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Background

- Urinary diversion (UD) is distinguished between incontinent diversion (ID) and continent diversion (CD)
- We queried the National Cancer Database (NCDB) to report contemporary patterns of care of UD utilization after RC for bladder cancer in the United States
- We also sought to identify positive and negative predictors of undergoing CD

Materials and Methods

- We identified 27,170 patients diagnosed with primary bladder cancer who underwent RC with UD between 2004 and 2013
- Patients were categorized into ID or CD
- We compared patient demographics, socioeconomic, and hospital-related variables
- We calculated mix of open vs minimally invasive surgery (MIS) approach to RC for each facility to assess influence of surgical approach on diversion choice
- Univariate and multivariable logistic regression were used to assess impact of diversion on urinary diversion

Results

- Overall, 23,224 (85.5%) underwent IC and 3,946 (14.5%) underwent CD with a downtrend in CD rates from 17.6% in 2004 to 11.8% in 2013, $p < 0.01$ (Fig. 1)

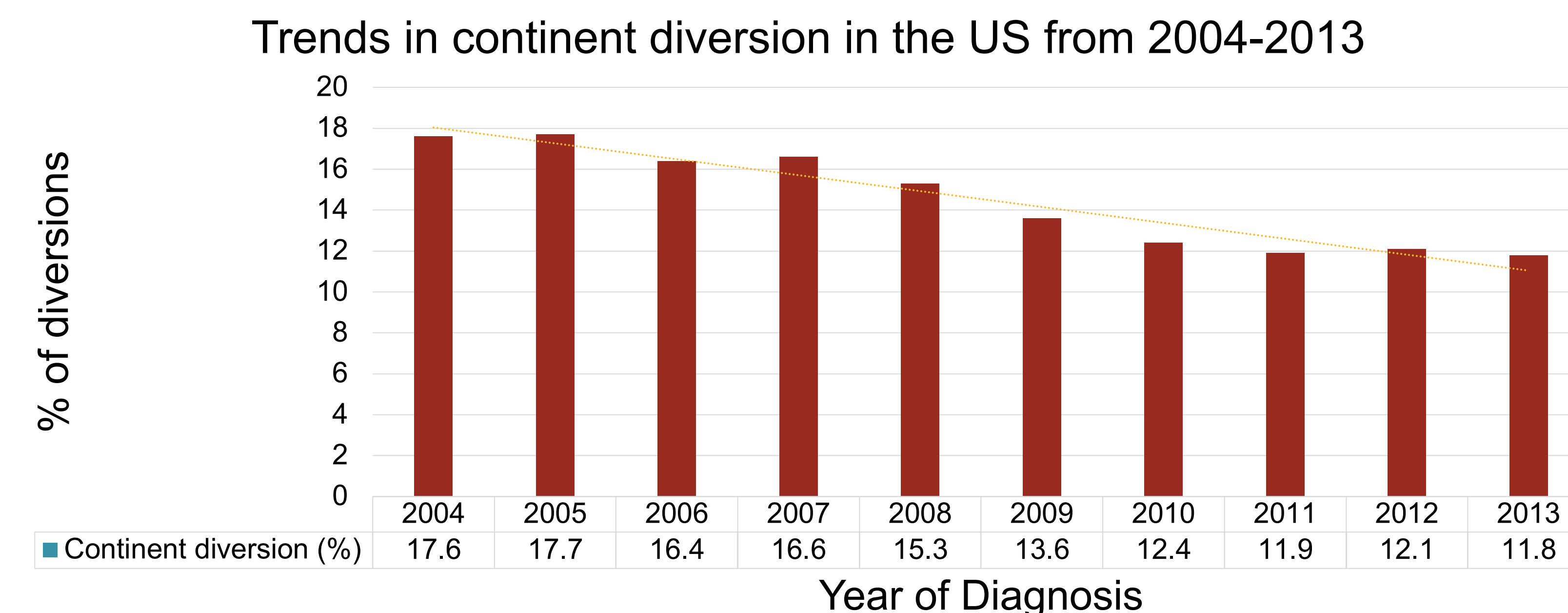


Figure 1. Continent diversion utilization in the United States from 2004-2013

- Patient demographic, socioeconomic, and hospital-related variables comparing ID vs CD are presented in Table 1
- Higher income, facility location in the West, academic program, high hospital volume, and >60 miles traveled to the hospital were positive predictors of undergoing CD
- Patients in 2010-2013 were older and had more comorbidities compared to 2004-2006
- High-volume centers with >75% MIS RC had CD rate of 13.2% vs 18.5% at facilities with <75% MIS RC

Results cont.

	ID	CD	p		ID	CD	p
Age			<0.01	Facility location			<0.01
≤80	20,504 (84.2)	3,835 (15.8)		Northeast	4,614 (87.2)	677 (12.8)	
>80	2,720 (96.1)	111 (3.9)		South/Southeast	7,742 (88.2)	1,041 (11.8)	
Sex			<0.01	Midwest	7,237 (85.9)	1,189 (14.1)	
Male	19,882 (84.8)	3,571 (15.2)		West	3,527 (78.5)	964 (21.5)	
Female	3,342 (89.9)	375 (10.1)		Facility type			<0.01
Charlson-Comorbidity Index			<0.01	Non-academic facility	11,895 (89.8)	1,348 (10.2)	
0	15,813 (83.7)	3,080 (16.3)		Academic program	11,225 (81.7)	2,523 (18.3)	
≥1	7,411 (89.5)	866 (10.5)		Hospital volume			<0.01
% of no high school graduates			<0.01	Low (1-4 cases)	8,937 (89.3)	1,073 (10.7)	
≥21%	3,305 (87.2)	487 (12.8)		Intermediate (5-11 cases)	7,271 (88.1)	983 (11.9)	
13-20.9%	6,038 (86.7)	929 (13.3)		High (12-98 cases)	7,016 (78.8)	1,890 (21.2)	
7-12.9%	8,043 (85.9)	1,321 (14.1)		County description			<0.01
<7%	5,404 (82.9)	1,113 (17.1)		Metropolitan	17,221 (84.8)	3,080 (15.2)	
Insurance status			<0.01	Urban	4,496 (88.1)	610 (11.9)	
Not insured	640 (84.7)	116 (15.3)		Rural	625 (89.3)	75 (10.7)	
Private/Managed Care	6,495 (75.8)	2,075 (24.2)		Miles from patient's residence to hospital			<0.01
Medicaid	943 (84.2)	177 (15.8)		≤60	18,586 (86.5)	2,908 (13.5)	
Medicare	14,598 (90.7)	1,490 (9.3)		>60	4,638 (81.7)	1,038 (18.3)	
Other	548 (86.2)	88 (13.8)		Surgical approach			0.01
Median income			<0.01	Open	6,104 (88.6)	782 (11.4)	
<\$38,000	3,763 (89.3)	453 (10.7)		Minimally invasive	2,776 (86.7)	424 (13.3)	
\$38,000-\$47,999	6,052 (86.8)	921 (13.2)					
\$48,000-\$62,999	6,355 (85.8)	1,056 (14.2)					
≥\$63,000	6,606 (82.3)	1,419 (17.7)					

Table 1. Patient demographic, socioeconomic, and hospital-related variables comparing ID vs CD

Conclusions

- Continent diversion in the United States has declined from 17.6% in 2004 to 11.8% in 2013
- Patient demographics, socioeconomic status, and hospital-related variables are predictors of CD utilization