparse to make a clear statement on nivolumab for people with relapsed or refractory Hodgkin's** https://www.cochrane.org/CD012556/HAEMATOL_nivolumab-adults-hodgkins-lymphoma				
Dr Simone's Recommendation RED: "Data too sparse to make a clear statement"					
Pegfilgrastim (Neulasta – Amgen) **$1.40 billion**	**White Blood Cell Growth Factor to decrease the incidence of infection** **Cochrane Conclusion Apr 2007:** **There is no evidence supporting the use of Granulocyte Colony Stimulating Factor in the treatment of pneumonia and it does not appear to reduce mortality.** https://www.cochrane.org/CD004400/ARI_granulocyte-colony-stimulating-factor-g-csf-when-given-with-antibiotics-does-not-appear-to-reduce-mortality-in-adults-with-pneumonia **Antibiotics or (G(M)-CSF to Prevent Infections for Cancer Patients Undergoing Chemotherapy** **Cochrane Conclusion Dec 2015:** As we only found two small trials with 195 patients altogether, **no conclusion for clinical practice is possible.** More trials are necessary to assess the benefits and harms of G(M)-CSF compared to antibiotics for infection prevention in cancer patients receiving chemotherapy. https://www.cochrane.org/CD007107/HAEMATOL_prophylactic-antibiotics-or-gm-csf-prevention-infections-cancer-patients-undergoing-chemotherapy **Does administering colony-stimulating factors plus**	**U.S.** $6515 for 6 mg	**Canada** $1935 for 6 mg	**U.K.** $540 for 6 mg	**INDIA** $28 for 6 mg

	antibiotics in people with fever and low white cell count reduce hospitalization? **Cochrane Conclusion Oct 2014:** **The use of a CSF plus antibiotics in individuals with chemotherapy-induced febrile neutropenia had no effect on overall mortality** https://www.cochrane.org/CD003039/GYNAECA_does-administering-colony-stimulating-factors-plus-antibiotics-people-fever-and-low-white-cell-count				
	Dr Simone's Recommendation RED: "No Conclusion for clinical practice is possible." "No effect on overall mortality"				
Infliximab (Remicade – Merck) **$1.34 billion**	**Autoimmune Disease Treatment** **Rheumatoid Arthritis** **Cochrane Conclusion Oct 2009:** **43 of 100 patients experienced some improvement compared to placebo – findings must be interpreted with caution.** https://www.cochrane.org/CD007848/MUSKEL_biologics-for-rheumatoid-arthritis-an-overview-of-cochrane-reviews	**U.S.** $2800 for 100 mg	**Canada** $978 for 100 mg	**U.K.** $672 for 100 mg	**INDIA** $534 for 100 mg
	Ankylosing Spondylitis **Cochrane Conclusion Apr 2015:** **All anti-TNF drugs** (adalimumab (Humira®), etanercept (Enbrel®), golimumab (Simponi®), and infliximab (Remicade®) **improve pain and some function compared to placebo but some patients stop using them because of side effects.** https://www.cochrane.org/CD005468/MUSKEL_anti-tnf-alpha-drugs-for-treating-ankylosing-spondylitis				
	Dr Simone's Recommendation YELLOW: Use similar/identical drugs				
	Crohn's and Ulcerative Colitis **Cochrane Conclusion:** **A single infusion of infliximab (5 mg/kg) may be an effective treatment for patients with active**				

	Crohn's disease who no longer respond to corticosteroids or immunosuppressive drugs.Jan'04 https://www.cochrane.org/CD003574/IBD_tumor-necrosis-factor-alpha-antibody-for-induction-of-remission-in-crohns-disease **Infliximab is effective in inducing clinical remission, promoting mucosal healing, and reducing the need for colectomy in patients with active ulcerative colitis whose disease has not responded to conventional treatment. Jul 2006** https://www.cochrane.org/CD005112/IBD_tumour-necrosis-factor-alpha-blocking-agents-for-treatment-of-active-ulcerative-colitis **Dr Simone's Recommendation GREEN: Use similar/identical drug at a fraction of the cost** **Overall, in the short term biologics were associated with statistically significantly higher rates of serious infections, TB reactivation, total Adverse Events, and higher stoppage rates due to Adverse Events.**				
Denosumab (Xgeva – Amgen) **$1.24 billion**	**"Prevention of skeleton related events"** **Cochrane Conclusion Oct 2017: Denosumab reduced the risk of complications compared to bisphosphonates in the three studies that collected these data. There was no benefit in survival from denosumab in the one study that collected data.** https://www.cochrane.org/CD003474/BREASTCA_bisphosphonates-and-denosumab-breast-cancer **Dr Simone's Recommendation RED: "No benefit in survival"**	**U.S.** $2400 for 120 mg every 4 weeks	**Canada** $576 for 120 mg	**U.K.** $407 for 120 mg	**INDIA** $316 for 120 mg
Bevacizumab (Avastin – Genentech) **$1.07 billion**	**Metastatic Colorectal Cancer** **Cochrane Conclusion:** **July 2009 The addition of bevacizumab to chemotherapy prolongs** both progression-free survival from about 7.1 to 9.7 months when used as primary treatment and **overall survival from about 17.7 to 20.5 months**	**U.S.** $2200 for 400 mg	**Canada** $1540 for 400 mg reimbursement and listing is restricted due to	**U.K.** $1250 for 100 mg National Institute for Health and Care Excellence (NICE) does not	**INDIA** $350 for 400 mg

	https://www.cochrane.org/CD005392/COLOCA_the-addition-of-bevacizumab-to-chemotherapy-of-metastatic-colorectal-cancer-prolongs-both-progression-free-survival-as-well-as-overall-survival-in-first-and-second-line-therapy. **Jun 2017 EGFR MAb combined with bevacizumab is of no clinical value** https://www.cochrane.org/CD007047/COLOCA_epidermal-growth-factor-receptor-egfr-inhibitors-metastatic-colorectal-cancer **Kidney Cancer** **Cochrane Conclusion May 2017: Two studies compared interferon-α to a combination of interferon-α and bevacizumab in 1381 previously untreated participants. There was a slightly increased death rate with probably fewer major side effects for people treated with interferon-α alone. Low-quality evidence shows no difference for IFN-α plus bevacizumab compared to sunitinib with respect to mortality and severe AEs.** https://www.cochrane.org/CD011673/PROSTATE_immunotherapy-advanced-kidney-cancer **Ovarian Cancer** **Cochrane Conclusion Sep 2011: There is currently no evidence that angiogenesis inhibitors improve Overall Survival, nor is there enough evidence to justify the routine use of angiogenesis inhibitors in treating women with ovarian cancer.** https://www.cochrane.org/CD007930/GYNAECA_are-substances-that-inhibit-the-growth-of-new-blood-vessels-angiogenesis-inhibitors-alone-or-in-combination-with-conventional-chemotherapy-likely-to-improve-outcomes-for-women-with-ovarian-cancer **Recurrent Glioblastoma** **Cochrane Conclusion Nov 2018: Overall there is a lack of evidence of a survival advantage for anti-angiogenic therapy over chemotherapy in recurrent glioblastoma.** https://www.cochrane.org/CD008218/GYNAEC		the low benefit-to-**cost** ratio	approve this drug because of minimal benefits.	

	A_drugs-target-blood-vessels-malignant-brain-tumours				
Dr Simone's Recommendation YELLOW to RED: Use similar/identical drugs at a fraction of the cost.					
Ranibizumab (Lucentis – Genentech) **Created from the same parent antibody as bevacizumab** **$1.04 billion**	**Age-Related Macular Degeneration (Wet) Treatment** **Cochrane Conclusion:** **Compared to no treatment**, repeated intravitreal injection of [all] anti-VEGF agents in eyes with Central RVO macular oedema **improved visual outcomes at six months**. [aflibercept (VEGF Trap-Eye, Eylea), bevacizumab (Avastin), pegaptanib sodium (Macugen) and ranibizumab (Lucentis)] **May 2014** https://www.cochrane.org/CD007325/EYES_anti-vascular-endothelial-growth-factor-for-macular-oedema-secondary-to-central-retinal-vein-occlusion **This systematic review of non-industry sponsored randomized controlled trials could not determine a difference between intravitreal bevacizumab and ranibizumab for deaths, or serious systemic adverse events** **BUT** **The current evidence …suggests that if a difference exists, it is likely to be small. Health policies for the utilisation of ranibizumab instead of bevacizumab as a routine intervention for neovascular AMD for reasons of systemic safety are not sustained by evidence. Sept 2014** https://www.cochrane.org/CD011230/EYES_systemic-whole-body-safety-of-bevacizumab-versus-ranibizumab-for-neovascular-age-related-macular-degeneration	**U.S.** $2023 for 10 mg Avastin costs only $55 for this treatment	**Canada** $1575 for 10 mg	**U.K.** $973 for 10 mg	**INDIA** $338 for 10 mg
Dr Simone's Recommendation YELLOW to RED: Use similar/identical drugs at a fraction of the cost.					
Pembrolizumab (Keytruda – Merck) **$1.03 billion**	**Melanoma** **Jan 2019: 5-year survival rates in patients with advanced melanoma receiving pembrolizumab were 34% overall and 41% in treatment-naive**	**U.S.** $9493 for 100 mg	**Canada** $4400 for 100 mg	**U.K.** $4585 for 100 mg	**INDIA** $2255 for 100 mg

	patients *Annals of Oncology*, Volume 30, Issue 4, April 2019, Pages 582–588, https://doi.org/10.1093/annonc/mdz011 **Metastatic Non-small cell Lung Cancer** **May 2018: Median follow-up of 10.5 months, the estimated overall survival at 12 months was 69.2%** in the pembrolizumab-chemotherapy group **versus 49.4% in the placebo**-combination group *N Engl J Med* **2018**; 378:2078-2092 doi: 10.1056/NEJMoa1801005 **Urothelial Cancer** **Cochrane Conclusion Jul 2018: Pembrolizumab may have little or no effect on the time for the cancer to worsen or advance.** At 12 months of treatment with chemotherapy 70% died compared to 59% who were treated with pembrolizumab. **"These conclusions are based on a single trial paid for by the company that makes pembrolizumab."** https://www.cochrane.org/CD012838/PROSTATE_pembrolizumab-versus-chemotherapy-treating-advanced-bladder-cancer-after-recurrenceprogression **Adrenocortical Carcinoma** **Sept 2019: Single-agent pembrolizumab has modest efficacy as a salvage therapy in Adrenocortical carcinoma.** https://jitc.biomedcentral.com/articles/10.1186/s40425-019-0722-x				
Dr Simone's Recommendation YELLOW to RED: Use similar/identical drugs at a fraction of the cost.					
Trastuzumab (Herceptin – Genentech) **$0.78 billion**	**Adjuvant Breast Cancer** **Cochrane Conclusion Apr 2012: Trastuzumab significantly improves OS and DFS in HER2-positive women with early and locally advanced breast cancer, although it also significantly increases the risk of Congestive Heart Failure and Left Ventricular Ejection Fraction decline.** https://www.cochrane.org/CD006243/BREASTC	**U.S.** $3697 for 420 mg	**Canada** $3467 for 420 mg	**U.K.** $3146 for 420 mg	**INDIA** $295 for 440 mg

	A_efficacy-and-safety-of-trastuzumab-in-early-breast-cancer **Metastatic Breast Cancer** **Cochrane Conclusion Jun 2014: If 1000 women were given standard therapy alone (with no trastuzumab) about 300 would survive and 10 would have heart toxicities. With the addition of trastuzumab to this treatment, an additional 73 would have their lives prolonged, and an additional 25 would have severe heart toxicity. The evidence to support the use of trastuzumab beyond progression is limited. The recruitment in three out of seven studies was stopped early and in three trials more than 50% of patients in the control groups were permitted to switch to the trastuzumab arms at progression, making it more difficult to understand the real net benefit of trastuzumab.** https://www.cochrane.org/CD006242/BREASTCA_efficacy-and-safety-of-trastuzumab-in-metastatic-breast-cancer				
Dr Simone's Recommendation YELLOW: **Use similar/identical drugs** at a fraction of the cost.					

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Charles B. Simone, M.MS., M.D. is an **Internist** (Cleveland Clinic 1975-77), **Medical Oncologist** (National Cancer Institute 1977-82), **Tumor Immunologist** (NCI 1977-82), and **Radiation Oncologist** (University of Pennsylvania 1982-85), and is the Founder of the Simone Protective Cancer Institute (1980). He wrote **Cancer and Nutrition, A Ten Point Plan for Prevention and Cancer Life Extension** (1981, third revision 2005), **The Truth About Breast Health - Breast Cancer** (2002), **The Truth About Prostate Health - Prostate Cancer** (2005), **How To Save Yourself From A Terrorist Attack** (2001), **Nutritional Hydration, Medical Strategy for Military and Athlete Warriors** (2008), helped organize the Office of Alternative Medicine, NIH (1992), helped write the Dietary Supplement, Health and Education Act of 1994, helped win landmark cases against the FDA by showing they violated the First and Fifth Amendment rights of Americans, helped introduce the Health Freedom Protection Act of 2005 (H.R. 2117), was bestowed the first Bulwark of Liberty Award in 2001 by the American Preventive Association and the James Lind Scientific Achievement Award in 2004, and in 2014 the Sacred Fire of Liberty organization bestowed upon him The First Amendment Hall of Fame, Excellence in Integrative Medicine, Excellence in Medical Research, and Excellence in Health Product Innovation. **While at the National Institutes of Health and Bethesda Naval Hospital as Commander, Dr Simone discovered the fundamental mechanism of how complement proteins and human white cells kill by forming pores in the membrane. This provided the foundation for Anthrax killing.** He discovered how adriamycin kills cancer cells; and developed the idea of splicing monoclonal antibodies to killing cells that seek out and destroy cancer cells - this he calls, directed effector cells. He continues bench research with the NCI showing that proteomic patterns can diagnose specific cancers at earlier stages than we are currently able to do, as well as clinical research that shows in 61 human studies Antioxidants and Other Nutrients Do Not Interfere with Chemotherapy or Radiation, and Can Increase Kill, Decrease Side Effects, and Increase Survival.

In 1980 Dr Simone founded the Simone ***KidStart*** Prevention Program, the first of its kind. Since 1980 he has worked with inner city churches to teach prevention, detection, and treatment. He is a consultant for heads of state of the US and other countries, celebrities, and advises many governments regarding health care. He testifies for the Senate and House on matters concerning health, cancer, disease prevention, children's health programs, FDA reform, and alternative medicine. He appears on 60 MINUTES, Prime Time Live, Fox News Channel, and others.

Dr Simone coaches some world-class elite endurance athletes, such as Khalid Khannouchi ("Greatest marathoner ever" USA Today Nov 2008), some Gold Medal Olympians, and others. He developed the patented Nutritional Hydration formula (Simone Super Energy) that was first used in desert warfare in 1990, worked closely with Special Operations Forces, and in December 2003 was presented with the Distinguished Speaker Award at the Special Operations Medical Conference in Tampa, FL. Dr Simone is currently working to improve combat effectiveness using nutritional hydration for the Air Force Special Operations Command at Hurlburt Field, FL.

All of his research in prevention, detection, and treatment culminate to his most compelling work that will positively change the healthcare system. Recognizing a looming health care crisis, he submitted a simple method in 1993 that was finally patented. Dr Simone's method is imperative to follow because of Obamacare. Employees, no matter what duration of employment, pay an increased portion of health insurance premiums AND can voluntarily participate in the program that quantifies costs for controllable risk factors. Employees can change that behavior or take personal responsibility for the increased cost attributable to the behavior by paying more for insurance. America spends the most on health, ranks last among the top 19 nations, and has one of the highest infant mortality rates. Without Simone's initiative, we will witness the catastrophic collapse of the health system - then America as we know it. **http://www/Facebook.com/SimoneProtectiveHealth**
http://www.PrincetonInstitute.com **http://www.NutritionalHydration.com** **@DrSimone**