



PERSPECTIVES FROM THE GROUND









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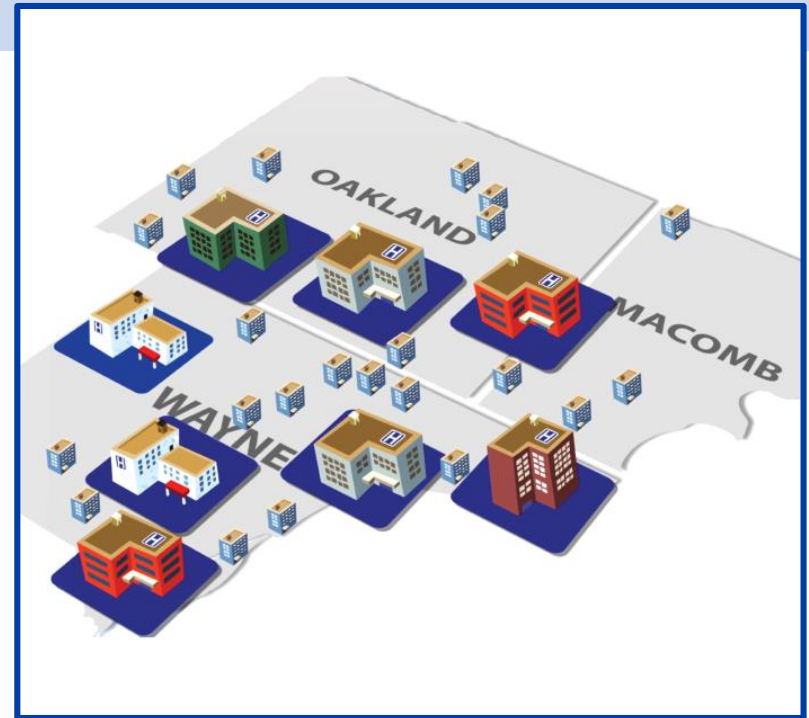
President-elect
ASHP

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Beaumont

About Beaumont Health

-  **8** hospitals; 3,429 beds
-  **5,000** physicians
-  **194** outpatient sites
-  **178,000** discharges (2018)
-  **\$4.7B** net revenue (2018)
-  Hospitals surround Detroit
(all in southeastern Michigan)
-  **>\$280M** drug purchases
-  **>20M** doses of medication dispensed annually



Beaumont

Drug Pricing

Drug costs make up 75-80% of health system pharmacy budgets

- Drug price increases that dramatically exceed inflation have a devastating impact on our ability to serve patients in a sustainable model

Newer therapies can cost in the hundreds of thousands of dollars

- Cell therapy for some types of blood cancer ~\$400,000 per dose
- Immune therapy doses ~\$100,000 per patient per year
- Hepatitis C medication ~\$1,000 per pill

Increasing costs of older medications also concerning

- Insulin from \$40 to \$275 per vial (680%) from 2002 to present
- Generic nitroprusside (blood pressure) from ~\$28 to ~\$880 per vial
- Generic vitamin K from a few dollars to over \$50 per pill

Patient Out of Pocket Expense

Regardless of payment range, patient responsibility for OP medical care that had J-codes attached, **grew ~ 33% for all payers**

*Average payment per patient
~\$1,400 in 2018*

Patient Payment All Outpatient Accts	% Increase from 2016 to 2018
Payments GT \$5000	32.7%
Payments GT \$4000	38.3%
Payments GT \$3000	35.3%
Payments GT \$2000	27.8%
Payments GT \$1000	31.1%

Impact on Health System

- Drug expense represented the **largest percent increase** in health system expense from 2016 to 2018
- Drugs **increased 8.7%** per CMI adjusted discharge
- Drugs represent **31.5% of total supply expense** in 2018

Per CMI Adjusted Discharge

	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>17 v 16</u>	<u>18 v 17</u>	<u>18 v 16</u>
Wages	\$4,158	\$4,207	\$4,304	1.2%	2.3%	3.5%
Drugs	\$428	\$444	\$465	3.7%	4.8%	8.7%
Other Supplies	\$1,192	\$1,112	\$1,012	-6.7%	-9.0%	-15.1%
Other Costs	\$2,602	\$2,500	\$2,773	-3.9%	10.9%	6.6%
Total Costs	\$8,381	\$8,263	\$8,554	-1.4%	3.5%	2.1%

- Excludes Home Infusion, Retail and Specialty Pharmacy

Drug Pricing

Highlights

Drug Shortages

- Increase drug prices
 - Off-contract purchases
 - Use of higher cost alternative therapies
 - Manufacturer list price increased to offset expenses associated with regulatory compliance

Resources to Manage Drug Shortages

- 12,750 hours dedicated annually with estimated salary cost of \$570K
- 30 staff members meet weekly to keep pulse on shortages
- ~75 drugs actively monitoring each week
- Over 500 changes to EHR drug records

Industry trends and their impact

IV solutions Shortages (2014 & 2017)

- Manufacturing Issues (2014)
 - Large volume IV solution shortage
 - \$2M annual increase in since 2014
 - Hurricane Maria (2017)
 - 114,400 medication doses per month impacted by IV solution shortages
 - Alternate routes of administration or solution sizes
 - Alternate delivery methods (syringe pumps and buretrols)
 - Increased expense of ~\$100K for 1.5 months use of buretrols
- (Note: additional labor expense incurred for drug preparation)*

Drug Pricing

Highlights

- The top10 Beaumont Health drugs listed in the NORC* report represent:
 - \$4.8M increase in price from 2015 - 2018
 - 17.8% of acute care spend
- Beaumont provides clinically appropriate medications therapies irrespective of price.

Industry trends and their impact

Innovative Pharmaceuticals

	2015	2018
New drugs purchased	13	12
Total Spend	\$14.3M	\$20.8M
Patients Treated	476	314
Cost per patient	\$30,050	\$66,250

Industry consolidation

- Example:
 - 2015 Valeant acquired 2 sole source drugs, prices increased on same day
 - nitroprusside (525%); isoproterenol (212%)
 - \$15.7M increase in BH cost FY15-FY18

Manufacturer Channel/Cost of Good Shifts

- \$1.2M annual increase, 3 manufacturers

Year after Year increased pricing

- Frequent drug price increases above the Medical CPI
(see next slide)

*Recent Trends in Hospital Drug Spending and Manufacturer Shortages, Final Report; Jan 15, 2019

Increased Drug Pricing

\$35,499,612

Brand Name	Description	2014 Total			\$\$\$			Care Setting
		2014 WAC	Price Increases	% increase	Current WAC	BH Spend	Impact of WAC Increase (2018 Usage)	
Vasostriect®	Used to increase blood pressure in adults in shock as well as treat symptoms of diabetes insipidus and certain conditions of the stomach after surgery.	\$100.00	6	4081.15%	\$4,181.15	\$3,516,347	\$3,432,247	IP
Lyrica®	Used to treat nerve and muscle pain, including fibromyalgia, and to treat seizures.	\$396.54	11	94.66%	\$771.88	\$1,674,214	\$814,127	IP/OP/Rx
Humira®	Used to treat a variety of conditions including rheumatoid and psoriatic arthritis, ankylosing spondylitis, Crohn's disease, and ulcerative colitis.	\$2,700.32	9	91.61%	\$5,174.09	\$7,109,200	\$3,398,960	Rx
Enbrel®	Used to treat rheumatoid arthritis, juvenile idiopathic arthritis and psoriatic arthritis, plaque psoriasis and ankylosing spondylitis.	\$2,404.29	10	87.13%	\$4,139.25	\$1,473,572	\$617,646	Rx
EpiPen®	Used to treat severe allergic reactions, including anaphylaxis in emergency situations.	\$349.19	5	74.29%	\$608.61	\$132,068	\$56,294	OP/Rx
Levemir®	Used to treat diabetes mellitis.	\$303.12	8	52.48%	\$462.21	\$1,190,653	\$409,816	IP/Rx
Humulin® R	Used to treat diabetes mellitis.	\$214.57	6	49.00%	\$319.71	\$7,498,041	\$2,465,731	IP/RX
Humalog®	It is a rapid-acting insulin used to treat diabetes.	\$256.49	6	43.87%	\$364.46	\$20,503,930	\$6,074,059	IP/Rx
Pneumovax® 23	Used to prevent pneumococcal disease caused by the 23 serotypes contained in the vaccine.	\$703.36	5	42.56%	\$1,001.85	\$1,555,873	\$463,563	IP/OP
Novolin®	Used to treat diabetes mellitis.	\$99.65	5	38.18%	\$137.70	\$29,192	\$8,067	IP/Rx

Brand Name	Description	2014	Total		\$\$\$			Care Setting
		2014 WAC	Price Increases	% increase	Current WAC	BH Spend	Impact of WAC Increase (2018 Usage)	
Rituxan®	Used to treat certain autoimmune diseases and types of cancer.	\$2,058.27	10	36.94%	\$2,818.56	\$14,242,184	\$3,841,745	OP
Tysabri®	Used to treat Crohn's disease and multiple sclerosis.	\$4,679.00	9	36.70%	\$6,396.30	\$4,937,944	\$1,325,756	OP
Neulasta®	Used to help make white blood cells after receiving cancer medications.	\$4,586.25	7	36.56%	\$6,231.06	\$74,773	\$19,738	OP
Activase®	Used to treat blood clots associated with heart attack, stroke, and blood clots in the lungs.	\$4,893.44	6	34.88%	\$6,600.27	\$4,818,197	\$1,245,990	IP
Copaxone®	Used to treat multiple sclerosis.	\$4,850.79	4	33.12%	\$6,473.00	\$912,693	\$228,732	Rx
Remicade®	Used to treat rheumatoid arthritis, psoriatic arthritis, ankylosing spondylitis, Crohn's disease, plaque psoriasis, and ulcerative colitis.	\$884.88	7	31.97%	\$1,167.82	\$13,565,397	\$3,286,631	OP
Entyvio®	Used to treat ulcerative colitis and Crohn's disease.	\$4,819.00	7	30.33%	\$6,280.49	\$3,190,489	\$742,437	OP
Lantus®	Used to treat diabetes mellitus.	\$277.60	5	27.68%	\$354.44	\$3,019,077	\$654,481	IP/Rx
Avastin®	Used to treat kidney, cervical, ovarian, colon, and rectal cancer.	\$1,622.85	11	22.77%	\$1,992.35	\$4,231,751	\$784,818	OP
Herceptin®	Used to treat breast, stomach, and esophageal cancer.	\$2,469.12	7	19.72%	\$3,064.90	\$13,237,282	\$2,573,152	OP
Aranesp®	Used to treat anemia caused by kidney failure or chemotherapy.	\$2,110.63	4	14.60%	\$2,418.75	\$15,301,013	\$1,949,199	IP/OP/Rx
Keytruda®	Used to target cancer cells and allow the immune system to destroy them to fight certain cancers.	\$4,316.00	6	9.35%	\$4,719.40	\$7,942,750	\$678,922	OP
Opdivo®	Used to treat type of advanced stage lung cancer (called non-small cell lung cancer) that has spread or grown and other chemotherapy treatments did not work or are no longer working.	\$3,185.73	7	8.33%	\$3,371.12	\$7,773,795	\$427,502	OP

Impact to Beaumont

*\$35M increase in drug prices for these **23 drugs** will result in **>\$100M** additional expense over the **next 3 years** if there are no additional price increases or changes in utilization*

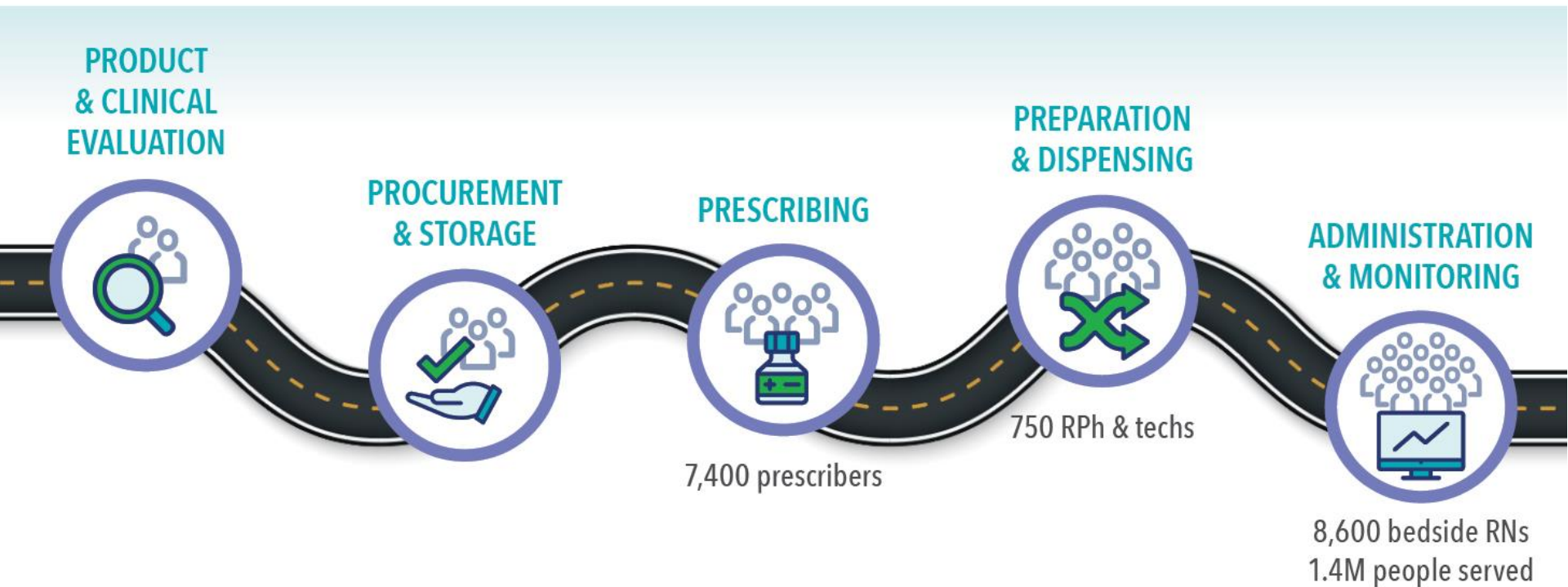
Acute Care	\$14,034,711
Outpatient Infusion	\$49,075,315
Outpatient Rx	\$4,245,338
Combination	\$39,143,475
Total 3 year impact	\$106,498,839

Challenges

- Biosimilar adoption by payers
 - Inability to leverage health system best price
 - Increased complexity of payer prior authorization process
 - Increased inventory carrying costs
- Drug shortages
 - Increased risk to patient safety due to complexity of medication use process
 - Diverts staff resources from clinical activities

MEDICATION USE PROCESS

Multiple steps in the medication use process are designed to assure safe patient care. Frequent disruption to this complex process increases variability and risk of error.



TECHNOLOGY SUPPORTING MED USE PROCESS



Mitigation Strategies

	Utilization / Clinical	Contractual / Supply Chain	Total
2016		\$ 2,209,752	\$ 2,209,752
2017	\$ 6,137,487	\$ 3,249,779	\$ 9,387,266
2018	\$ 2,408,601	\$ 3,101,873	\$ 5,510,474
Total	\$ 8,546,088	\$ 8,561,404	\$ 17,107,492

- Contracting
 - GPO contract compliance
 - Formulary management to maximize pricing tiers
 - Drug wholesaler cost minus improvements
 - Payment terms; generic product utilization
- Formulary/Utilization
 - Formulary/guideline standardization
 - Machine learning to identify utilization variances

Mitigation Strategies

- Clinical pharmacy programs
 - IV to PO
 - Antimicrobial stewardship
- Pharmacy operational changes
 - Drip concentration changes to reduce waste
 - Optimize product formulation
- Leverage patient assistance programs, manufacturer drug replacement