

Supplementary Online Content

Nwadiuko J, German J, Chapla K, et al. Changes in health care use among undocumented patients, 2014-2018. *JAMA Netw Open*. 2021;4(3):e210763. doi:10.1001/jamanetworkopen.2021.0763

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This supplementary material has been provided by the authors to give readers additional information about their work.

eAppendix. Note on Quarterly Adjusted Averages

Predicted estimates for Quarterly Adjusted Averages are as derived from the following model:

$$\begin{aligned} \ln(\mu_{ij}) = & \beta_0 + \beta_1 \text{Cohort}_i + \beta_2 \text{Quarter}_{ij} + \beta_3 \text{Cohort}_i \times \text{Quarter}_{ij} + \beta_4 \text{Birthyear}_i + \beta_5 \text{Gender}_i \\ & + \beta_6 \text{Elixhauser}_i + \beta_7 \text{Gender}_i \times \text{Quarter}_{ij} + \beta_8 \text{BirthYear}_i \times \text{Quarter}_{ij} \\ & + \ln(\text{time}_{ij}) \end{aligned}$$

Where *Cohort* represents either the Medicaid control group or Medicaid-ineligible group; *Age* represents Age as of 2018, *Gender* represents self-reported gender, and *Elixhauser* represents the Elixhauser Comorbidity weight. The offset for no-show/cancellation rates is $\ln(\text{number of scheduled visits})$ instead of $\ln(\text{time})$. The outcome μ specifies the number of encounters (or number of missed visits in the case of no-show/cancellations), the *i* subscript refers to each individual, and the *j* subscript specifies the quarter.

eTable 1: Breakdown of cohort by age groups

Ages (as of 2018)	Control	%	Cohort	%	Total
0-5^a	2,906	13.4%	5	0.3%	2,911
6-9	3,971	18.4%	29	1.9%	4,000
10-19	7287	33.7%	161	10.7%	7448
20-29	3182	14.7%	231	15.3%	3413
30-39	1242	5.8%	404	26.8%	1646
40-49	922	4.3%	352	23.4%	1274
50-59	1,128	5.2%	186	12.3%	1314
60-69	857	3.9%	86	5.8%	943
70-99	121	0.6%	52	3.4%	173
Total	21625	100%	1,508	100%	23,122

^a Excluded from all but supplementary analyses. See Methods (Selection Criteria) for details.

eTable2. Difference-in-differences for Completed Primary Care Visits (restricted to those with any scheduled visits in 2014)

	Average Adjusted Annual Number of Encounters (per 100 people)					
	Medicaid-Ineligible Patients		Medicaid-Patients		Difference in Differences Estimate (Incident Rate Ratio)	
	Pre	Post	Pre	Post	Estimate (95% CI)	p
Adults	215.6	115.2	208.3	157.5	0.7 (0.7-0.8)	<0.001
Children	237.8	107.1	180.0	127.4	0.6 (0.5-0.8)	<0.001

eTable 3: Difference-in-differences for Completed Primary Care Visits for Adults and Children Who Were Not Hospitalized During the 2014-2018 Period

	Average Adjusted Annual Number of Encounters (per 100 people)					
	Medicaid-Ineligible Patients		Medicaid Patients		Difference in Differences Estimate (Incident Rate Ratio)	
	Pre	Post	Pre	Post	Estimate (95% CI)	p
Adults	171.3	104.8	175.2	132.8	0.8 (0.7-0.9)	<0.001
Children	185.4	108.8	168.3	122.1	0.8 (0.7-1.0)	0.02

eTable 4: Difference-in-differences for Completed Primary Care Visits (restricted to those between the ages of 19 and 69 as of 2018)

Average Adjusted Annual Number of Encounters (per 100 people)					
Medicaid-Ineligible Patients (per 100 persons)		Medicaid Patients (per 100 persons)		Difference in Differences Estimate (Incident Rate Ratio)	
Pre	Post	Pre	Post	Estimate (95% CI)	P
178.5	117.5	192.6	154.1	0.8 (0.8-0.9)	<0.001

eTable 5: Difference-in-differences for Completed Primary Care Visits (estimated under Gaussian distribution)

	Average Adjusted Annual Number of Encounters (per 100 people)					
	Medicaid-Ineligible Patients		Medicaid-Patients		Difference in Differences Estimate	
	Pre	Post	Pre	Post	Estimate (95% CI)	p
Adults	184.2	132.4	208.2	173.4	-0.2 (-0.2 - -0.1)	<0.001
Children	192.7	114.9	178.4	128.4	-0.3 (-0.5 - -0.1)	<0.001

eTable 6: Difference-in-differences of Completed Primary Care visits for Latino children Medicaid recipients compared to non-Latino Medicaid children controls for Completed Primary Care Visits (restricted to those between the ages of 5 and 18 as of 2018)

Average Adjusted Annual Number of Encounters (per 100 people)					
Latino Medicaid recipients		Medicaid Patients		Difference in Differences Estimate (Incident Rate Ratio)	
Pre	Post	Pre	Post	Estimate (95% CI)	P
196.2	141.2	167.5	122.3	1.0 (1.0- 1.0)	0.47

eTable 7 Secondary Outcome Difference-in-Differences

	Average Adjusted Annual Number of Encounters (per 100 people)					
	Medicaid-Ineligible Patients ^a		Medicaid Patients ^a		Difference in Differences Estimate (Incident Rate Ratio)	
	Pre	Post	Pre	Post	Estimate (95% CI)	p
Scheduled Primary Care Visits						
Adults	297.2	230.4	402.8	364.2	0.8 (0.7-0.9)	<0.001
Children	263.2	167.1	321	235	0.8 (0.7-1.0)	0.014
No Show/Cancellation Rates						
Adults	39.3	40.9	51.4	53.3	1.0 (0.9-1.1)	0.97
Children	28.8	31.4	46.4	46.3	1.1 (0.9-1.3)	0.31

^aScheduled visit values are per 100 persons. No-show/cancellation rates are represented as percentages of all scheduled visits.

eTable 8. Difference-in-differences for Emergency Room Admission Rates

	Average Adjusted Annual Number of Encounters (per 100 people)					
	Medicaid-Ineligible Patients (%)		Medicaid Patients (%)		Difference in Differences Estimate (Incident Rate Ratio)	
	Pre	Post	Pre	Post	Estimate (95% CI)	p
Adults	3.8	4.7	7.9	6.6	1.5 (1.0-2.3)	0.064
Children	1.6	4.6	2.9	3.8	2.2 (0.5-9.0)	0.29

eTable 9. Difference-in-differences among Primary and Secondary Outcomes for all children under age 18 as of 2018

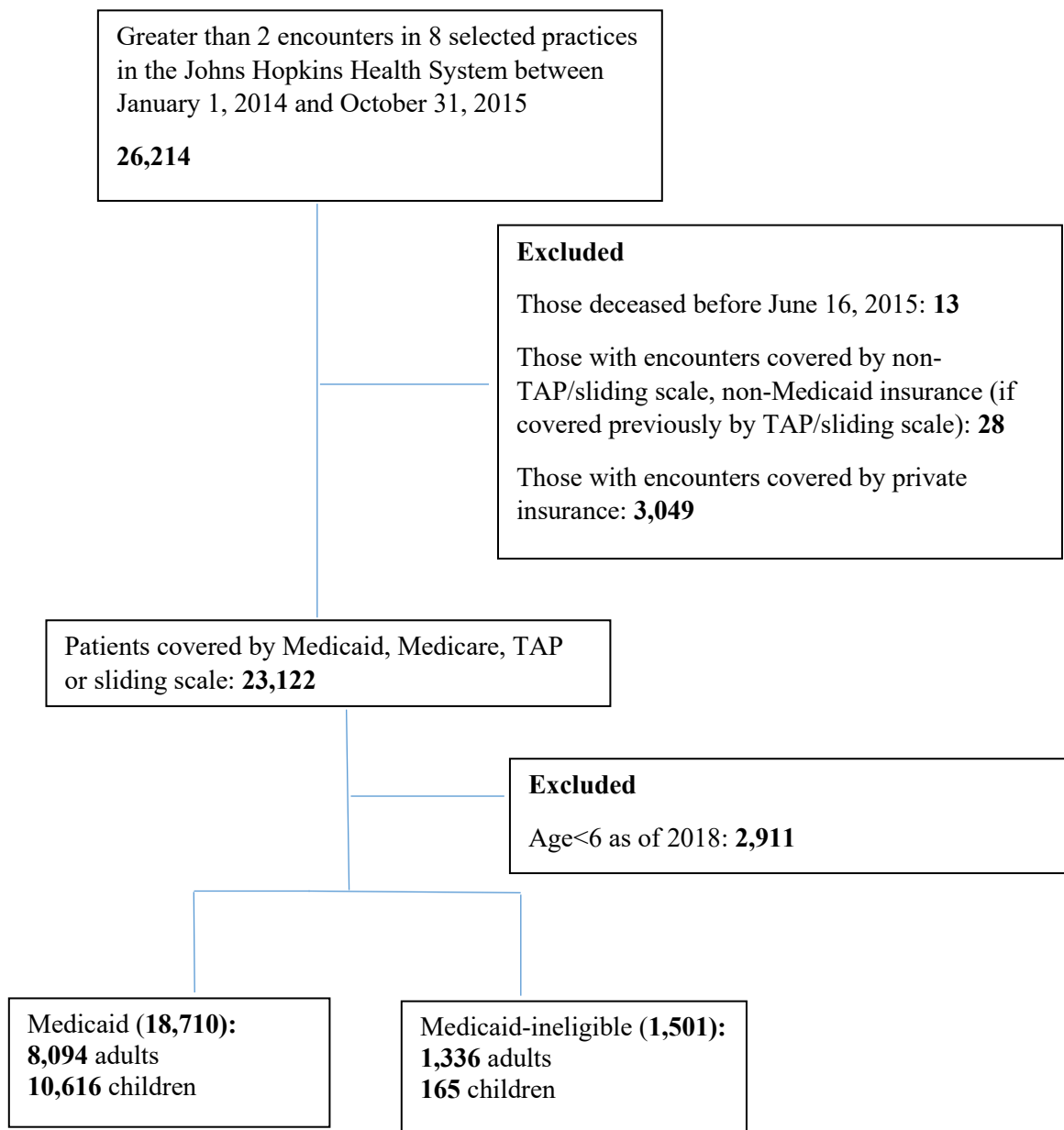
	Average Adjusted Annual Number of Encounters (per 100 people)					
	Medicaid-Ineligible Patients ^a		Medicaid Patients ^a		Difference in Differences Estimate (Incident Rate Ratio)	
	Pre	Post	Pre	Post	Estimate (95% CI)	p
Completed Visits	285.8	127.2	256.8	147.9	0.8 (0.65-0.92)	0.003
Scheduled Visits	335.8	172.4	409.8	259.5	0.8 (0.68-0.96)	0.016
No Show/Cancellation Rates	27.4	31.5	44.1	45.4	1.1 (0.95-1.32)	0.182
Emergency Room Visits	6.7	14.4	42.4	36.6	2.3 (1.10-4.95)	0.027
Inpatient Discharges	5.7	3.3	3.6	2.4	0.9 (0.15- 5.19)	0.90

^aScheduled visit values are per 100 persons. No-show/cancellation rates are represented as percentages of all scheduled visits.

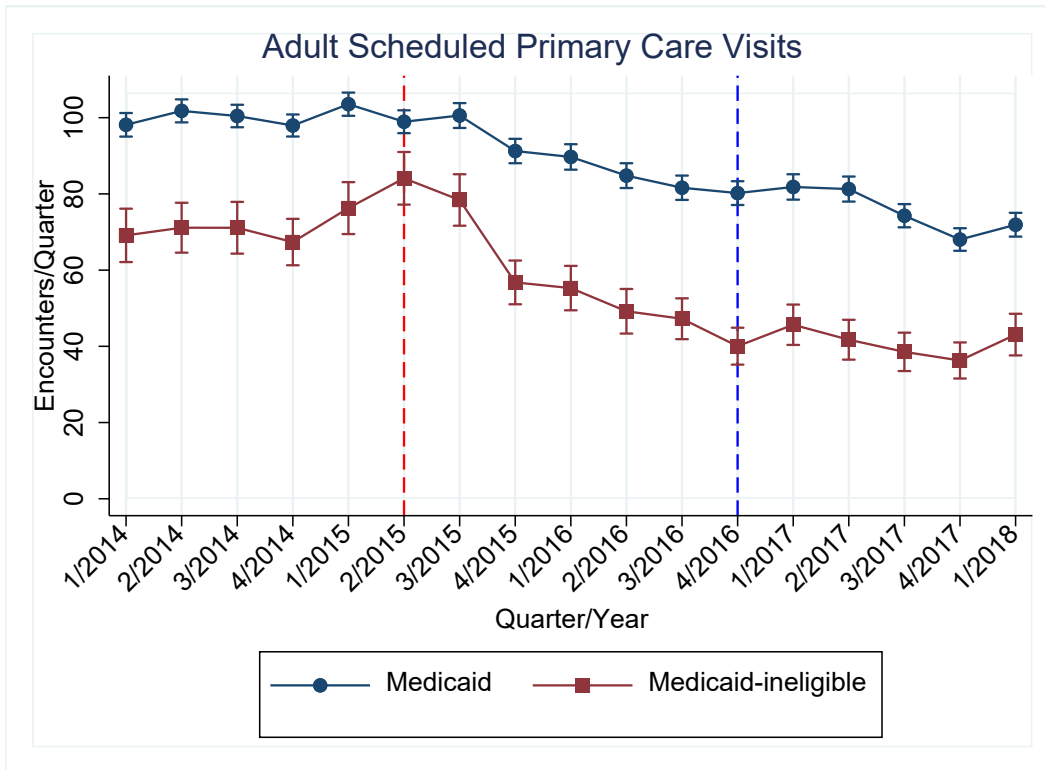
eTable 10. Unadjusted estimates and standard deviations of Primary and Secondary Outcomes

	Average Annual Number of Encounters (per 100 people)				Unadjusted Incident Rate Ratio
	Medicaid-Ineligible Patients ^a		Medicaid Patients ^a		
	Pre (st. dev.)	Post (st. dev.)	Pre (st. dev.)	Post (st. dev.)	
Completed Visits--Adults	236.6 (216.3)	334.2 (448.0)	308.4 (317.8)	511.6 (668.5)	0.9
Completed Visits— Children	237.0 (162.3)	290.3 (293.2)	260.3 (206.8)	380 (326.3)	0.8
Emergency Room Visits—Adults	18.7 (66.6)	37.2 (113.3)	91.3 (304.2)	166.8 (502.3)	1.1
Emergency Room Visits- Children	7.3 (34.2)	35.7 (131.1)	47.8 (121.2)	86.8 (184.8)	2.7
Inpatient Discharges- Adults	12.1 (68.2)	8.7 (39.6)	29.2 (119.7)	40.6 (157.1)	0.5
Inpatient Discharges— Children	5.4 (37.0)	12.1 (105.2)	5.4 (41.3)	8.2 (53.0)	1.5

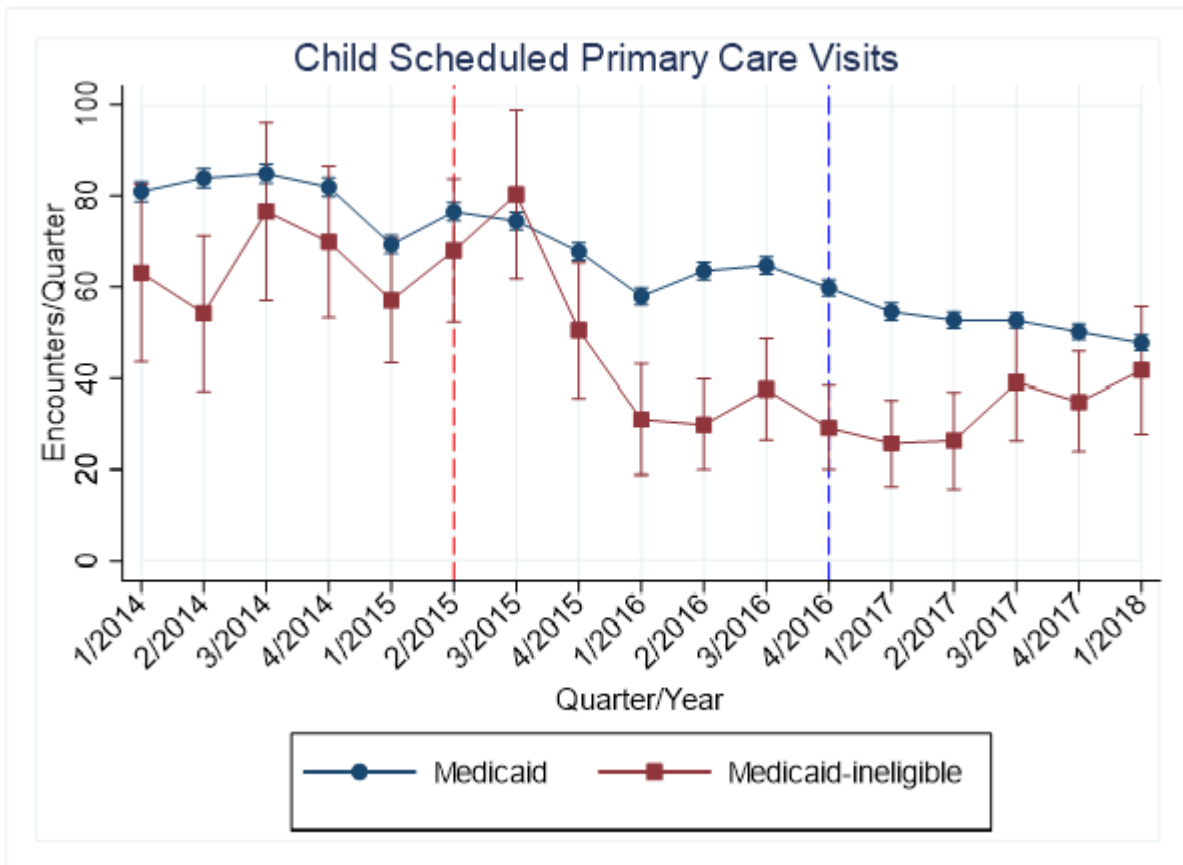
eFigure 1. Study Selection



eFigure 2 Adjusted Trends in Scheduled Primary Care Appointments among Adults

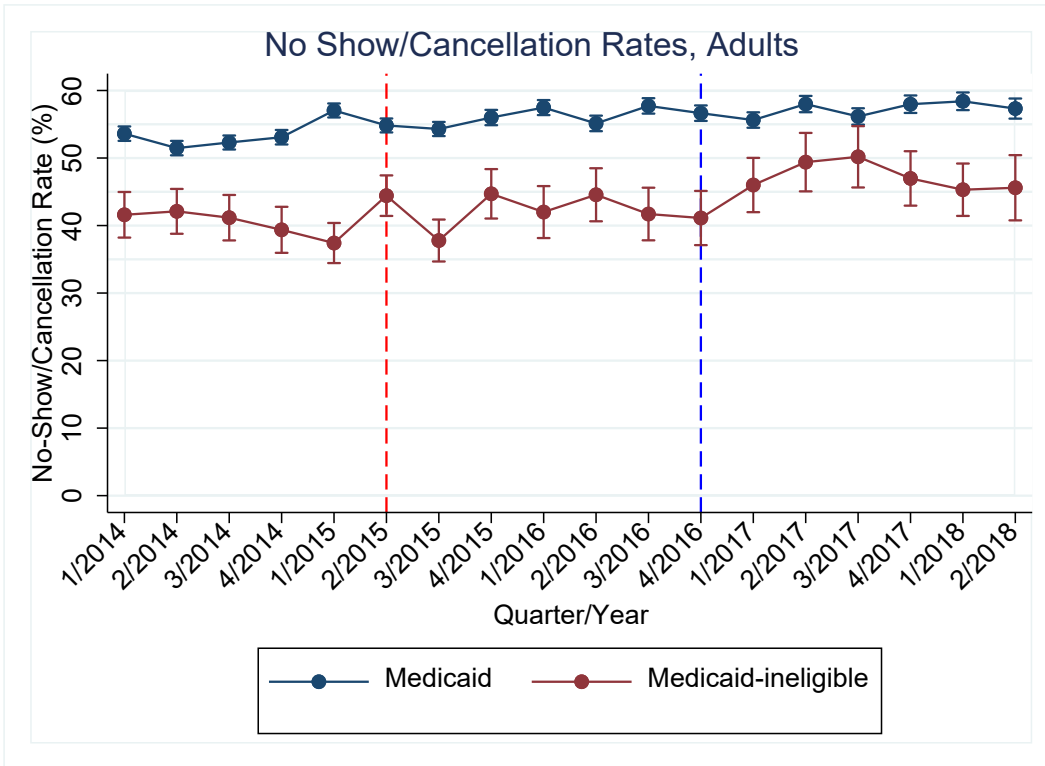


eFigure 3 Adjusted Trends in Scheduled Primary Care Appointments among Children



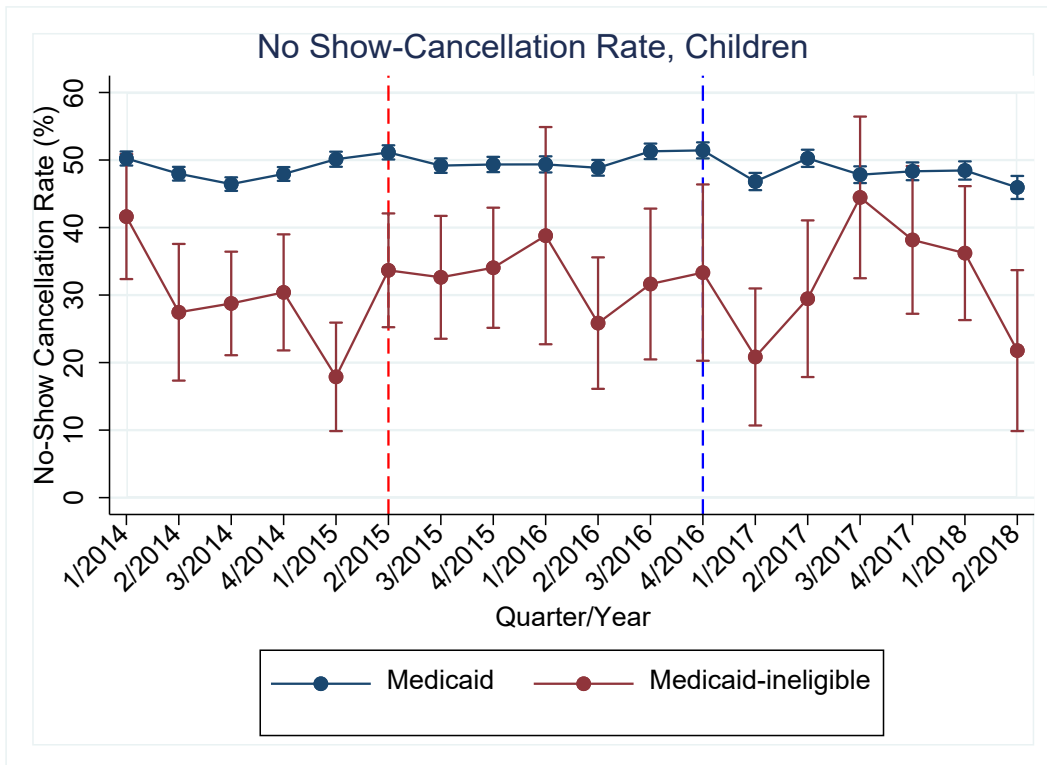
--Announcement of Donald Trump's candidacy for president
--2016 General Presidential Election

eFigure 4 No Show/Cancellation Rate Among Adults



--Announcement of Donald Trump's candidacy for president
--2016 General Presidential Election

eFigure 5 Adjusted Trends in No-Show Cancellation Rate among Children



--Announcement of Donald Trump's candidacy for president
 --2016 General Presidential Election

eFigure 6: Number of community arrests by Immigration and Customs Enforcement in Baltimore City via the Syracuse University Transactional Records Access Clearinghouse

