Benefits of Biomedical Research
What contributions has biomedical research had to human health?

- **Treatment for heart disease:**
  ~ The heart-lung machine revolutionized cardiac surgery when it was developed 40 years ago. ***

- **Treatment for cancer:**
  ~ Gene therapy***
  ~ This disorder is the most studied in biomedical research***
  ~ Leukemia
Leukemia

- Biomedical research has had an impact on childhood leukemia. In the 1950’s, leukemia killed every child diagnosed with it within 6 months. ***
- Now the survival rate is 75% ***
Contributions (continued)

- Treatment for diabetes:
  ~ Originally, insulin was first extracted from a dog’s pancreas
  ~ Now, insulin is manufactured using genetic engineering techniques in which bacteria are made to produce human insulin.***
  ~ New sugar monitoring equipment requires less blood.***
Contributions (continued)

- Bone marrow transplants
- Vaccines
  - Polio vaccine- Dr Albert Sabin worked on a polio vaccine made from an attenuated virus that could be administered orally. ***
  - Chicken pox (Varicella)
  - Hepatitis
In 1967, the World Health Organization launched a global campaign that led to the eradication of smallpox. ***

Even with the availability of vaccines, not all children under two have received the recommended vaccinations. This could be because the parents are not familiar with infectious diseases and are not worried about vaccinations for their child. ***
Contributions (continued)

- **Fluoride:**
  - *many countries add to water to decrease tooth decay***

*Penicillin and other antibiotics:*

-- *Alexander Fleming discovered the first antibiotic; penicillin***
Increased public awareness

- Awareness about the harmfulness of cigarette smoking has decreased heart disease by more than 40%