Yale SCHOOL OF MEDICINE

Yale NewHaven Health
Yale New Haven Hospital

An Overview of Healthcare Associated Infections and Their Impact

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Healthcare Associated Infections

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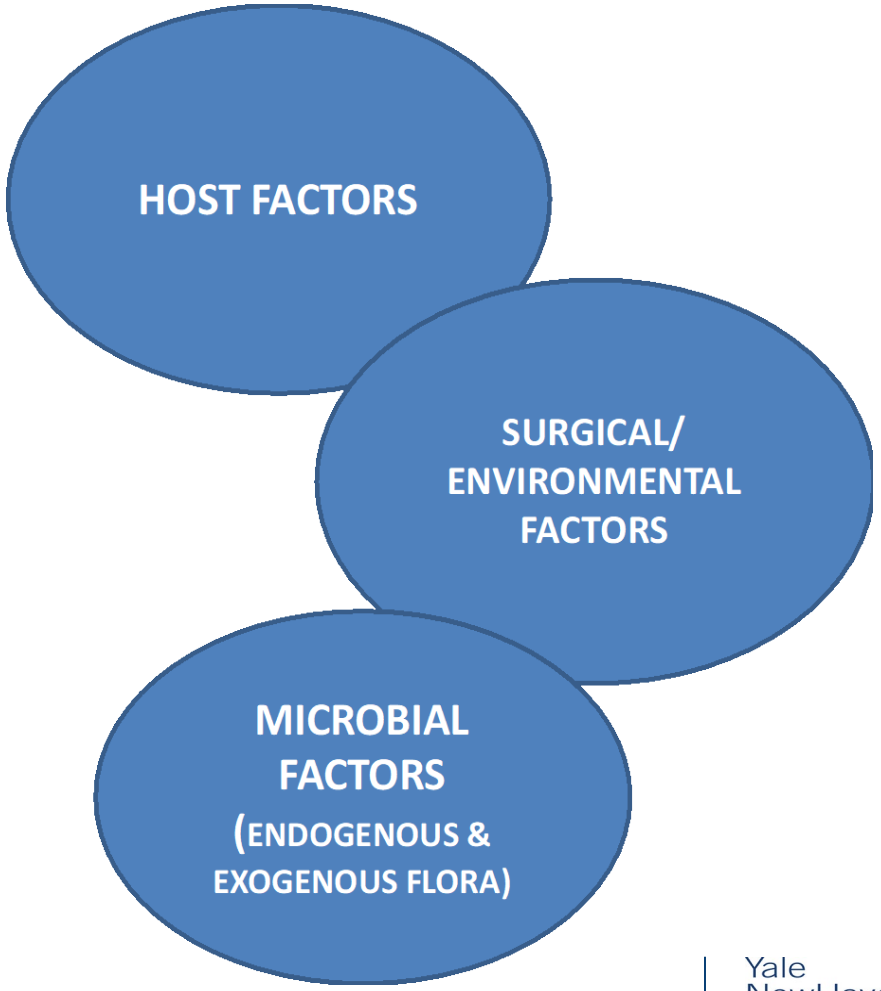

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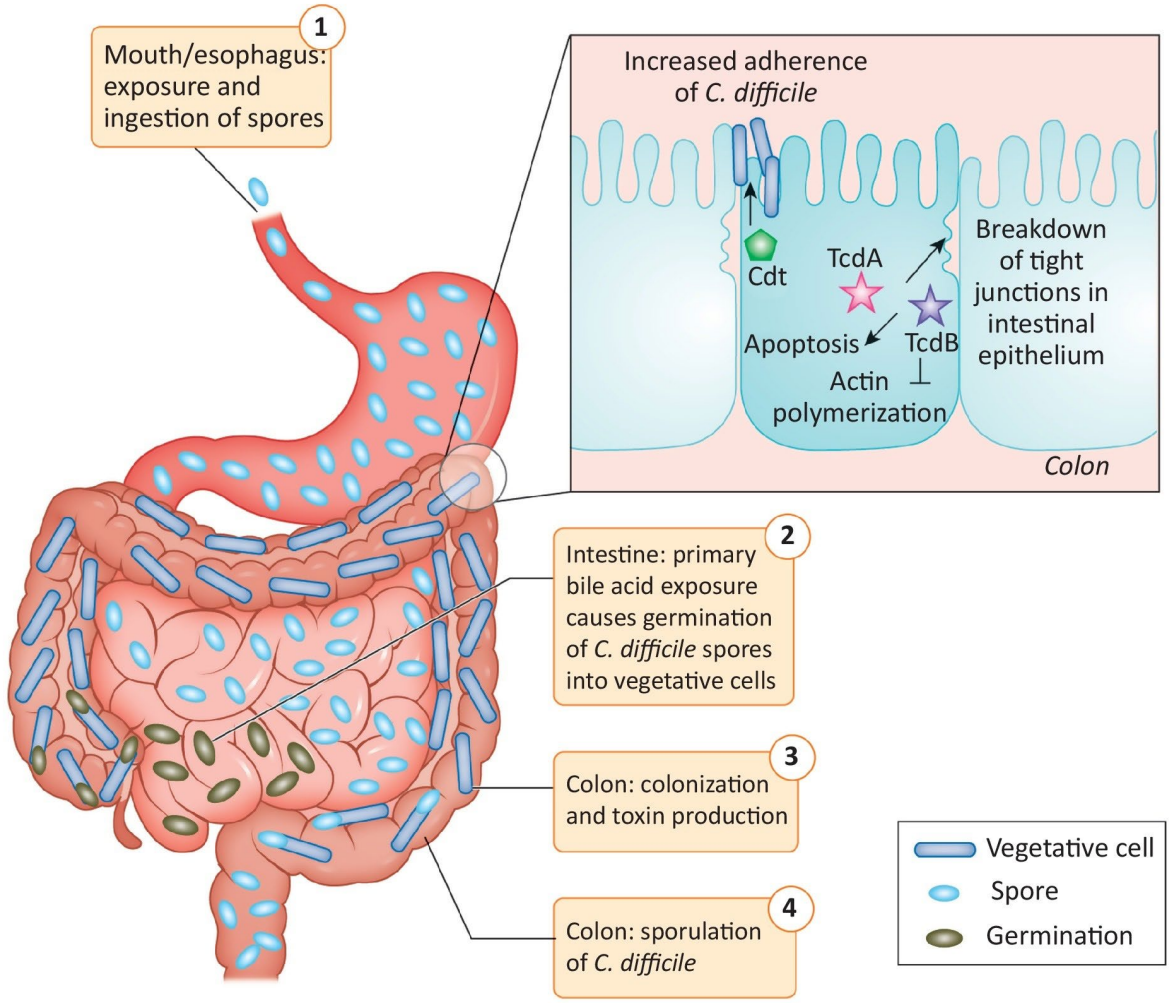
- ***Clostridioides difficile* infection (CDI)**



Trends in Microbiology
https://doi.org/10.1016/j.tim.2018.09.004

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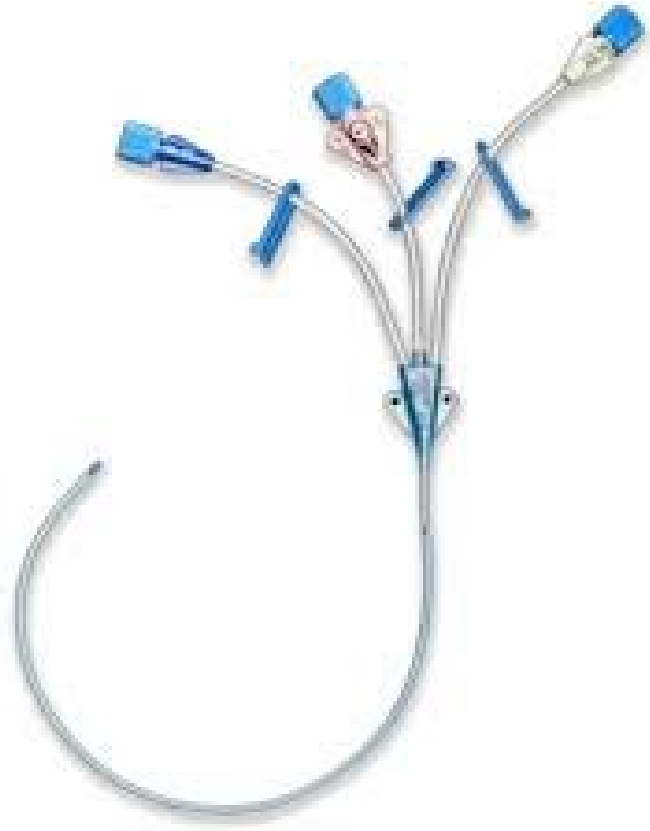
- **Central line associated bloodstream infection (CLABSI)**



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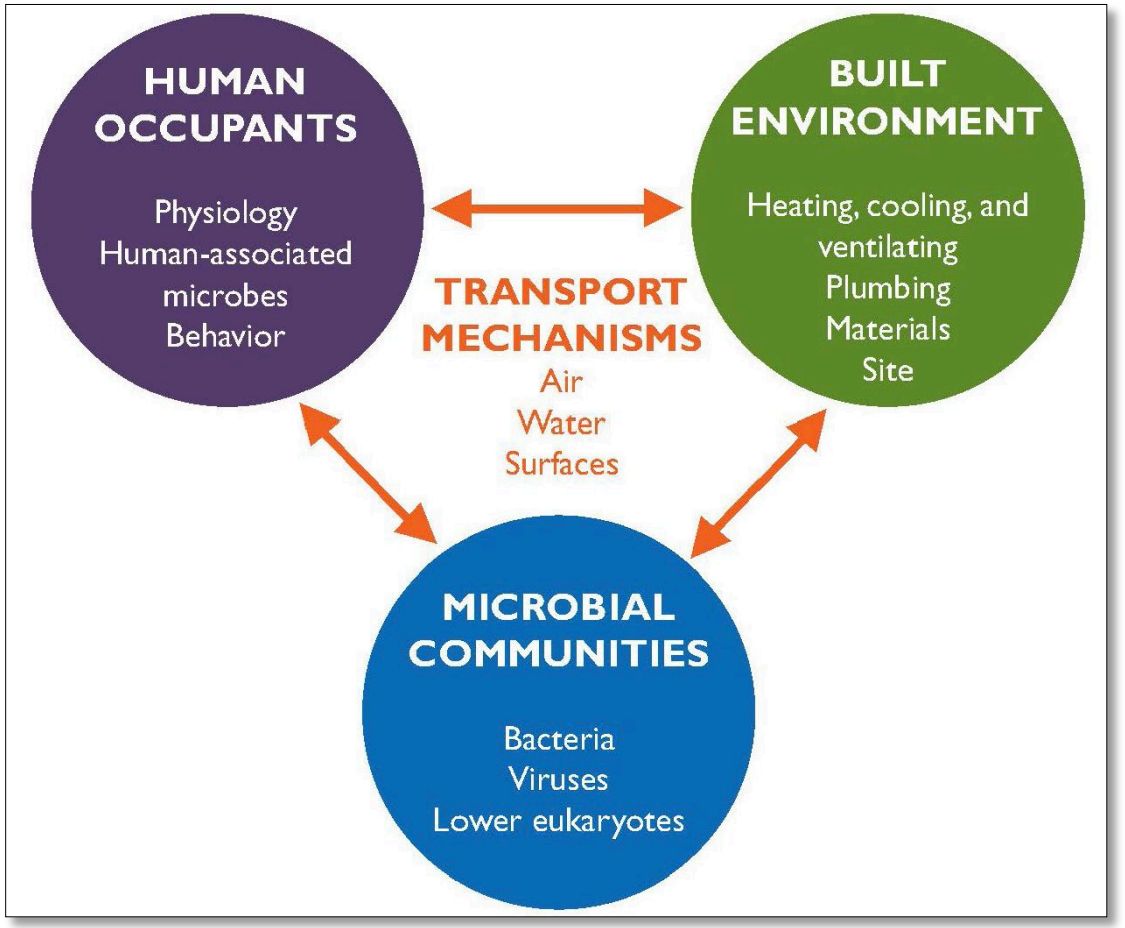
- **Catheter associated urinary tract infection (CAUTI)**

Human microbiome & built environment

- Persons entering new environments acquire new microbes into their microbiome, contaminate their environment with their microbiome
- Patients entering the hospital environment acquire and share their fecal flora with the environment
- Can acquire potentially pathogenic bacteria
  - May be resistant to antibiotics
  - May exchange less virulent for more virulent organisms



http://nas-sites.org/builtmicrobiome/

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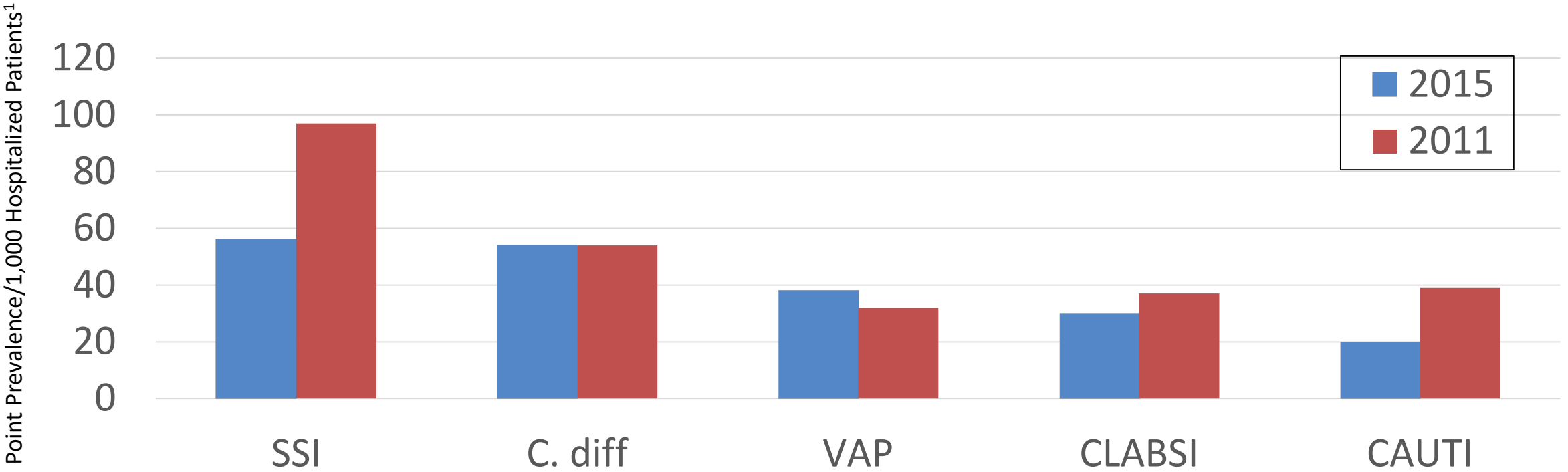
Brooks B, et al. *Nature Communications* 2017;18:1814.
National Academy of Sciences. *Microbiomes of the Built Environment*. 2017

Impact of Healthcare Associated Infections



	SSI	C. diff	VAP	CLABSI	CAUTI
2018 CDC NHSN[2]	21,285	69,648	24,223* (VAE)	19,188	22,015

1. Magill SS, et al. *N Engl J Med* 2018;379:1732-44.
2. CDC National Healthcare Safety Network 2018 National and State HAI Progress Report
https://www.cdc.gov/hai/data/portal/progress-report.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fhai%2Fsurveillance%2Fprogress-report%2Findex.html

Co

- Healthc have substantia d the cost of healt
- Multiple factors det er a patient may acquire a associated infection
- The control of microbial contan nation of the healthcare environment, hand hygiene and other factors can prevent most healthcare associated infections