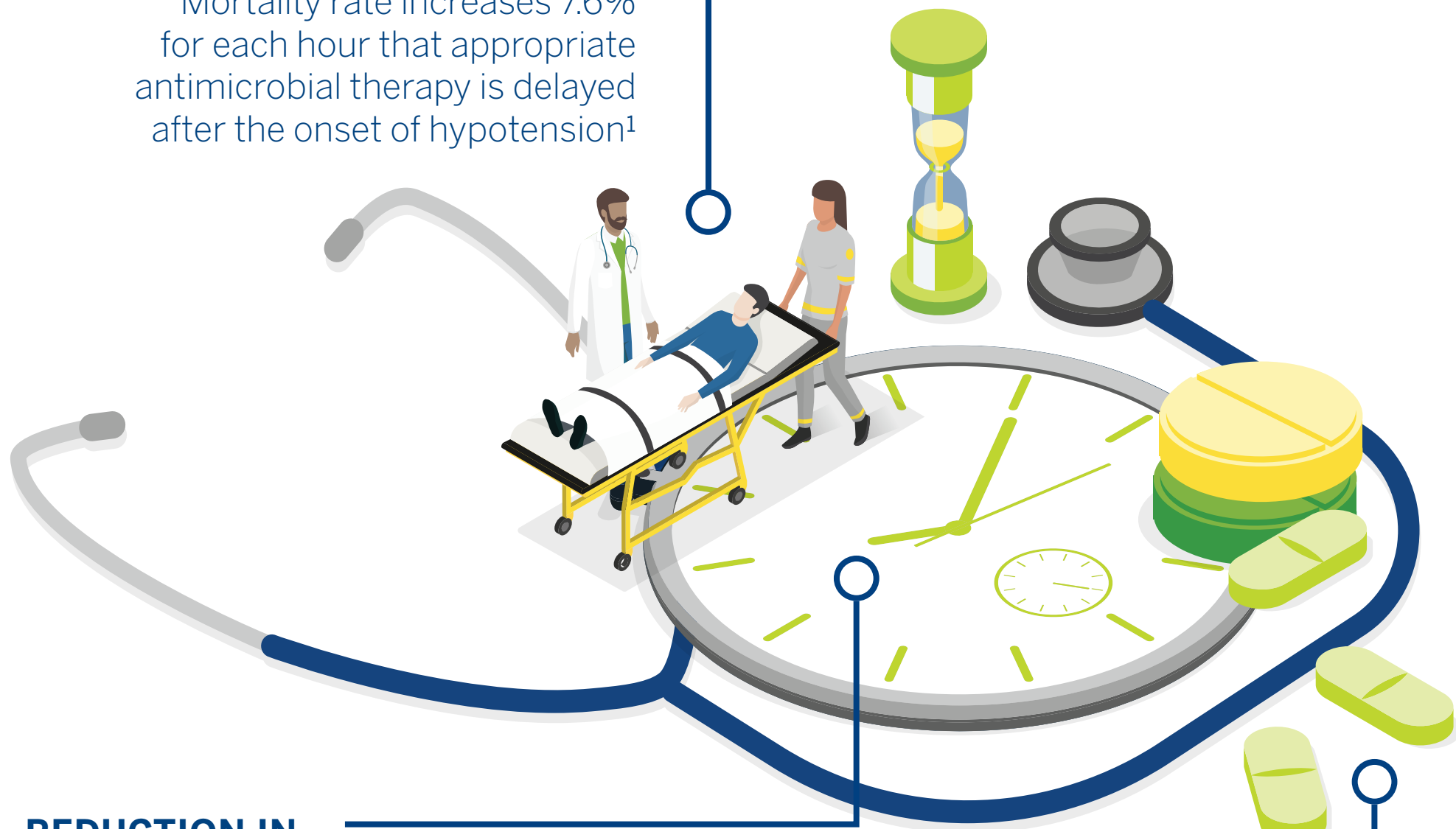


DIAGNOSTICS IN THE FIGHT AGAINST SEPSIS: THE NEED FOR SPEED

MORTALITY RATE INCREASES BY 7.6%

Mortality rate increases 7.6% for each hour that appropriate antimicrobial therapy is delayed after the onset of hypotension¹



REDUCTION IN SEPSIS MORTALITY

Reduction in sepsis mortality is directly dependent on early identification and rapid initiation of appropriate antimicrobial therapy¹

CONTRIBUTION TO ANTIMICROBIAL RESISTANCE

Until sepsis is diagnosed, broad spectrum antibiotics are used to treat patients, which can contribute to antimicrobial resistance²



As many as **80% of sepsis deaths could be prevented** with rapid diagnosis and appropriate treatment¹

APPROPRIATE ANTIBIOTIC THERAPY

Timely identification and antibiotic susceptibility testing can inform actionable treatment decisions



EARLY DETECTION

Measuring specific biomarker levels can quickly differentiate patients with sepsis and determine severity³

RISK ASSESSMENT OVER TIME

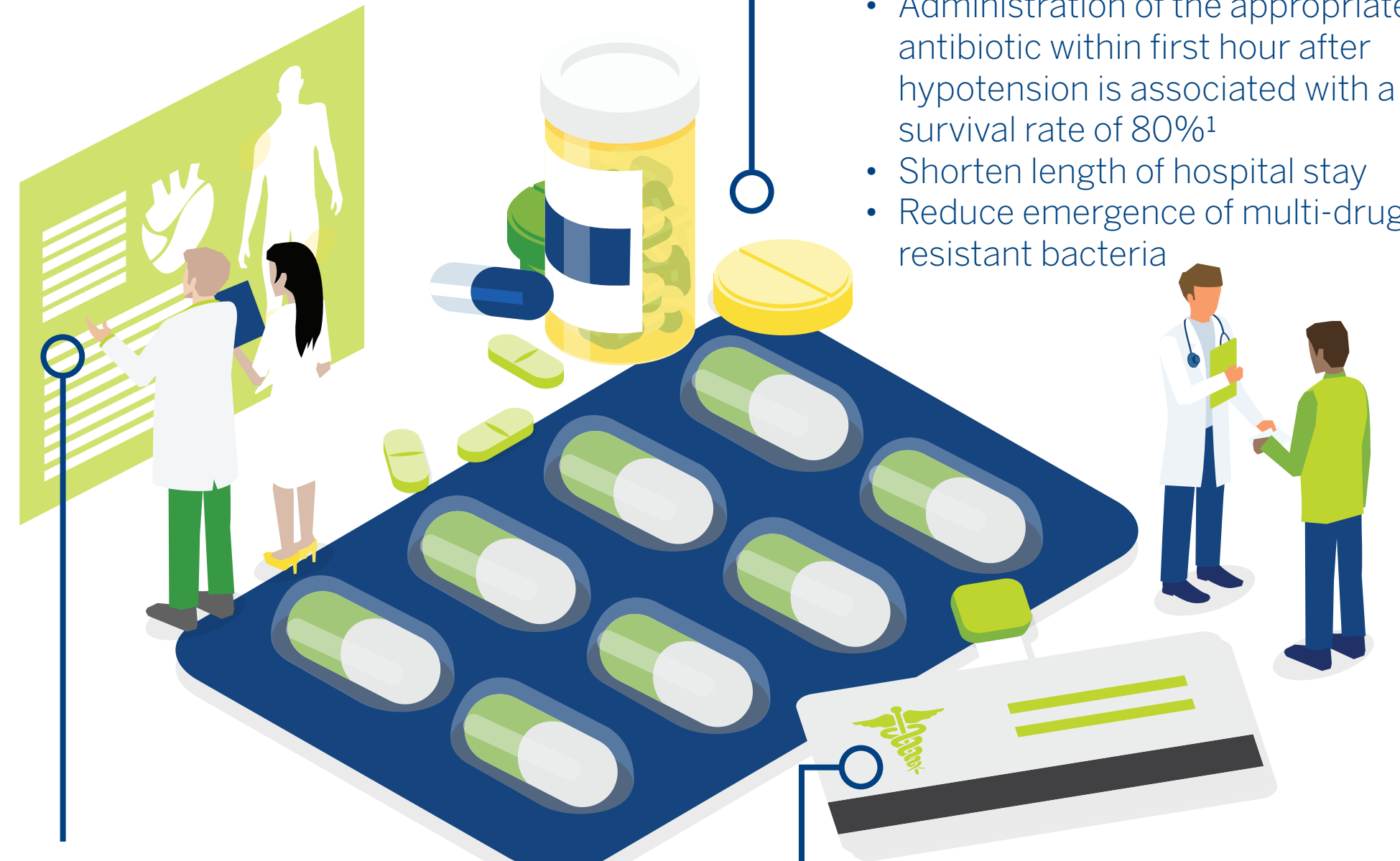
Assessing biomarker levels over time can help monitor effectiveness of antimicrobial therapy and a patient's response to treatment⁴



If we treat sepsis in a timely manner, **we can save lives and curtail hospital costs**

FIRST HOUR FOR SEPSIS PATIENTS IS CRITICAL:

- Administration of the appropriate antibiotic within first hour after hypotension is associated with a survival rate of 80%¹
- Shorten length of hospital stay
- Reduce emergence of multi-drug resistant bacteria



QUICKLY DETECTING SEPSIS WITH THE AID OF SPECIFIC BIOMARKERS HAS BEEN SHOWN TO:

- Save an average of \$2,759 per patient³
- Lead to an average of 1.2 fewer hospital days⁵

HOSPITALS SPEND OVER \$27 BILLION ON SEPSIS EACH YEAR⁶

Extended length-of-stay, high readmission rates, and cost of antibiotics play a role⁷

REFERENCES:

1. Zanotti-Cavazzoni S. Duration of hypotension before initiation of effective antimicrobial therapy is the critical determinant of survival in human septic shock. *Yearbook of Critical Care Medicine*. 2007; 2007:187-188. doi:10.1016/s0734-3299(08)70339-3.
2. Sinha M, Jupe J, Mack H, Coleman TP, Lawrence SM, Fraley SI. Emerging Technologies for Molecular Diagnosis of Sepsis. *Clinical Microbiology Reviews*. 2018;31(2). doi:10.1128/cmr.00089-17.
3. Harbarth S, Holeckova K, Froidevaux C, et al. Diagnostic Value of Procalcitonin, Interleukin-6, and Interleukin-8 in Critically Ill Patients Admitted with Suspected Sepsis. *American Journal of Respiratory and Critical Care Medicine*. 2001;164(3):396-402. doi:10.1164/ajrccm.164.3.2009052.
4. Soni NJ, Samson DJ, Galaydick JL, et al. Procalcitonin-guided antibiotic therapy: A systematic review and meta-analysis. *Journal of Hospital Medicine*. 2013;8(9):530-540. doi:10.1002/jhm.2067.
5. Balk RA, Kadri SS, Cao Z, Robinson SB, Lipkin C, Bozzette SA. Effect of Procalcitonin Testing on Health-care Utilization and Costs in Critically Ill Patients in the United States. *Chest*. 2017;151(1):23-33. doi:10.1016/j.chest.2016.06.046.
6. Torio C, Moore B. National Inpatient Hospital Costs: The Most Expensive Conditions by Payer, 2013. *HCUP Statistical Brief 204*. May 2016. Agency for the Healthcare Research and Quality, Rockville, MD. http://www.hcup-us.ahrq.gov/reports/statbriefs/sb204-Most-Expensive-Hospital-Conditions.pdf.
7. Rhee C, Dantes R, Epstein L, et al. Incidence and Trends of Sepsis in US Hospitals Using Clinical vs Claims Data, 2009-2014. *JAMA*. 2017;318(13):1241. doi:10.1001/jama.13836.