

# THE RISK OF HOSPITALIZATION OF DAY-OF-WEEK IN HD & PD PATIENTS IN 20 YEARS OBSERVATION

Hideki Kawanishi, Banshodani M, Moriishi M, Sadanori S, Tsuchiya S  
Tsuchiya General Hospital, Hiroshima Japan

## Objectives & Methods :

Excess admissions and deaths have been identified after the 2-day break (long interdialytic gap) in hemodialysis (HD) in USRDS, UKRR and DOPPS. Moreover, the risks in day-of-week in PD were showed the lower than HD in USRDS. However, it is controversial whether the dialysis schedule affects day-of-week admissions for acute diseases in HD and PD, because of the development in dialysis therapy including the introduction of frequent HD.

● **Subjects**  
Maintenance dialysis patients of 20 years in 1995 ~2014 in Single center  
PD: 497pts, All data except PD related infection  
HD: 2044pts, 3 and over times/wk HD  
Hybrid PD+HD: PD + Once- twice HD/wk  
● **Methods**  
Single center observation study, whether dialysis modalities of HD and PD are associated with an increase in admissions in day-of-week.

## Results:

Modarity	PD (N=497)	HD (N=2044)	PD + HD (N=179)
Start age (year)	60 ± 14*	62 ± 15	53 ± 13*
Gender (M/F)	313/184	1309/735	112/67
Time of dialysis at first admission, M	62 ± 13	44 ± 59	64 ± 49
<b>Cause of ESRD</b>			
DM	129 (26%)	906 (44%)*	43 (24%)
CGN-unknown	277 (56%)	715 (35%)	123 (69%)
Nephro sclerosis	20 (4%)	138 (7%)	2 (1%)
PCK	9 (2%)	50 (2%)	1 (0.6%)
IgA	11 (2%)	24 (1%)	4 (2.2%)
Others	15 (3%)	132 (7%)	2 (1%)
Unknown	36 (7%)	79 (4%)	4 (2.2%)

Causes of Admission	PD (N=1969)	HD (N=11642)	PD + HD (N=796)
<b>Acute</b>	<b>233 (12%)</b>	<b>1572 (12%)</b>	<b>71 (9%)**</b>
Lung	120 (52%)	656 (42%)	31 (44%)
Cerebrovascular	48 (21%)	465 (30%)	20 (28%)
No-Ischemic CVD	19 (8.2%)	102 (6.5%)	4 (5.6%)
Ischemic CVD	32 (14%)	164 (10%)	8 (11%)
Arrhythmia	8 (3.4%)	104 (6.5%)	7 (10%)
Aortic disease	1 (0.4%)	17 (1%)	1 (1.4%)
Peripheral VD	5 (2%)	64 (4%)	0 (0%)
<b>Infection*</b>	<b>134 (6.8%)***</b>	<b>1083 (9.3%)</b>	<b>27 (3.4%)***</b>

\*\*P = 0.001, \*\*\*P < 0.001

\*χ<sup>2</sup> P 0.001

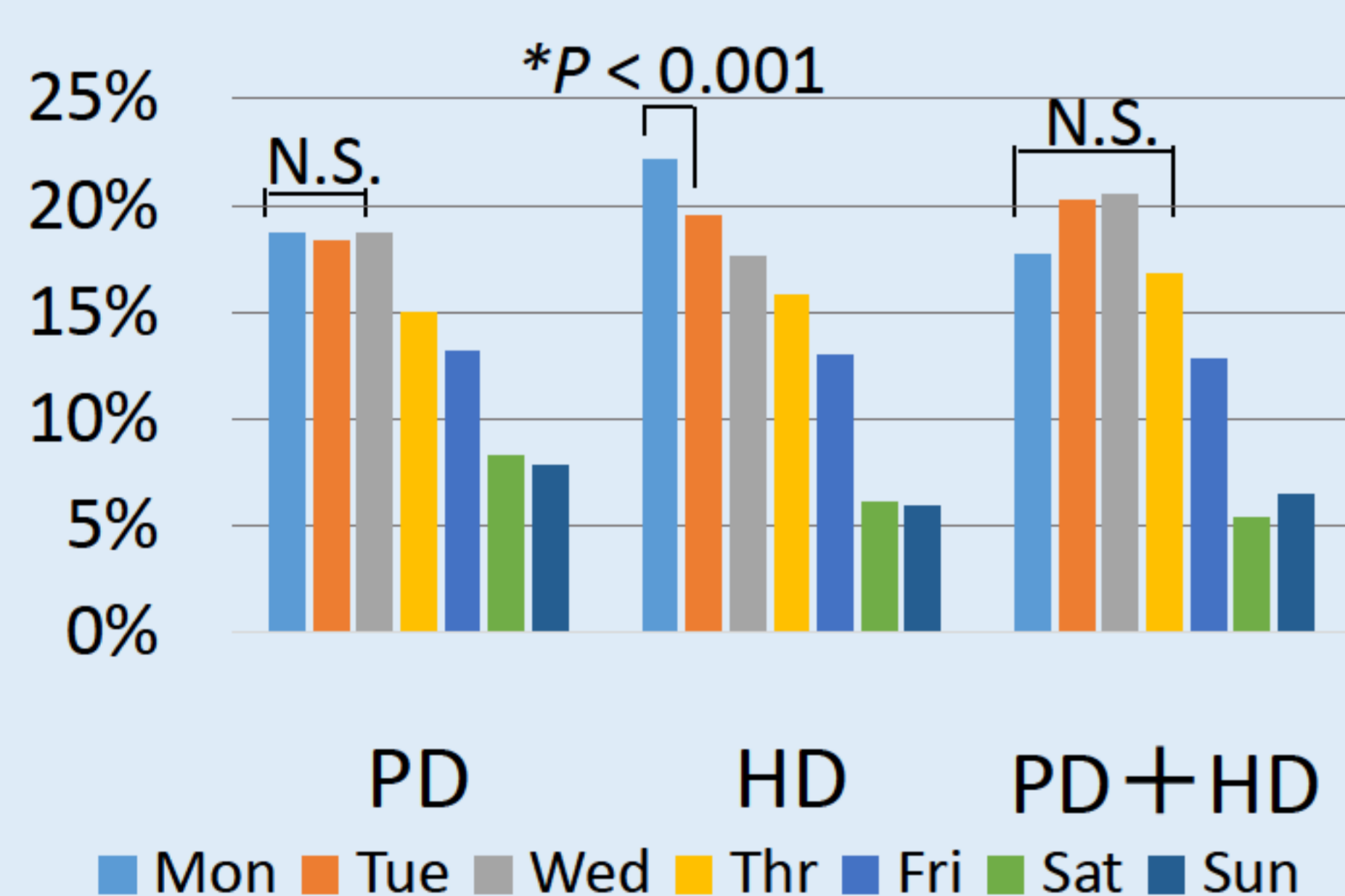
	Admission rate/year (number/patient-years)		
	PD	HD	PD+HD
<b>Acute (All)</b>	<b>0.10</b>	<b>0.08</b>	<b>0.07</b>
95-99 yr	0.12	0.13	0.04
00-04	0.05	0.08	0.06
05-09	0.15	0.06	0.09
10-14	0.09	0.06	0.07
<b>Infection* (All)</b>	<b>0.06</b>	<b>0.05</b>	<b>0.03</b>
95-99 yr	0.08	0.07	0.01
00-04	0.05	0.04	0.01
05-09	0.08	0.04	0.03
10-14	0.04	0.06	0.04

\*Except PD related infection

### Admission in day of ween 1995-2014 (20 years)

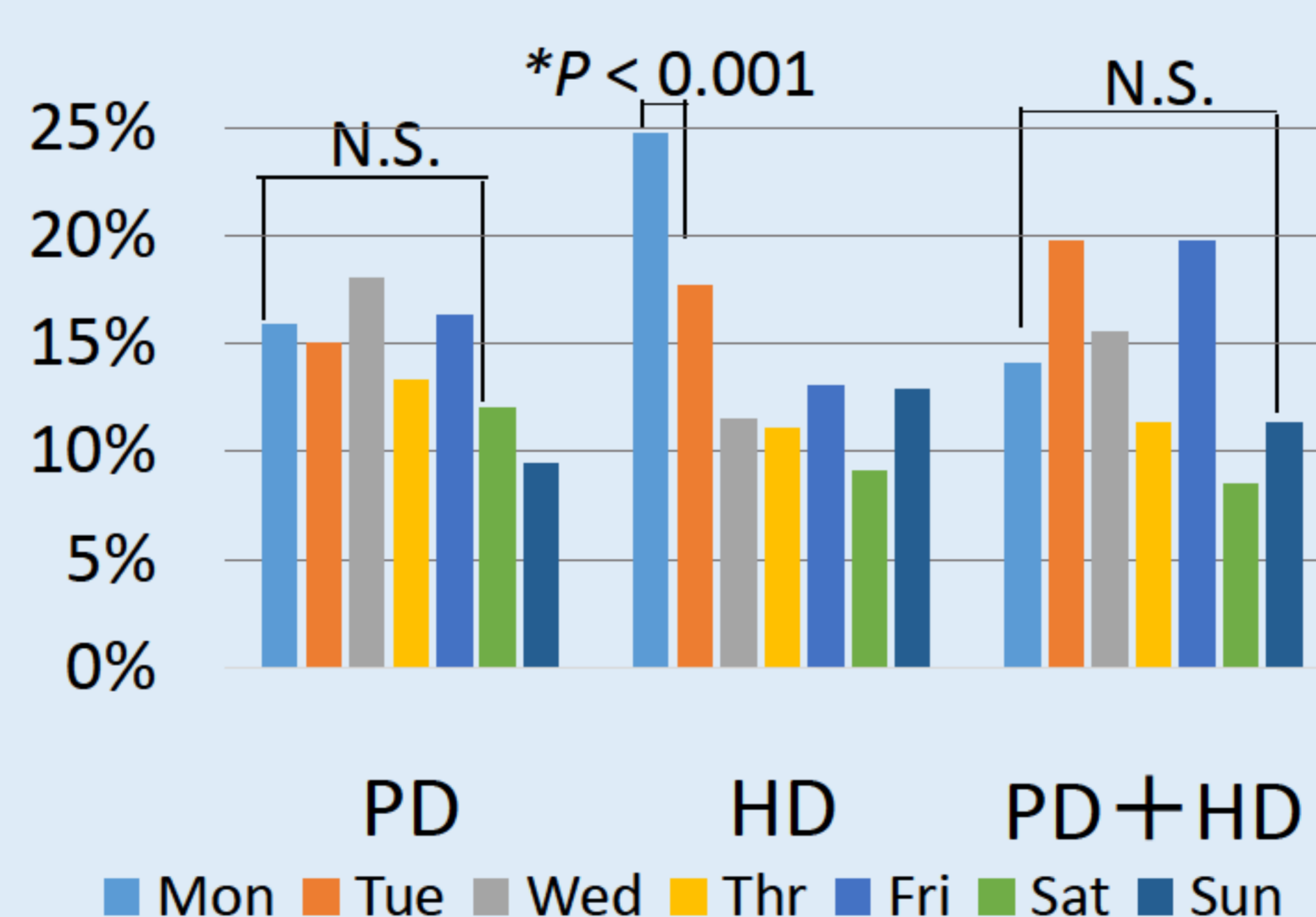
#### All admission

(risks in day-of-week in PD: lower)

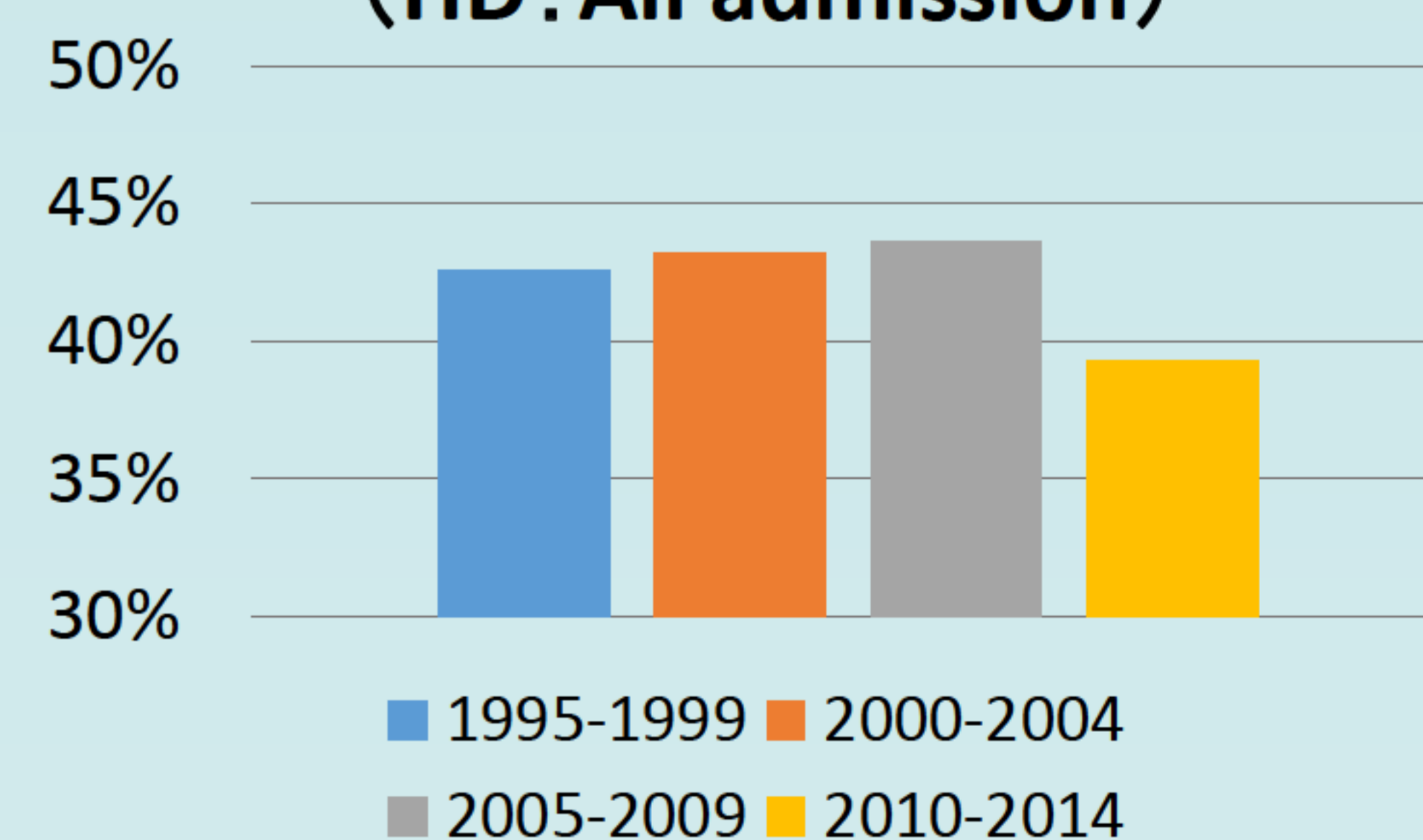


#### Acute diseases

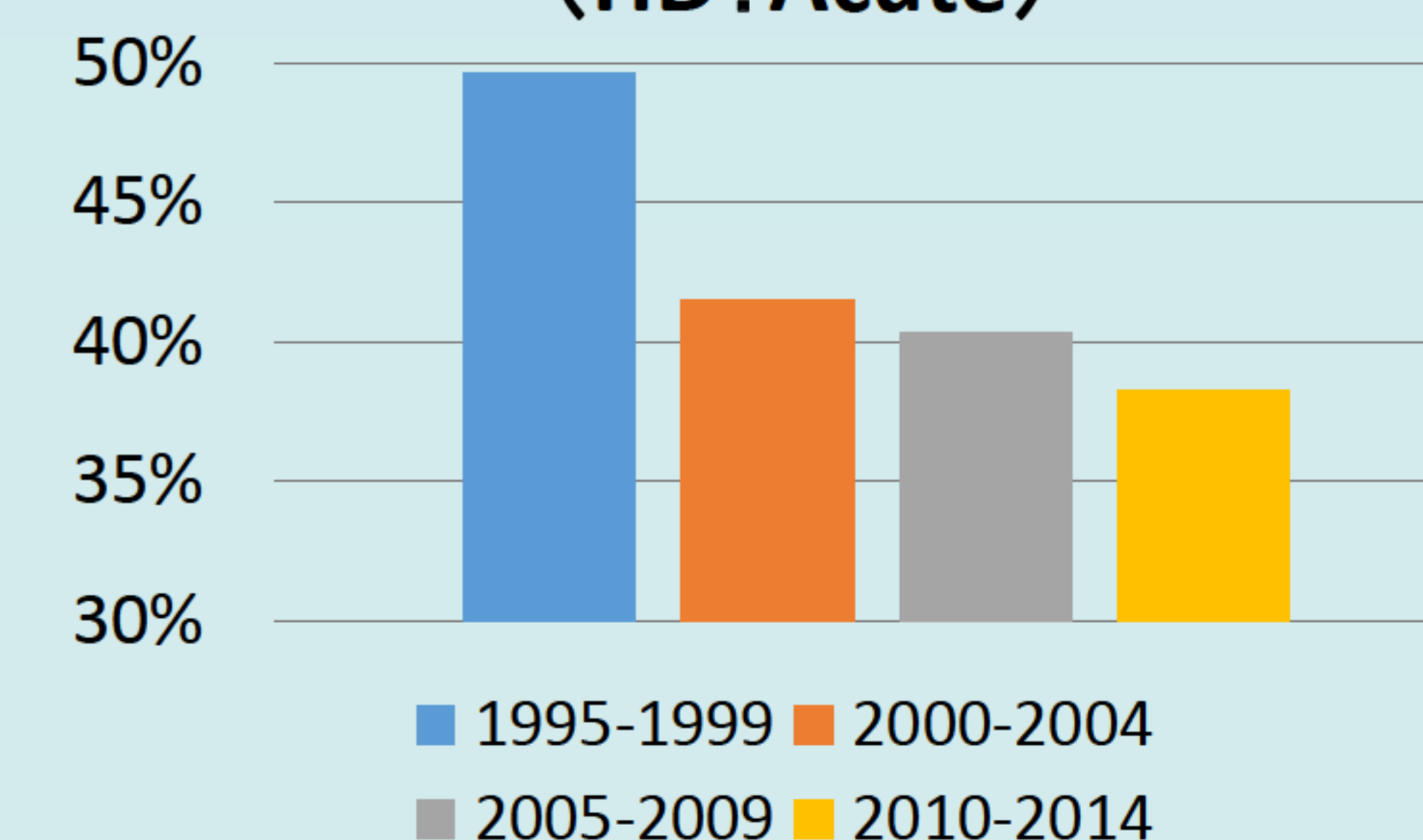
(risks in day-of-week in PD: lower)



### Mon, Tue/All day of week (HD: All admission)



### Mon, Tue/All day of week (HD: Acute)



- In HD, higher admission rates were seen in the 2-day gap HD on a Mon or Tue cause by acute diseases. Moreover, in the HD group of analysis every 5 years, the hospitalization rates in the 2-day gap were decrease in recent years, suspected the increase of frequent HD (≥4times/wk) for CVD patients.
- However, in PD & hybrid PD+HD, the administration rate was not difference in day-of-week, and not change during 20 years.

## Conclusions:

The risk of hospitalization of day-of-week was affected in HD and decreased year by year. This result would be presumed the development of HD therapies, include advantages of the frequent (≥4times/wk) HD in center.

Address correspondence, Dr Hideki Kawanishi, M.D., Tsuchiya General Hospital, Hiroshima 730-8655, Japan. h-kawanishi@tsuchiya-hp.jp

