

Tumor Panel II: B-Cell Malignancies: Recent Advances, Remaining Challenges and Promising New Approaches



CANCER
PROGRESS
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Tumor Panel II: B-Cell Malignancies: Recent Advances, Remaining Challenges and Promising New Approaches

Moderator:

Mike Rice, MS, MBA, Senior Consultant, Defined Health

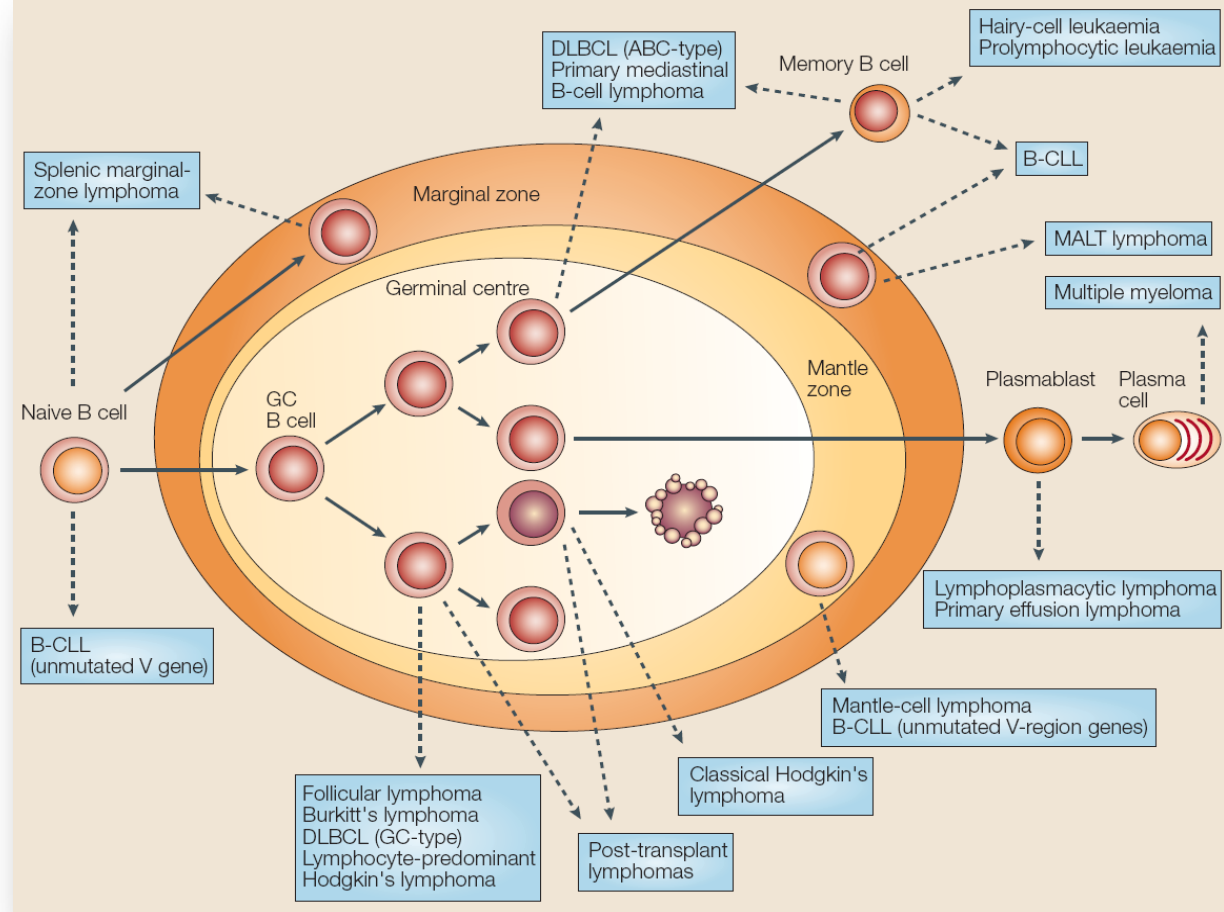
Panelists:

- *Omar Abdel-Wahab, MD*, Hematologist/Oncologist, Memorial Sloan Kettering Cancer Center
- *Stanley R. Frankel, MD*, Adjunct Associate Professor of Medicine, Division of Hematology/Oncology, Columbia University College of Physicians and Surgeons
- *William Grossman, MD, PhD*, Therapeutic Area Lead, Oncology-Global Pharmaceutical R&D/Global Medical Affairs, AbbVie
- *Thomas J. Kipps, MD, PhD*, Evelyn and Edwin Tasch Chair in Cancer Research, Distinguished Professor & Deputy Director, Research Operations, Moores UCSD Cancer Center

B-Cell Malignancies Are a Heterogeneous Group of Lymphoproliferative Malignancies with Differing Patterns of Behavior and Responses to Treatment

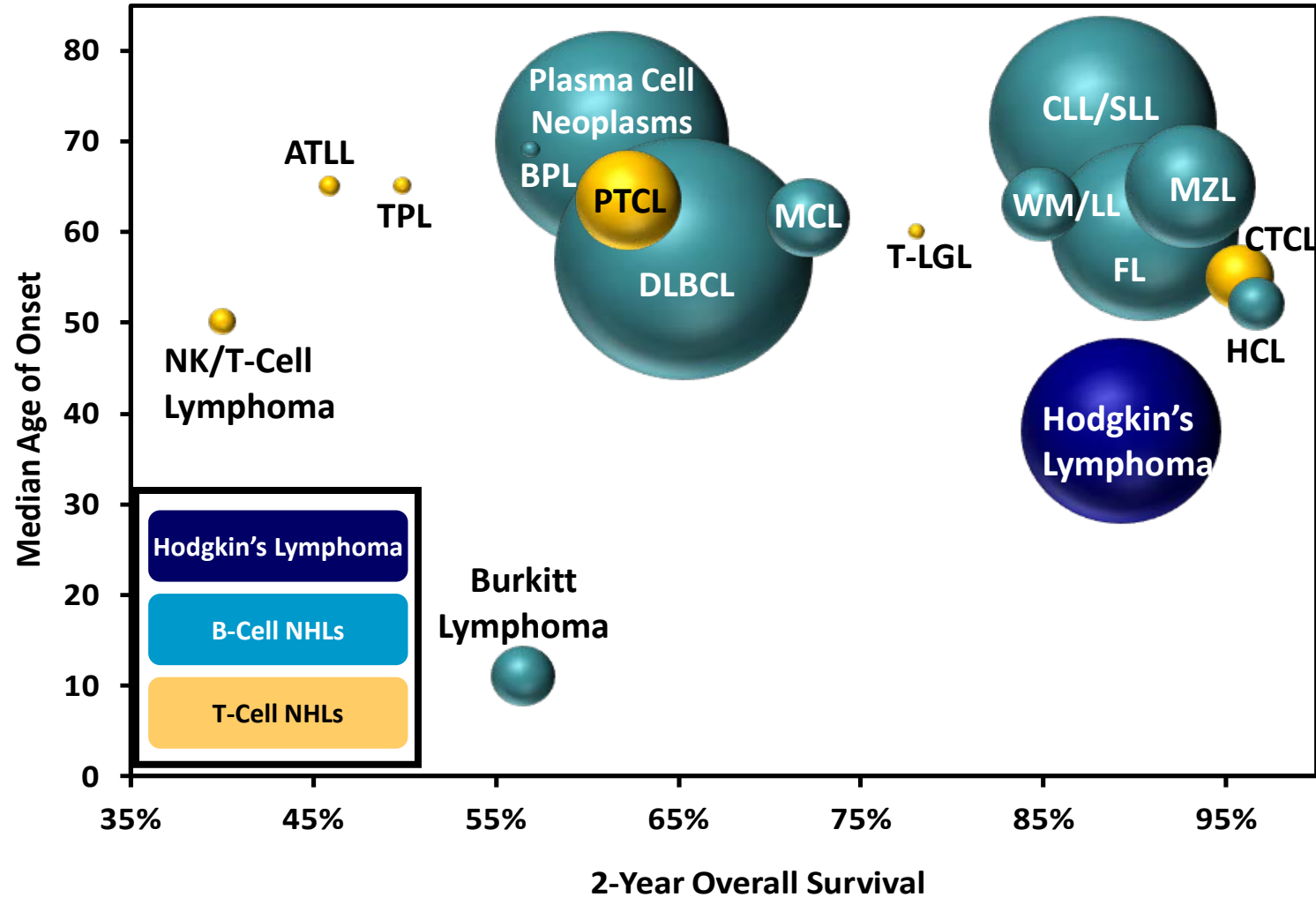
B-Cell Malignancies Originate From Distinct Stages of B-Cell Differentiation in the Germinal Centers of Lymph Nodes

- ◆ More Than 25 Types of B-Cell Malignancies (2008 WHO Criteria)
- ◆ Estimated new cases and deaths from NHL in the US in 2014:
 - New cases: 70,800
 - Deaths: 18,990



NATURE REVIEWS | CANCER VOLUME 5 | APRIL 2005

B-Cell Malignancies Are Far More Common and Somewhat Less Aggressive Than T-Cell Malignancies



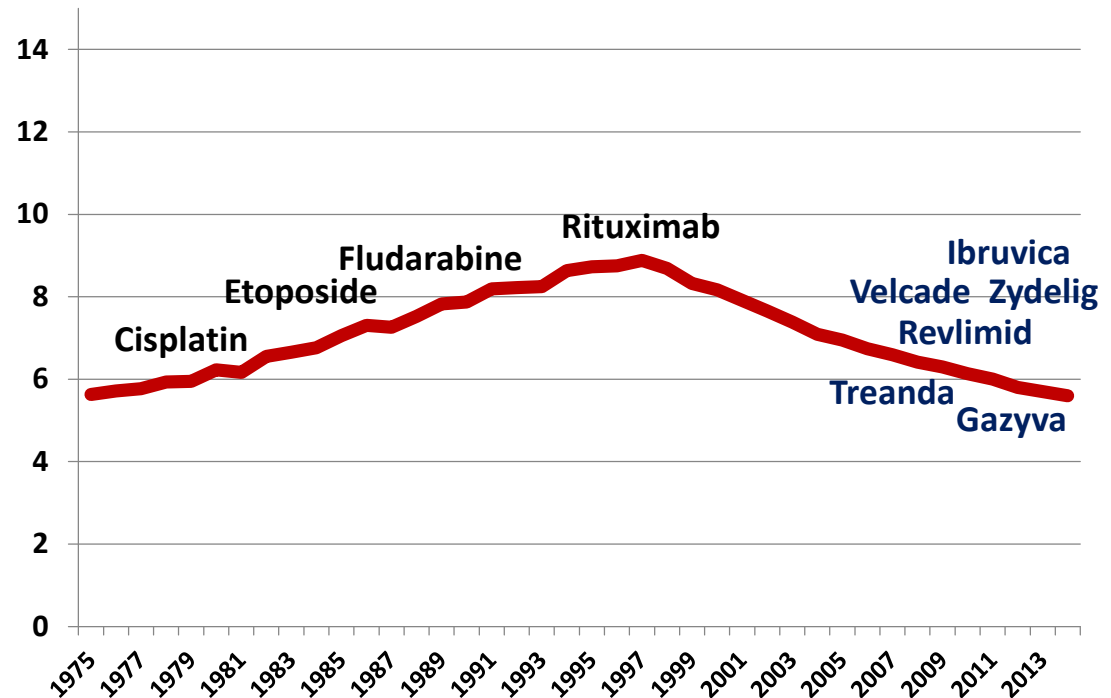
NCI SEER Database Statistics

Rituximab, the CD20 Targeted mAb, Impacted Treatment and Outcomes of B-Cell Lymphomas – Novel Agents Poised to Continue Benefit

- ◆ The approval of the anti-CD20 monoclonal antibody rituximab for the treatment of CD20⁺ follicular lymphoma and diffuse large B-cell lymphoma has undoubtedly been one of the most impactful events in the history of NHL drug development
- ◆ Indeed, the initial FDA approval of rituximab in 1997 coincides with the beginning of a clear decline in the mortality rate of NHL, which had been rising steadily over the previous 20 years (see graph at right).
- ◆ Rituximab is typically used in combination with a polychemotherapy regimen such as R-CHOP.

US NHL Mortality Rate

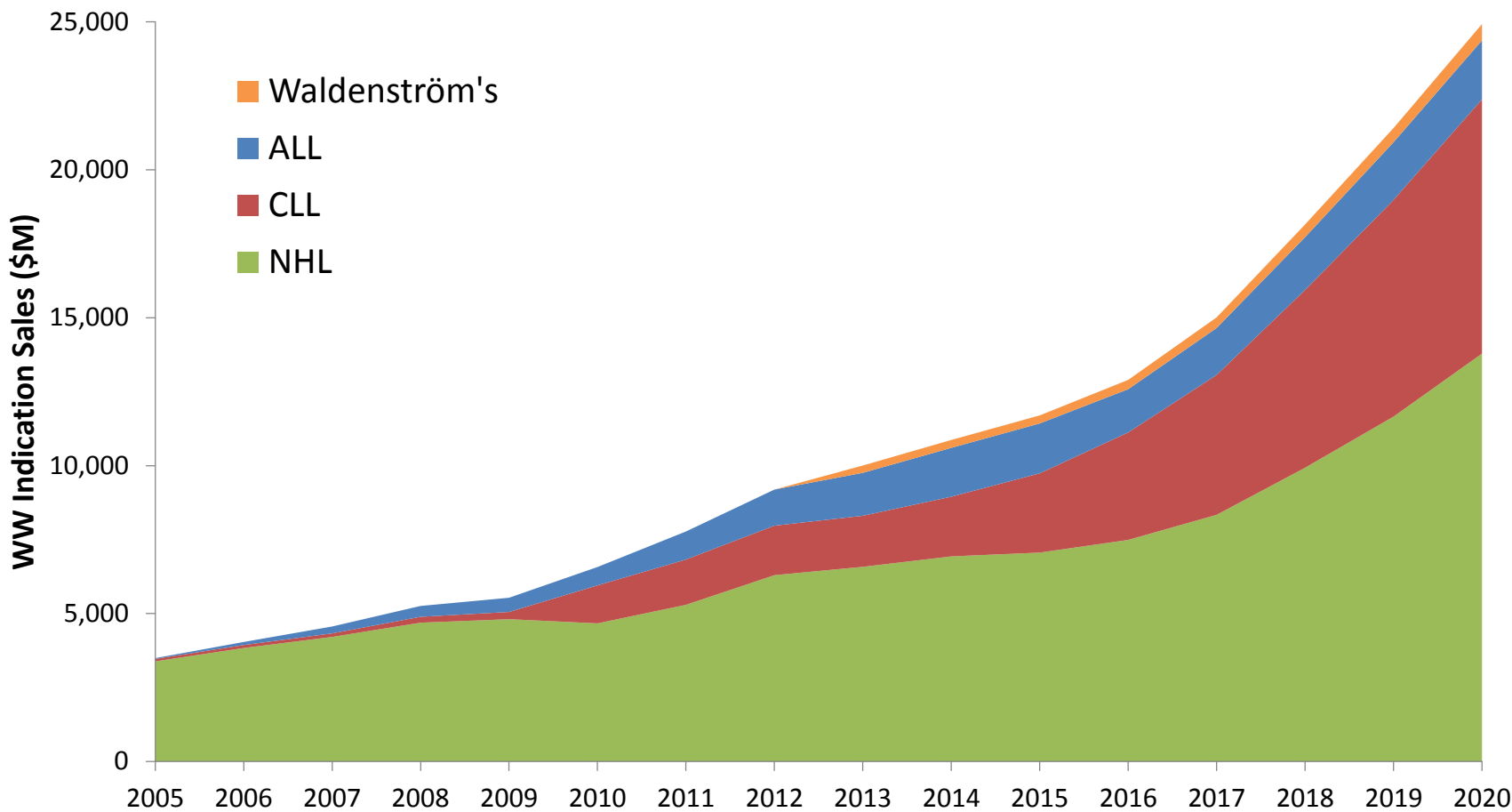
(Deaths per 100,000)



NCI SEER Database Statistics

The Combined B-Cell Malignancies Market Is Expected to Become One of the Largest Oncology Sectors

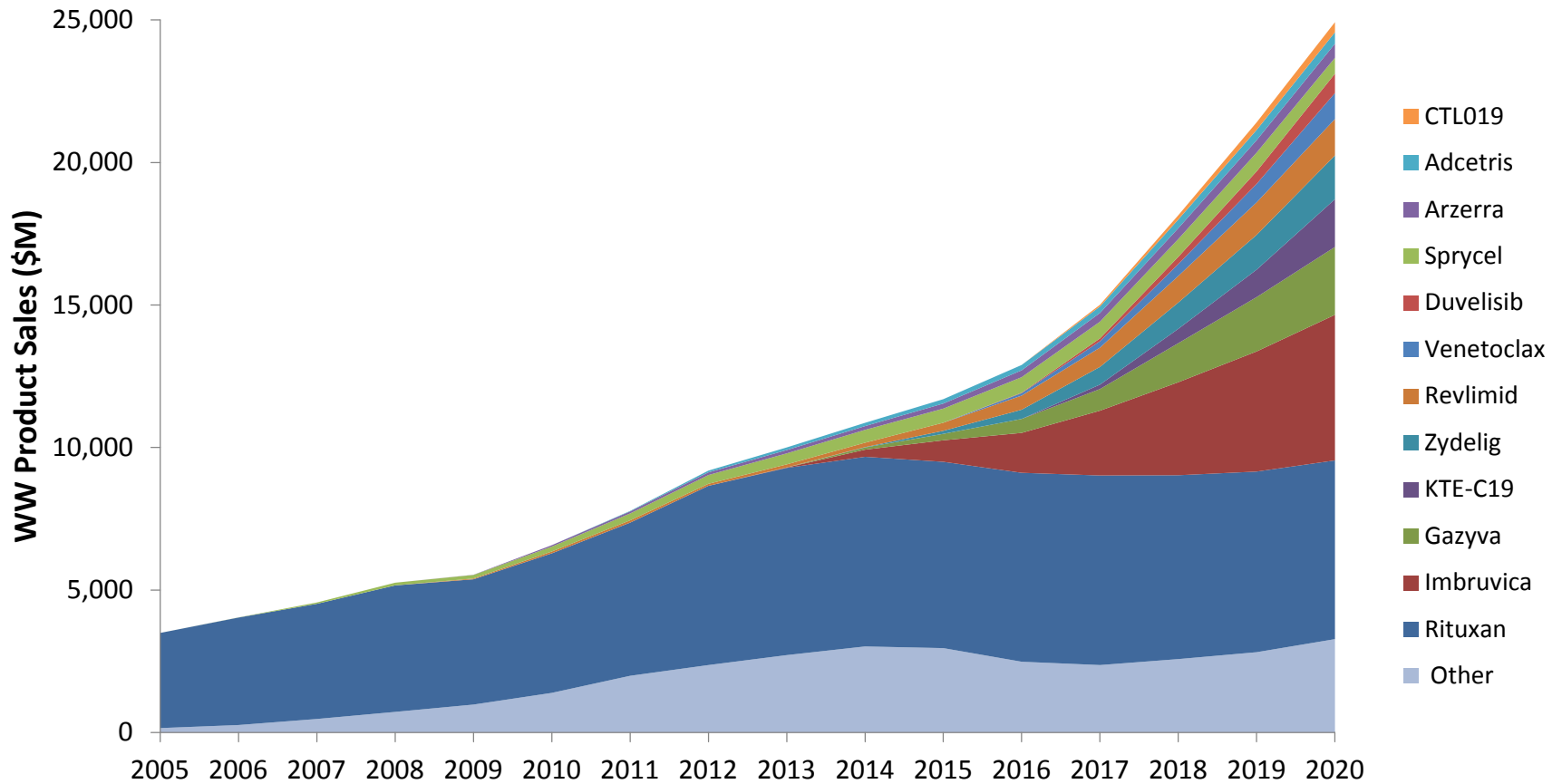
B-Cell Malignancy WW Sales By Indication 2005-2020



EvaluatePharma

2014 Marks an Inflection Point in the Value of the B-Cell Malignancies Market

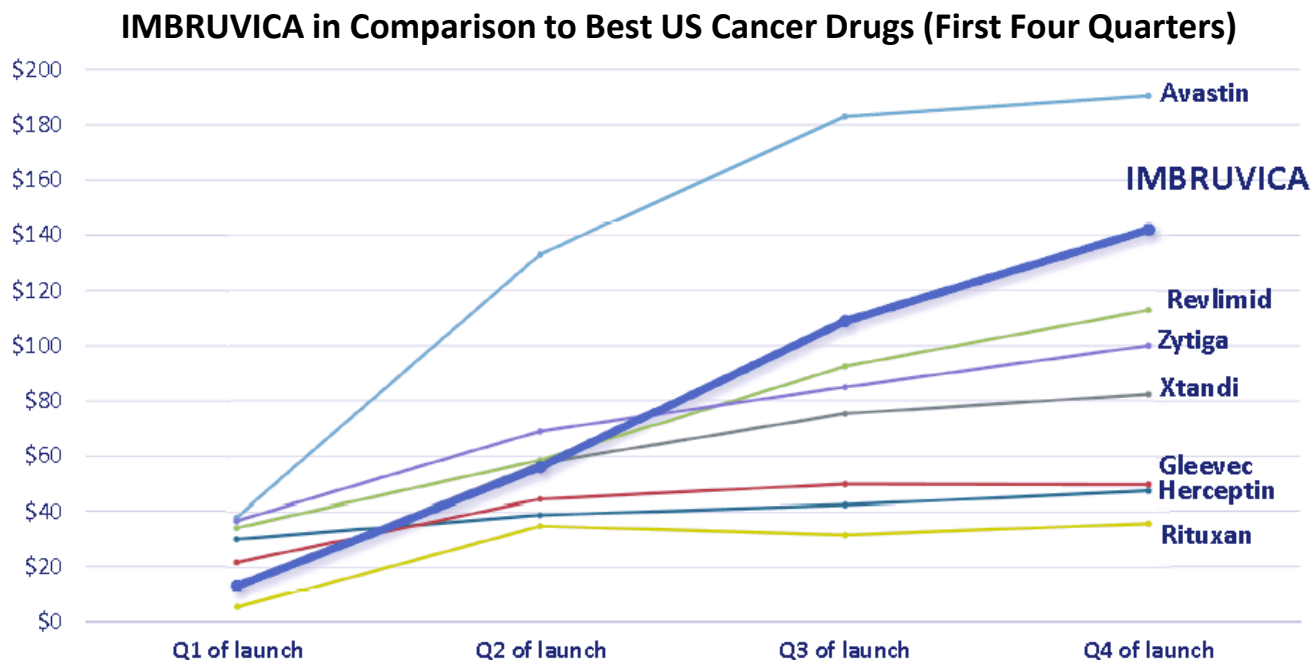
Top 10 B-Cell Malignancy Products WW Indication Sales 2005-2020



EvaluatePharma

Imbruvica Appears to Be on Its Way to Become the Fastest Growing Cancer Drug in Terms of U.S. Sales

- ◆ Ibrutinib was awarded Breakthrough Therapy designation and accelerated approval for previously treated CLL under the trade name Imbruvica in February 2014
 - The drug was first FDA approved for R/R MCL in November 2013, R/R CLL in Feb 2014, front-line 17p CLL in July 2014 and Waldenstroms in Jan 2015
 - Costs for CLL is estimates at \$8,774/month, or \$105,288/year
- ◆ 2014 Imbruvica revenue was \$463MM, 2015 sales expected to exceed \$1B



Pharmacyclics Investor Presentation Dec 2014

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