

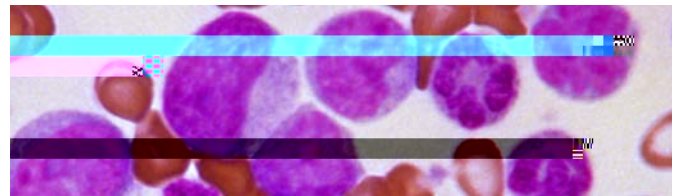


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## THEN

- In the 1950s, new techniques to study cells and the chromosomes within them were just starting to be developed; researchers began linking

30%.<sup>1</sup>



# RESEARCH-TO-PRACTICE MILESTONES FOR GLEEVEC®

For more information on the supporting evidence and research sponsors for the following milestones, see the Web appendix table.



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1914

1914: Discovery that the tyrosine kinase inhibitor imatinib (Gleevec) is effective in the treatment of chronic myeloid leukemia (CML). This discovery led to the development of Gleevec as a targeted therapy for CML.



milestones



# IMPACTS OF GLEEVEC®

Gleevec® is a “first-in-class” drug that many consider to be a forerunner of molecular medicines. Its success was proof that knowledge about the underlying biological mechanism of a disease could help scientists design powerful, targeted strategies to kill cancer cells without harming healthy cells.

## KNOWLEDGE

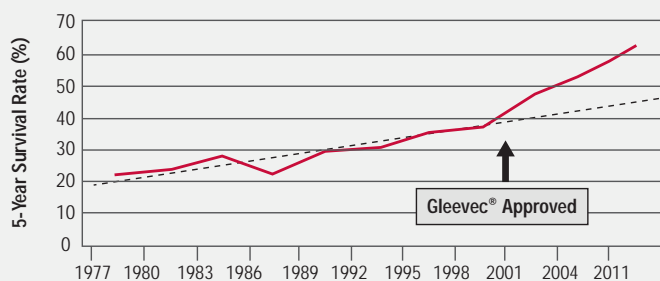
- Gleevec® was the first cancer drug approved by the FDA that directly targeted a signaling molecule inside the cell.<sup>25</sup>
- The dramatic effectiveness of Gleevec® stimulated an ongoing surge of new research into the treatment potential of kinase inhibitors. For imatinib alone, more than 12,000 scientific articles have been published in the last 15 years.<sup>26</sup>
- The success of Gleevec® spurred the development of other kinase inhibitors for CML and for other types of cancer. These newer kinase inhibitors, many based on the structure of Gleevec®, are improving survival rates for patients with CML and other diseases.<sup>27</sup>

## HEALTH

- Patients with a new diagnosis of CML are now expected to live 30 years post-diagnosis, essentially a normal lifespan.<sup>29</sup>
- Worldwide, more than 600 clinical trials have been undertaken on Gleevec® for new disease indications and drug formulations.<sup>30</sup>
- Gleevec® is now approved to treat multiple cancers, including gastrointestinal stromal tumors (GIST), in adults and children.<sup>31</sup>

**Five-year survival rates for CML patients treated with Gleevec® currently top 89%.<sup>28</sup>**

### CML Survival Rates Increased Dramatically after the Introduction of Gleevec®



Above: Five-year survival rates for patients with CML (including some patients not treated with Gleevec®) have doubled since Gleevec® was introduced, from about 30% in the early 1990s to over 60% today. The dotted line indicates the expected survival rate without Gleevec®. Source: NCI's Surveillance,

