Appendix Table 1. ICD-9 and ICD-10 Used to Classify for Leading Causes of Death

Cause of death	ICD-9	ICD-10
Cancer	140–239	C00–C97 and D00–D48
Heart disease	390–398,402,404,410-429	I00–I09, I11, I13, I20–I51
Stroke	430–438	I60–I69
Diabetes	250	E10–E14
Septicemia	038	A40-A41
Hypertension without heart disease	401,403	I10, 112
Pneumonia and influenza	480-487	J09-J18
Chronic obstructive pulmonary disease and allied conditions	490-496	J40-J47
Chronic liver disease and cirrhosis	571	K70, K73-K74
Kidney disease	580-589	N00-N07, N17-N19, N25-N27
Suicide and self-inflicted injury	950-959	U03, X60-X84, Y87.0
Accidents and adverse effects	800-949	V01-X59, Y85-Y86
Alzheimer disease	331.0	G30
Parkinson disease	332	G20-21

Supplemental Methods: Proportional Hazards Assumption

In the fully adjusted model, the effect of TV viewing, as measured at baseline, changed with follow-up time. Letting TV be the variable for the h/day of TV viewing and t be the years of follow-up, we found that adding the TV x t interaction term offered a statistically significant improvement. This means there was a difference in the association between TV viewing and mortality at different follow-up times.

In order to determine where the deviation occurred, we then refit the model, allowing the effect of TV to differ for specific intervals of time. Let Z(t) be a time dependent variable, indicating whether years in the study exceeded t, and let X(t) = Z(t) x TV, where TV is h/day of TV viewing. Then, given that we would allow two different coefficients for TV in the model, we determined the best time point for allowing the change by adding X(t), t in{2,4,6,8,10,12}, to the model and identifying the value of t which corresponded to smallest p-value for X(t). The value for t with the smallest p-value was 6 yrs. We tested whether a further split was required, but the p-value for subsequently added X(t) in {2,4,8,10,12}, were all above 0.05.

Results: Cox proportional Hazards Regression for 2-hr increase in TV viewing by follow-up time

	Hazard Ratio	Lower 95% CI	Upper 95% CI	P-value	No. deaths
Overall	1.14	1.12	1.17	<0.001	36, 590
<6 years of follow-up	1.21	1.16	1.28	<0.001	6,701
≥6 years of follow-up	1.12	1.09	1.15	<0.001	29,889

Note: Adjusted for age (y), race (white, black, other, missing), education (<12 y, high school graduate, some college, college graduate, missing), smoking history (never; quit, <20 cigarettes/d; quit, ≥20 cigarettes/d; current, <20 cigarettes/d; current, ≥20 cigarettes/d; unknown), MVPA (never or rarely, 1, 1–3, 4–7, >=7 h/wk), health status (good, very good, excellent) and diet quality (quintiles), BMI categories (18.5 to <25, 25-<30, 30-35 and >35 kg/m^2)

While the risk estimates were higher in the first six years, the majority of deaths (82%) occurred in those who died greater than or equal to six years after baseline and the risk of death from increased TV viewing is highly significant at both time-periods. One potential explanation is reverse causation, where the increase in the HR can be explained by increased TV viewing among individuals with illnesses not captured by the questionnaire. Allowing for additional variation of the effect over time did not significantly improve the model. Therefore, the overall effect (HR=1.14) may be slightly higher than the long-term effects of current TV habits, we did not feel the small difference (HR=1.12 vs HR 1.14, 80% deaths occurred after 6 years) warranted reporting HR's by time period in the main text.

Appendix Table 2. Association of TV Viewing Category and Cause-Specific Mortality: NIH-AARP Diet and Health Study

		TV viewing (h/day)					
	All Participants (N)	<1	1-2	3-4	5-6	>7	P for trend
		17,035	68,281	97,993	31,003	8,990	
All causes							
No. of deaths	36,590	1,851	9,368	16,722	6,452	2,197	
Age and Sex		ref	1.14 (1.08, 1.19)	1.34 (1.28, 1.40)	1.59 (1.51, 1.68)	2.03 (1.91, 2.16)	<0.0001
Cancer							
No. of deaths	15,161	854	4,026	6,933	2,555	793	
Age and Sex		ref	1.08 (1.00, 1.16)	1.25 (1.16, 1.34)	1.43 (1.32, 1.54)	1.64 (1.49, 1.81)	<0.0001
CHD							
No. of deaths	7,340	319	1,805	3,374	1,328	514	
Age and Sex		ref	1.24 (1.10, 1.40)	1.53 (1.36, 1.72)	1.86 (1.65, 2.11)	2.74 (2.38, 3.15)	<0.0001
Stroke							
No. of deaths	1,748	100	461	792	310	85	
Age and Sex		ref	1.01 (0.81, 1.25)	1.11 (0.90, 1.36)	1.29 (1.03, 1.62)	1.32 (0.99, 1.77)	0.00
COPD							
No. of deaths	1,522	49	304	706	341	122	
Age and Sex		ref	1.38 (1.02, 1.87)	2.07 (1.55, 2.77)	3.02 (2.24, 4.08)	4.02 (2.88, 5.60)	<0.0001
Accidents							
No. of deaths	919	61	276	390	152	40	
Age and Sex		ref	1.02 (0.77, 1.34)	0.96 (0.73, 1.26)	1.18 (0.87, 1.59)	1.17 (0.78, 1.75)	0.22
Alzheimer disease							
No. of deaths	796	36	235	354	136	35	
Age and Sex		ref	1.38 (0.97, 1.96)	1.30 (0.92, 1.83)	1.47 (1.02, 2.12)	1.43 (0.90, 2.29)	0.19
Diabetes							
No. of deaths	767	30	138	365	164	70	
Age and Sex		ref	1.04 (0.70, 1.54)	1.84 (1.27, 2.67)	2.59 (1.75, 3.82)	4.16 (2.71, 6.38)	<0.0001
Model 2		ref	0.84 (0.57, 1.25)	1.24 (0.85, 1.80)	1.41 (0.95, 2.10)	1.93 (1.24, 2.98)	<0.0001
Influenza/pneumonia							
No. of deaths	550	22	149	244	92	43	
Age and Sex		ref	1.44 (0.92, 2.26)	1.51 (0.98, 2.34)	1.72 (1.08, 2.74)	3.07 (1.84, 5.14)	<0.0001

Parkinson disease							
No. of deaths	513	29	125	252	79	28	
Age and Sex		ref	0.89 (0.60, 1.34)	1.16 (0.79, 1.71)	1.12 (0.73, 1.71)	1.57 (0.94, 2.65)	0.01
Kidney disease							
No. of deaths	429	22	87	210	76	34	
Age and Sex		ref	0.87 (0.54, 1.39)	1.37 (0.88, 2.12)	1.52 (0.94, 2.45)	2.59 (1.51, 4.43)	<0.0001
Sepsis							
No. of deaths	395	13	86	198	68	30	
Age and Sex		ref	1.49 (0.83, 2.67)	2.26 (1.29, 3.97)	2.39 (1.32, 4.33)	3.93 (2.05, 7.53)	<0.0001
Liver disease							
No. of deaths	374	19	92	159	75	29	
Age and Sex		ref	1.13 (0.69, 1.85)	1.35 (0.84, 2.17)	2.04 (1.23, 3.39)	2.94 (1.65, 5.25)	<0.0001
Suicide							
No. of deaths	292	14	70	140	55	13	
Age and Sex		ref	1.15 (0.65, 2.05)	1.63 (0.94, 2.82)	2.13 (1.18, 3.84)	1.92 (0.90, 4.10)	0.00
Hypertension							
No. of deaths	267	12	63	121	56	15	
Age and Sex		ref	1.18 (0.64, 2.19)	1.46 (0.81, 2.65)	2.03 (1.09, 3.79)	2.00 (0.93, 4.27)	0.00

Note: Values are Hazard Ratio (95% CI) from Cox Proportional Hazards Model.
Values are adjusted for age (y) and sex only. P for trend was determined by entering the mid-point of each category in the model as a continuous variable.

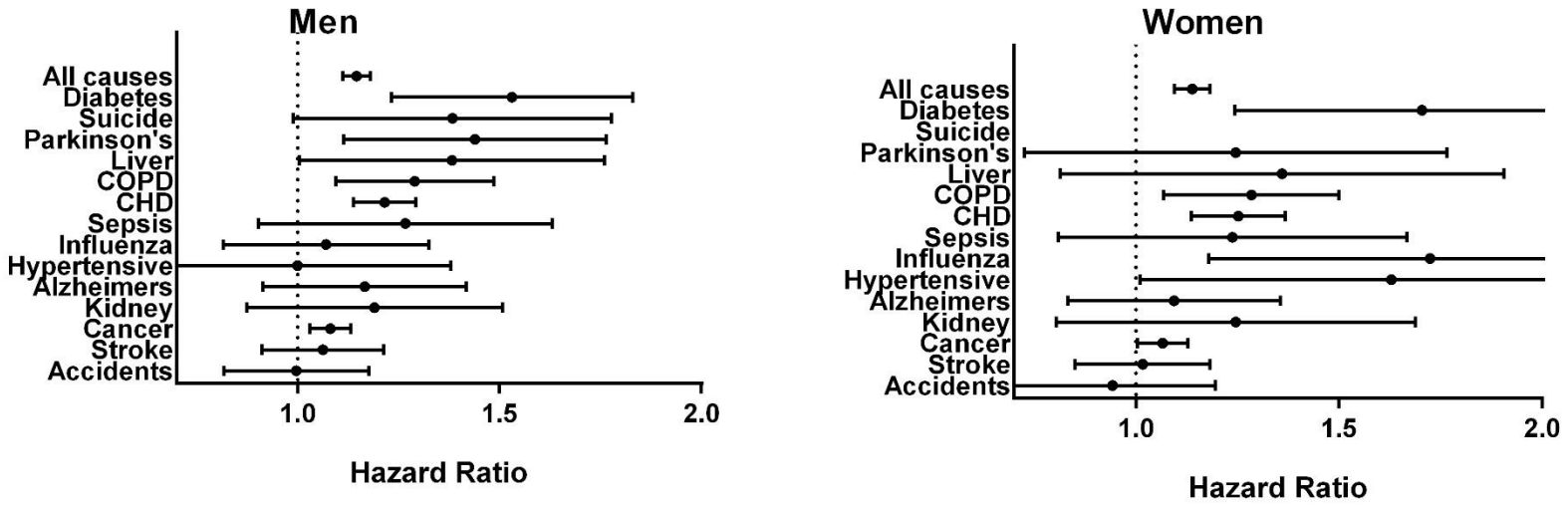
Appendix Table 3. Categorical Risk Estimates for TV Viewing and Cause-Specific Mortality Using Alternate Referent Group (1-2 h/day)

		TV viewing				
		<1 h/d	1-2h/d	3-4 h/d	5-6 h/d	>=7 h/d
All causes	No. deaths	1,851	9,368	16,722	6,452	2,197
	Model 1	0.95 (0.90, 1.00)	1.0 (ref)	1.09 (1.06, 1.11)	1.18 (1.15, 1.22)	1.39 (1.33, 1.46)
	Model 2	0.98 (0.93, 1.03)	1.0 (ref)	1.06 (1.03, 1.09)	1.12 (1.09, 1.16)	1.30 (1.24, 1.36)
Cancer	No. deaths	854	4026	6933	2555	793
	Model 1	1.00 (0.93, 1.08)	1.0 (ref)	1.06 (1.02, 1.10)	1.11 (1.05, 1.16)	1.18 (1.09, 1.27)
	Model 2	1.02 (0.95, 1.10)	1.0 (ref)	1.05 (1.00, 1.09)	1.08 (1.03, 1.14)	1.14 (1.06, 1.23)
CHD	No. deaths	319	1805	3374	1328	514
	Model 1	0.86 (0.76, 0.97)	1.0 (ref)	1.14 (1.08, 1.21)	1.28 (1.19, 1.38)	1.73 (1.56, 1.91)
	Model 2	0.92 (0.81, 1.03)	1.0 (ref)	1.08 (1.02, 1.15)	1.15 (1.07, 1.24)	1.50 (1.36, 1.66)
Stroke	No. deaths	100	461	792	310	85
	Model 1	1.03 (0.83, 1.28)	1.0 (ref)	1.04 (0.92, 1.17)	1.14 (0.98, 1.32)	1.08 (0.85, 1.36)
	Model 2	1.06 (0.85, 1.32)	1.0 (ref)	1.02 (0.91, 1.14)	1.09 (0.94, 1.27)	1.03 (0.81, 1.30)
COPD	No. deaths	49	304	706	341	122
	Model 1	0.88 (0.65, 1.20)	1.0 (ref)	1.20 (1.05, 1.37)	1.37 (1.17, 1.61)	1.52 (1.23, 1.88)
	Model 2	0.93 (0.69, 1.26)	1.0 (ref)	1.17 (1.02, 1.34)	1.32 (1.12, 1.54)	1.43 (1.16, 1.78)
Accidents	No. deaths	61	276	390	152	40
	Model 1	1.03 (0.78, 1.36)	1.0 (ref)	0.90 (0.77, 1.05)	1.05 (0.86, 1.29)	1.01 (0.72, 1.41)
	Model 2	1.05 (0.79, 1.38)	1.0 (ref)	0.89 (0.76, 1.03)	1.01 (0.83, 1.24)	0.96 (0.69, 1.35)
Alzheimer	No. deaths	36	235	354	136	35
	Model 1	0.73 (0.52, 1.04)	1.0 (ref)	0.93 (0.79, 1.10)	1.05 (0.85, 1.30)	1.02 (0.71, 1.47)
	Model 2	0.73 (0.51, 1.04)	1.0 (ref)	0.94 (0.80, 1.11)	1.08 (0.87, 1.34)	1.06 (0.74, 1.52)
Diabetes	No. deaths	30	138	365	164	70
	Model 1	1.03 (0.69, 1.52)	1.0 (ref)	1.63 (1.34, 1.99)	2.10 (1.67, 2.65)	3.03 (2.25, 4.07)
	Model 2	1.19 (0.80, 1.76)	1.0 (ref)	1.47 (1.20, 1.79)	1.68 (1.33, 2.11)	2.28 (1.70, 3.07)
Influenza	No. deaths	22	149	244	92	43
	Model 1	0.74 (0.47, 1.16)	1.0 (ref)	0.98 (0.80, 1.21)	1.05 (0.80, 1.37)	1.78 (1.25, 2.52)
	Model 2	0.77 (0.49, 1.20)	1.0 (ref)	0.96 (0.78, 1.18)	1.00 (0.77, 1.31)	1.67 (1.18, 2.38)
Parkinson	No. deaths	29	125	252	79	28
	Model 1	1.11 (0.74, 1.66)	1.0 (ref)	1.32 (1.06, 1.63)	1.29 (0.97, 1.72)	1.88 (1.24, 2.85)
	Model 2	1.09 (0.73, 1.63)	1.0 (ref)	1.33 (1.07, 1.65)	1.32 (0.99, 1.76)	1.93 (1.27, 2.93)
Kidney	No. deaths	22	87	210	76	34
	Model 1	1.28 (0.80, 2.05)	1.0 (ref)	1.38 (1.07, 1.78)	1.33 (0.97, 1.82)	1.97 (1.31, 2.96)
	Model 2	1.39 (0.87, 2.22)	1.0 (ref)	1.30 (1.01, 1.68)	1.18 (0.86, 1.62)	1.69 (1.12, 2.54)
Sepsis	No. deaths	13	86	198	68	30

	Model 1	0.75 (0.42, 1.35)	1.0 (ref)	1.33 (1.03, 1.72)	1.24 (0.90, 1.72)	1.81 (1.18, 2.78)
	Model 2	0.82 (0.46, 1.47)	1.0 (ref)	1.25 (0.97, 1.61)	1.08 (0.78, 1.49)	1.51 (0.98, 2.31)
Liver	No. deaths	19	92	159	75	29
	Model 1	0.97 (0.59, 1.59)	1.0 (ref)	1.08 (0.83, 1.40)	1.47 (1.07, 2.01)	1.97 (1.28, 3.02)
	Model 2	1.04 (0.63, 1.70)	1.0 (ref)	1.03 (0.79, 1.33)	1.32 (0.96, 1.80)	1.71 (1.11, 2.63)
Suicide	No. deaths	14	70	140	55	13
	Model 1	0.93 (0.52, 1.66)	1.0 (ref)	1.30 (0.98, 1.74)	1.58 (1.10, 2.27)	1.38 (0.76, 2.51)
	Model 2	0.91 (0.51, 1.62)	1.0 (ref)	1.32 (0.99, 1.77)	1.62 (1.13, 2.33)	1.41 (0.77, 2.57)
Hypertensive	No. deaths	12	63	121	56	15
	Model 1	0.89 (0.48, 1.65)	1.0 (ref)	1.16 (0.85, 1.58)	1.49 (1.03, 2.15)	1.22 (0.56, 2.65)
	Model 2	0.96 (0.52, 1.79)	1.0 (ref)	1.10 (0.81, 1.49)	1.33 (0.92, 1.93)	1.17 (0.66, 2.09)

Note: Values are Hazard Ratio (95% CI). Model 1 was adjusted for age (yrs), sex, race (white, black, other, missing), education (<12 yrs, high school graduate, some college, college graduate, missing), smoking history (never; quit, ≤20 cigarettes/day; quit, >20 cigarettes/day; current, ≤20 cigarettes/day; current, >20 cigarettes/day; unknown), MVPA (never or rarely, 1, 1–3, 4–7, ≥7 h/wk) and diet quality (quintiles).
Model 2 was adjusted for the above plus BMI categories (18.5 to <25, 25-<30, 30-35 and >35 kg/m^2) and health status (good, very good, excellent)

Appendix Figure 1. Association between TV viewing and cause specific mortality stratified by sex: NIH-AARP Diet and Health Study.



Note: Values are HRs and lines are the 95% CI, fully adjusted for covariates in Model 2.

Appendix Table 4. Sensitivity Analyses Excluding First 3 years Follow-Up and Among Never Smokers

	Overall			Excul 3 yrs follow-up			Never smoker		
	No. deaths	HR (95% CI)	*p*-value	No. deaths	HR (95% CI)	*p*-value	No. deaths	HR (95% CI)	*p*-value
All causes	36,590	1.14 (1.12, 1.17)	<0.001	34,480	1.14 (1.11, 1.17)	<0.001	9,805	1.14 (1.09, 1.19)	<0.001
Cancer	15,161	1.07 (1.03, 1.11)	0.01	14,249	1.06 (1.03, 1.11)	<0.01	3,746	1.09 (1.01, 1.17)	0.02
CHD	7,340	1.23 (1.17, 1.29)	<0.001	6,784	1.23 (1.16, 1.30)	<0.001	2,121	1.19 (1.08, 1.31)	<0.01
Stroke	1,748	1.03 (0.93, 1.15)	0.54	1,645	1.04 (0.93, 1.17)	0.46	572	1.05 (0.87, 1.26)	0.63
COPD	1,522	1.28 (1.14, 1.43)	<0.001	1,481	1.26 (1.13, 1.42)	<0.001	119	1.45 (0.97, 2.17)	0.07
Accidents	919	0.96 (0.83, 1.12)	0.62	852	0.95 (0.81, 1.11)	0.50	303	0.93 (0.71, 1.20)	0.56
Alzheimer’s	796	1.12 (0.95, 1.31)	0.17	795	1.12 (0.96, 1.32)	0.16	299	0.99 (0.76, 1.28)	0.91
Diabetes	767	1.56 (1.33, 1.83)	<0.001	735	1.54 (1.31, 1.81)	<0.001	232	1.61 (1.21, 2.14)	0.001
Influenza	550	1.24 (1.02, 1.50)	0.03	529	1.22 (1.00, 1.48)	0.05	142	1.42 (0.98, 2.07)	0.07
Parkinson's	513	1.35 (1.11, 1.65)	<0.01	512	1.35 (1.11, 1.65)	<0.01	190	1.33 (0.96, 1.85)	0.08
Kidney	429	1.18 (0.95, 1.47)	0.13	419	1.17 (0.94, 1.45)	0.17	126	1.00 (0.67, 1.48)	0.99
Sepsis	395	1.22 (0.97, 1.52)	0.0852	387	1.21 (0.97, 1.52)	0.10	94	1.62 (1.03, 2.54)	0.04
Liver	374	1.33 (1.05, 1.67)	0.02	347	1.28 (1.01, 1.62)	0.05	97	1.37 (0.88, 2.15)	0.17
Suicide	292	1.43 (1.10, 1.85)	0.01	257	1.33 (1.01, 1.76)	0.04	78	1.76 (1.07, 2.90)	0.03
Hypertensive	267	1.21 (0.92, 1.59)	0.18	256	1.19 (0.90, 1.58)	0.21	91	1.29 (0.81, 2.05)	0.28

Hazard ratio (HR) from Cox Proportional Hazards Regression for every 2 h/day increase in TV viewing. Values were adjusted for age (y), race (white, black, other, missing), education (<12 y, high school graduate, some college, college graduate, missing), MVPA (never or rarely, 1, 1–3, 4–7, >=7 h/wk), BMI (18.5 to <25, 25-<30, 30-35 and >35 kg/m^2) health status (good, very good, excellent) and diet quality (quintiles). The overall and exclusion of 3 years follow-up are also adjusted for smoking history (never; quit, <20 cigarettes/d; quit, ≥20 cigarettes/d; current, < 20 cigarettes/d; current, ≥20 cigarettes/d; unknown).