WHEELS 2 WELLNESS

Coordinating Human Service Providers

and

Non-Emergency Medical Transportation

OCTOBER 6, 2020

COUNTY	AREA (miles)	POPULATION July 1, 2018*
CHARLES	458	161,503
CALVERT	213	92,003
ST MARY'S	357	112,664
TOTAL	**1,028**	**366,170**

*** From US Census QuickFacts**

OCTOBER 6, 2020

MedStar St. Mary's Hospital

CALVERT • CHARLES • ST. MARY'S

TRI-COUNTY COUNCIL
for SOUTHERN MARYLAND

The Center for Life Enrichment

The Arc Southern Maryland

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OCTOBER 6, 2020

RMC Rural Maryland Council

Human Service Providers:

- Trained;
- Compassionate and caring;
- Underutilized during midday hours.

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Clinical Care Coordination:

Coordinates patient care across health care systems with an emphasis on efficient transitions

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Month/Year	Rides	Miles
August, 2018	95	1,514.7
September, 2018	114	2,168.0
October, 2018	189	1,828.7
November, 2018	194	1,838.0
December, 2018	128	1,929.7
January, 2019	234	2,424.8
February, 2019	188	1,494.3
March, 2019	221	2,140.1
April, 2019	95	1,921.6
June, 2019	73	1,798.6
July, 2019	52	1,185.3
TOTAL	1,583	20,243.7

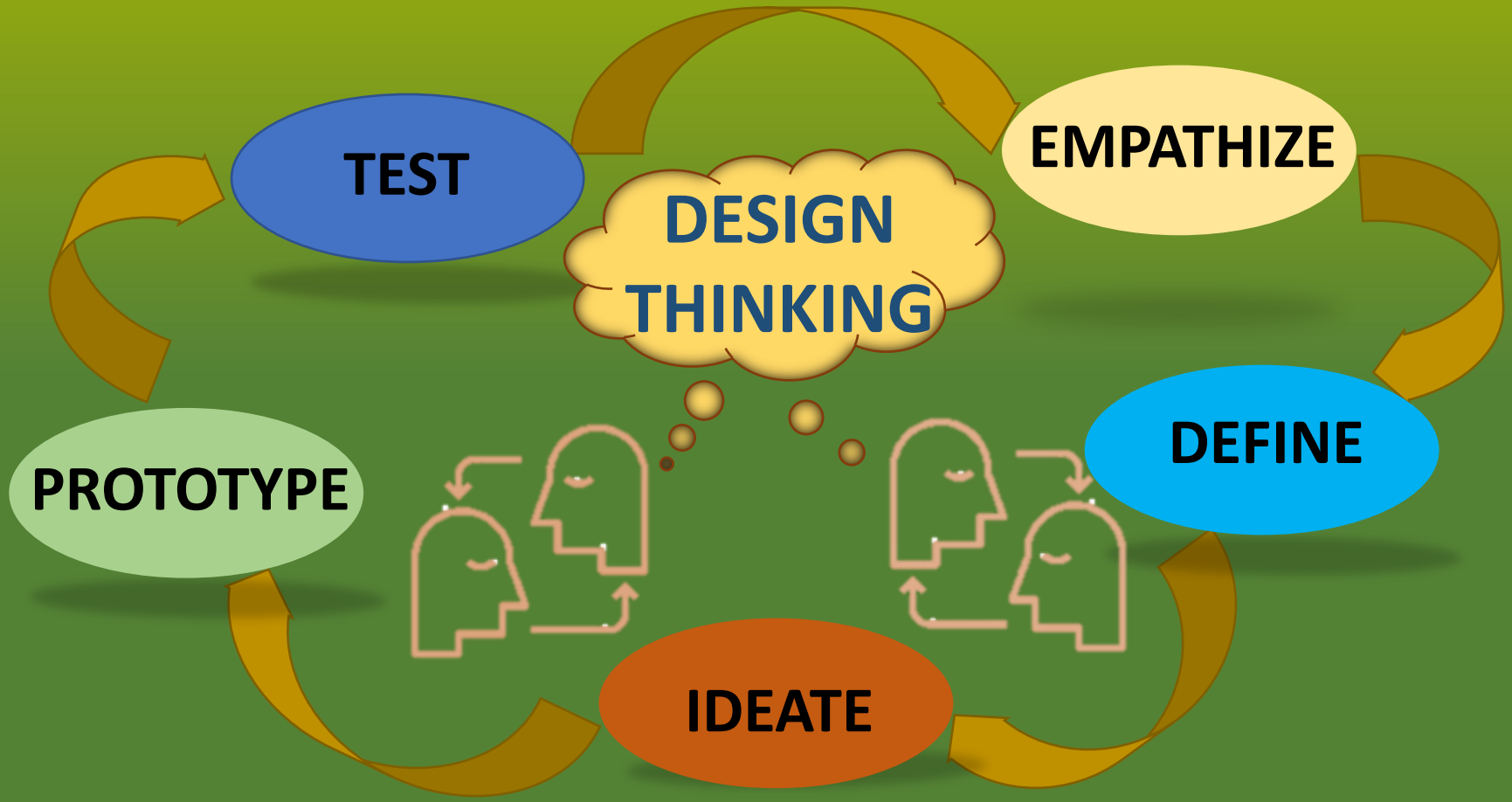
Average number of rides per month: **144**

Average miles per month: **1,687**

Number of unique individuals: **54**

} **Funding allocation reduced number of rides (not demand)**

THE DESIGN THINKING PROCESS

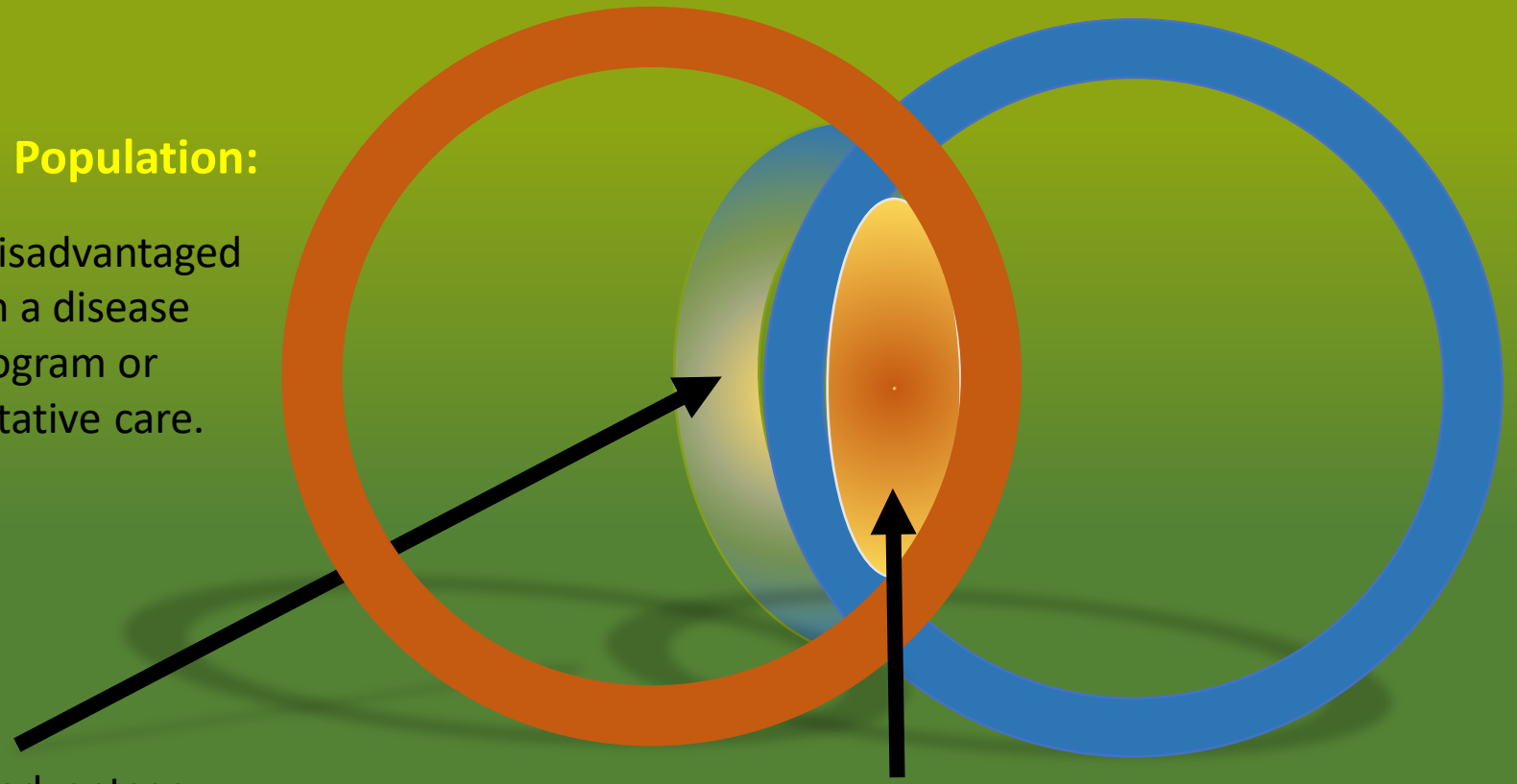


OCTOBER 6, 2020

Approximately 3.6 million persons missed at least one round trip for NEMT

Transportation Disadvantaged Population:

Transportation disadvantaged who should be in a disease management program or receiving preventative care.



Population that misses Non-emergency Medical Care:

Lack of insurance or funds to pay; time conflicts with appointments; refusal to seek care

Unpredictable:
Transportation disadvantage who found unpredictable rides

TRANSPORTATION DISADVANTAGED PERSONS WHO MISSED NON-EMERGENCY MEDICAL CARE

From: Cost Benefit Analysis of Providing Non-Emergency Medical Transportation – National Academy of Sciences.

OCTOBER 6, 2020

Target Population: Transportation Disadvantaged
Persons who miss non-emergency medical care due to lack of access

NHIS- National Health Interview Survey

US Dept Health & Human Services, Center for Disease Control and Prevention, National Center for Health Statistics

- Since 1957, monitors nation's health through interviews of more than 90,000 persons
- Survey results providing data to track health status, health care access, and progress toward achieving national health objectives.

1.33% of total population affirmed they missed or delayed care due to transportation within past 12 months

Target Population: Transportation Disadvantaged
Persons who miss non-emergency medical care due to lack of access

MEPS- Medical Expenditure Panel Survey

- US Dept Health & Human Services, Agency for Healthcare Research & Quality

- Began in 1996, large-scale surveys of families and individuals, their medical providers (doctors, hospitals, pharmacies, etc.), and employers across the United States.

1.21% total population selected transportation related responses for difficulties in obtaining care.

Target Population: Transportation Disadvantaged
Persons who miss non-emergency medical care due to lack of access

JURISDICTION	JURISDICTION POPULATION	NHIS (1.33% of population)	MEPS (1.21% of population)
District of Columbia	705,749	9,286	8,539
Virginia COG	2,268,247	30,166	27,445
Maryland COG	2,123,272	28,239	25,691
TPB/ COG TOTAL	**5,097,268**	**67,691**	**61,675**

Represents the number of people who missed at least one appointment/year. Each person who is counted most likely missed two or more appointments per year.

Target Population: Transportation Disadvantaged
Persons who miss non-emergency medical care due to lack of access

JURISDICTION	JURISDICTION POPULATION	NHIS (1.33% of population)	MEPS (1.21% of population)
Charles County	163,257	2,171	1,975
Calvert County	92,525	1,230	1,119
St Mary's County	113,510	1,509	1,373
SOUTHERN MD	**369,292**	**4,910**	**4,467**

	Key Medical Conditions*										
Percent with another health condition →	Asthma	COPD	Diabetes	ESRD	Heart Disease	Hypertension	Cancer	Currently Pregnant	Has at least one other target condition	Has at least one other non-targeted condition**	No other targeted condition***
Transportation-disadvantaged population that missed care											
Health Condition: Asthma	100%	45%	20%	10%	36%	42%	14%	2%	95%	91%	5%
Health Condition: COPD	47%	100%	20%	14%	41%	47%	13%	1%	99%	97%	1%
Health Condition: Diabetes	26%	25%	100%	16%	50%	69%	15%	1%	97%	95%	3%
Health Condition: ESRD	26%	35%	33%	100%	45%	54%	20%	0%	98%	95%	2%
Health Condition: Heart Disease	27%	29%	28%	13%	100%	59%	18%	1%	97%	94%	3%
Health Condition: Hypertension	22%	24%	27%	11%	41%	100%	15%	1%	96%	92%	4%
Health Condition: Cancer	23%	20%	19%	12%	40%	47%	100%	1%	97%	93%	3%
Health Condition: Currently Pregnant	25%	11%	7%	0%	12%	17%	8%	100%	65%	46%	35%
Everyone else											
Health Condition: Asthma	100%	20%	8%	2%	18%	28%	8%	1%	80%	71%	20%
Health Condition: COPD	37%	100%	13%	5%	30%	41%	14%	1%	94%	86%	6%
Health Condition: Diabetes	13%	11%	100%	6%	35%	64%	14%	0%	91%	78%	9%
Health Condition: ESRD	17%	19%	28%	100%	42%	62%	20%	0%	94%	86%	6%
Health Condition: Heart Disease	15%	13%	18%	5%	100%	54%	16%	0%	91%	81%	9%
Health Condition: Hypertension	12%	9%	17%	3%	28%	100%	12%	0%	83%	75%	17%
Health Condition: Cancer	12%	11%	13%	4%	30%	44%	100%	0%	88%	78%	12%
Health Condition: Currently Pregnant	12%	4%	1%	0%	4%	7%	1%	100%	43%	30%	57%

Notes:

* Mental Health, Dental Problems, and Preventive care are not included in this table as targeted conditions due to data definitions.

** Non-targeted conditions include: Arthritis, Hay Fever, Hearing Aid, Liver Condition, Nervous, Pain/Aching Joints, Poor Circulation, Restless/Fidgety, Sinusitis, Stroke, Ulcer, and Vision Problems.

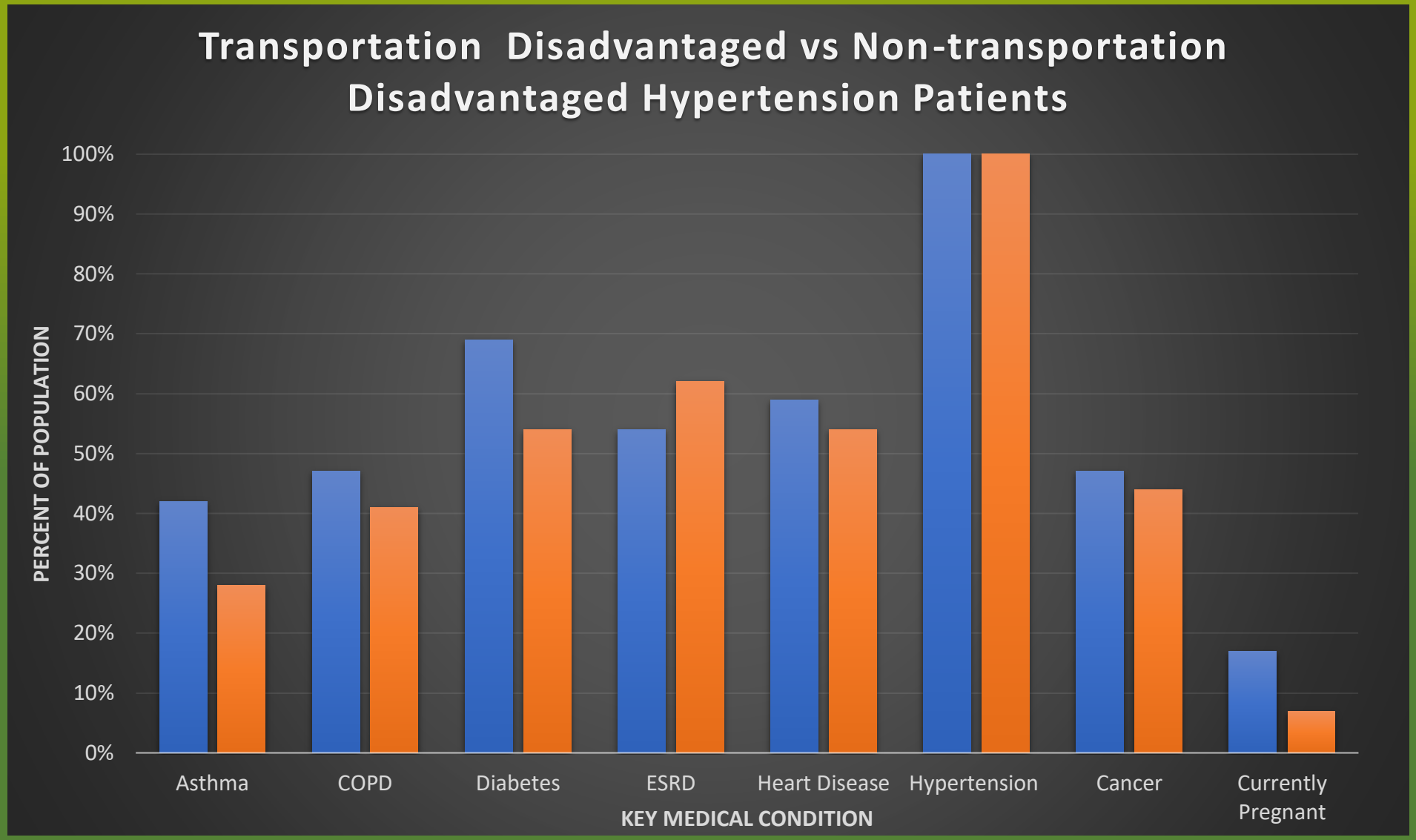
*** The percent of this population that has only the one targeted condition

CALVERT CHARLES ST. MARY'S

OCTOBER 6, 2020

RMC Rural Maryland Council

FROM: Cost-benefit Analysis of Providing Non-Emergency Medical Transportation



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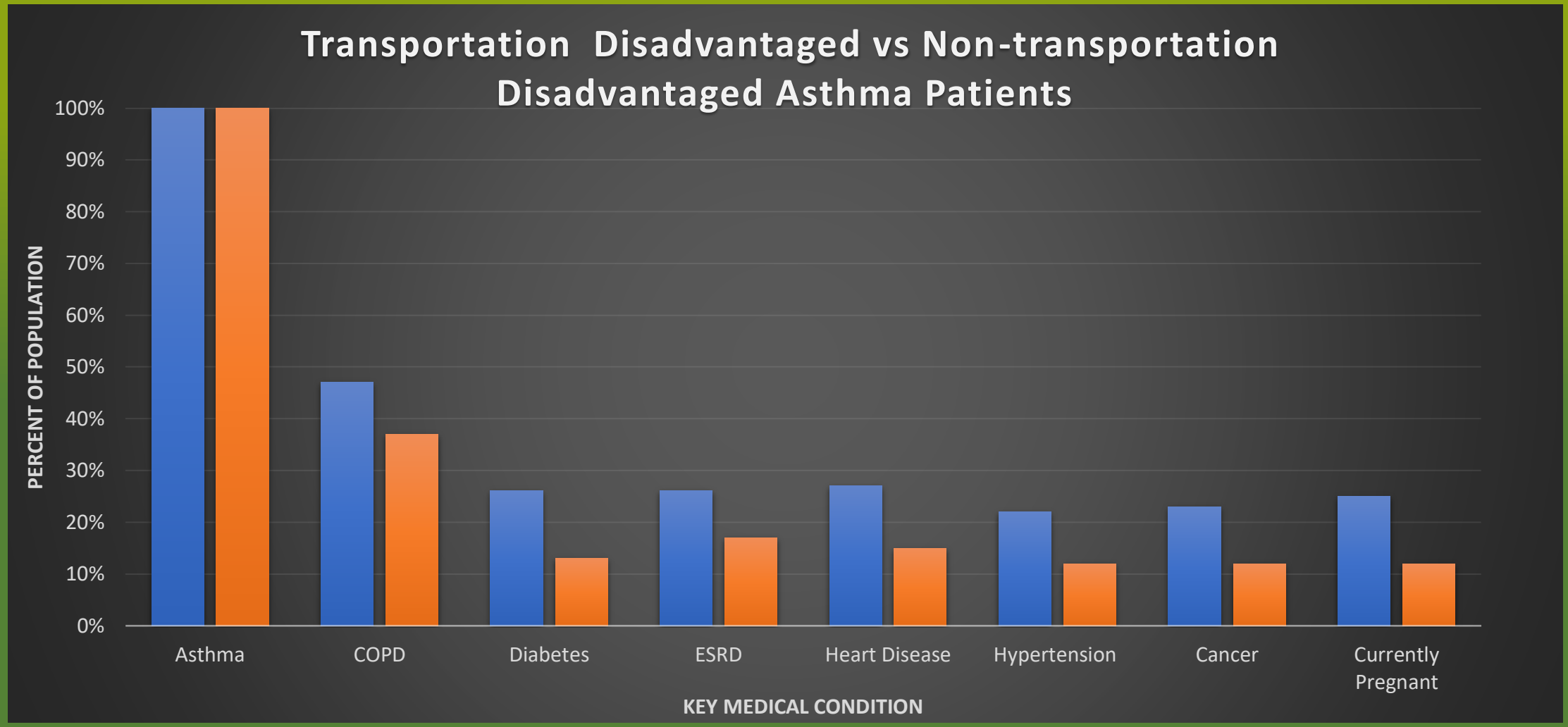

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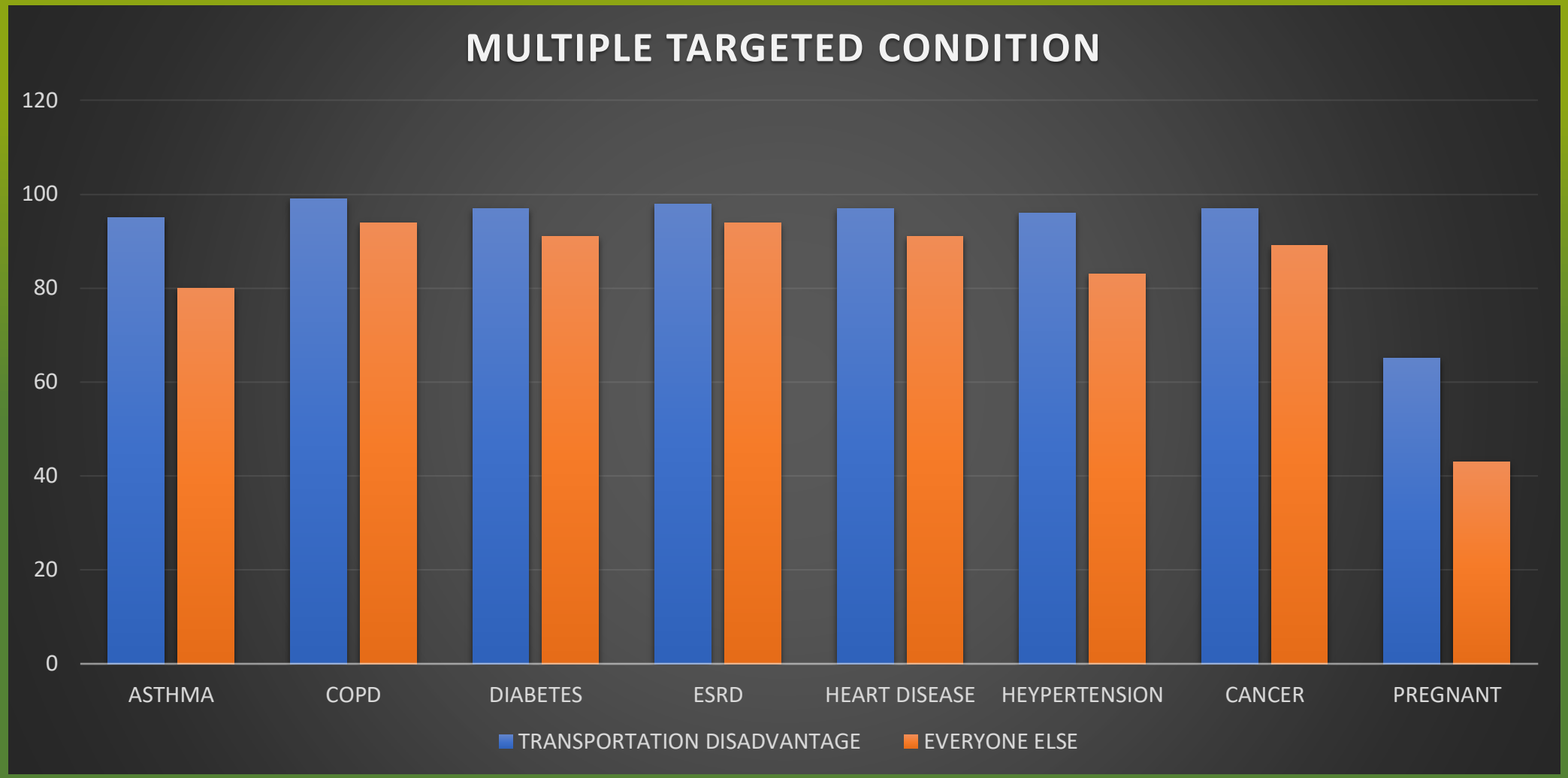


CALVERT CHARLES ST. MARY'S

OCTOBER 6, 2020

RMC Rural Maryland Council

FROM: Cost-benefit Analysis of Providing Non-Emergency Medical Transportation

Cost Benefits Analysis of Providing Non-Emergency Medical Transportation

Estimating the Cost Effectiveness of NEMT

Yellow highlighted values should be modified for your region

Green highlighted values are national norms[1]

White cells should not be changed

Step 1: Estimating the Number of New NEMT Trips Needed Per Year

Regional Information		Location of Population		Type of Transportation	Urban	Rural
Total Population of the Region	42,931	% Rural	100.0%	Fixed Route	0.0%	0.0%
% Lacking Access to NEMT	1.31%	% Urban	0.0%	Ambulatory	0.0%	95.0%
Number of People Missing Non-Emergency Medical Trips	562	Total	100.0%	Wheelchair	0.0%	5.0%
				Stretcher	0.0%	0.0%
				Total	0.0%	100.0%

Must add to 100%

	NEMT Population	% of Adult NEMT Population	Expected NEMT Population	Office Visits /Year	Total Trips Needed /Year	Likelihood of Missing Trip	Likely Trips Missed /year (A)	Single Visit for Multiple Conditions	Likely Trips Missed/yr (B)
Chronic Conditions	Asthma	20%	112	8.83	993	12%	119	36.6%	76
	COPD	19%	107	9.86	1,054	12%	126	36.6%	80
	Diabetes	15%	84	13.00	1,097	12%	132	36.6%	83
	End Stage Renal Disease	7%	39	115.03	4,528	5%	226	0.0%	226
	Congestive Heart Failure	26%	146	18.94	2,769	12%	332	36.6%	211
	Hypertension	37%	208	11.14	2,318	12%	278	36.6%	176
	Mental Health	50%	281	14.82	4,167	12%	500	36.6%	317
	Other Conditions[3]	0%	-		-		-		-
Preventive Visits	Cancer Screening	12%	67	2.0	135	50%	67	36.6%	43
	Currently Pregnant	2%	11	12.0	135	50%	67	8.0%	62
	Dental Problems	28%	157	2.0	315	50%	157	15.0%	134
	Vaccinations	20%[2]	112	1.0	112	69%	77	36.6%	49

Notes:

Estimated Missed Trips 1,457

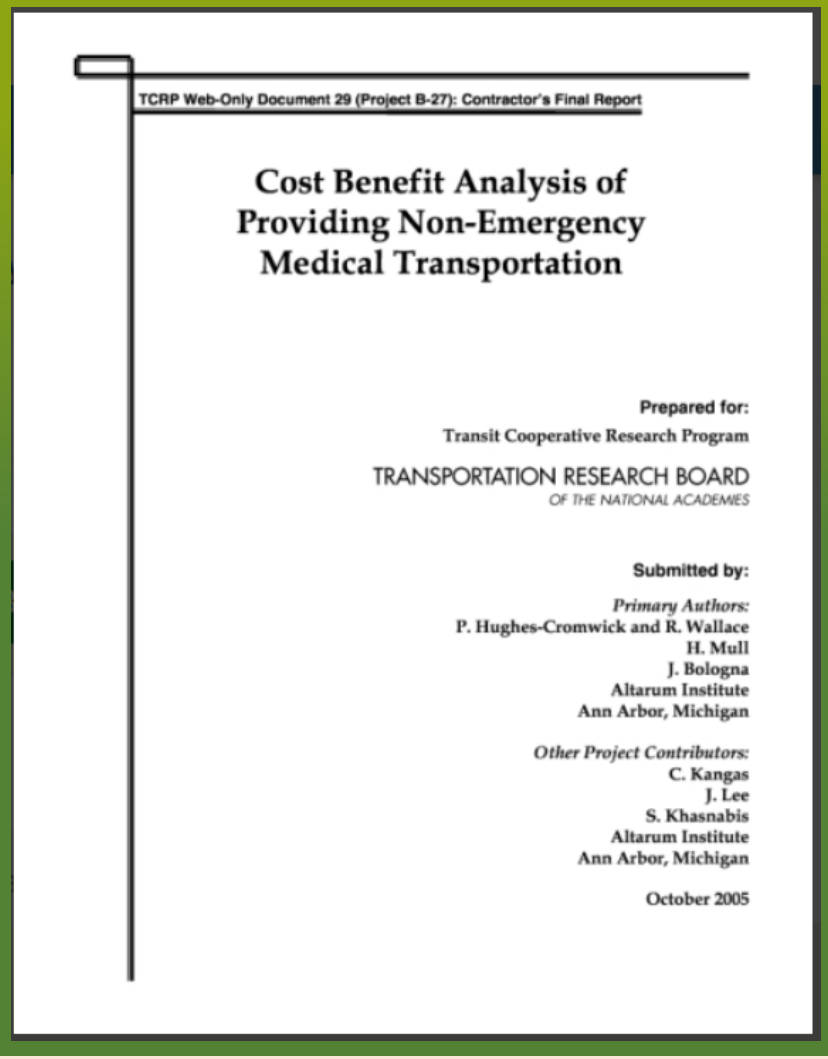
[1] These values should only be changed when there are validated regional data available.

[2] An estimation of the population that is either young or old that should receive a yearly vaccination

[3] Data for other conditions can be added to the model if accurate values are known.

RETURN TO INSTRUCTIONS | PROCEED TO STEP 2

STEP ONE



TCRP Web-Only Document 29 (Project B-27): Contractor's Final Report

Cost Benefit Analysis of Providing Non-Emergency Medical Transportation

Prepared for:

Transit Cooperative Research Program

TRANSPORTATION RESEARCH BOARD
OF THE NATIONAL ACADEMIES

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October 2005

OCTOBER 6, 2020

Cost Benefits Analysis of Providing NEMT

Estimating the Cost Effectiveness of NEMT

Yellow highlighted values should be modified for your region
Green highlighted values are national norms[1]
White cells should not be changed

Step 2: Estimating the Cost of Providing NEMT

Expected NEMT Need

Type of Transportati	# of Missed Trips Urban	# of Missed Trips Rural	NEMT cost/round Urban	NEMT cost/round Rural	Paratransit Cost
Fixed Route	-	-			$0
Ambulatory	-	1,384		$41.90	$58,006
Wheelchair	-	73		$66.04	$4,812
Stretcher	-	-		$172.40	$0
Total	-	1,457			**$62,818**

The Cost for Treatment that Would Have Otherwise Been Missed

Condition / Visit	Trips Missed/yr (B)	Visit Cost	Total Treatment Cost
Asthma	76	$66.95	$5,059
COPD	80	$40.96	$3,283
Diabetes	83	$95.99	$8,009
ESRD	226	$140.14	$31,731
CHF	211	$85.85	$18,089
Hypertension	176	$58.69	$10,351
Mental Health	317	$66.70	$21,147
Other Conditions			$0
Cancer Screening	43	$390.25	$16,698
Currently Pregnant	62	$52.68	$3,271
Dental Problems	134	$120.14	$16,081
Vaccinations	49	$36.00	$1,759
			$135,476

Induced Demand for NEMT

Additional NEMT requested to accommodate for induced demand: 8%

Type of Transportati	# of Missed Trips Urban	# of Missed Trips Rural	NEMT cost/round Urban	NEMT cost/round Rural	Paratransit Cost
Fixed Route	-	-	$0.00	-	$0
Ambulatory	-	111	$0.00	$41.90	$4,641
Wheelchair	-	6	$0.00	$66.04	$385
Stretcher	-	-	$0.00	$172.40	$0
Total	-	117			**$5,025**
Grand Total	-	1,574			

Total Transportation Costs **$67,844**

Total Transportation and Treatment Costs **$203,320**

[1]These values should only be changed when there are validated regional data available.

RETURN TO INSTRUCTIONS | RETURN TO STEP 1 | PROCEED TO STEP 3

STEP TWO

Estimating the Cost Effectiveness of NEMT

Yellow highlighted values should be modified for your region
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Step 3: Estimating the Cost Effectiveness of Providing NEMT

	Chronic Conditions of the NEMT Disadvantaged	Expected NEMT Population	Cost of poorly managed care	Cost of well managed care	Compliance Factor	Adjusted Cost Difference	Total Savings	QALY Adjustment	QALY-Adjusted Cost Savings
CB	Asthma	112	$1,675	$243	57%	$809	$91,005	1.096	$99,741
CEA	COPD	107	$10,777	$135	40%	$4,257	$454,861	1.053	$478,969
CB	Diabetes	84	$9,034	$7,407	89%	$1,443	$121,743	1.000	$121,743
CEA	End Stage Renal Disease	39	$1,707		44%	$751	$29,563	1.000	$29,563
CB	Congestive Heart Failure	146	$6,713	$1,033	61%	$3,465	$506,633	1.169	$592,254
CEA	Hypertension	208	$6,770	$5,869	43%	$383	$79,682	1.053	$83,905
CEA	Mental Health	281	$6,510	$7,739	36%	-$442	-$124,413	1.177	-$146,434
	Other Conditions	-	$0	$0	0%	$0	$0	0.000	$0
		979				**Total**	$1,159,074		$1,259,741

	Prevention for the NEMT Disadvantaged	Expected NEMT Population	Cost Effectiveness of Preventive Care	Compliance Factor	Adjusted Cost Difference	Total Savings	QALY Adjustment	QALY-Adjusted Cost Savings
CEA	Cancer[2]	67	----	-----	$0	$0	1.000	$0
CB	Currently Pregnant	11	$1,198.42	88.0%	$1,055	$11,862	1.000	$11,862
CEA	Dental Problems	157	$75.00	31.5%	$24	$3,720	1.000	$3,720
CEA	Vaccinations	112	$49.73	100.0%	$50	$5,594	1.000	$5,594
					Total	$21,176		$21,176

Benefits have been calculated only for the NEMT that missed a trip. Trips that came from induced demand are not included in these figures While this is not a cost savings, it is judged to be an investment worth doing as described in QALYs.

[1]These values should only be changed when there are validated regional data available.

[2]The cost effectiveness analysis done for cancer screening was done for two common and treatable cancers if detected early on in the disease, breast and colorectal cancer. Using cost effectiveness analysis the cancers have a $34.176 and $22.735 cost effectiveness for treatment respectively.

RETURN TO INSTRUCTION | RETURN TO STEP 2 | PROCEED TO STEP 4

STEP THREE

Calvert Charles St. Mary's

OCTOBER 6, 2020

RMC Rural Maryland Council

Cost Benefits Analysis of Providing NEMT

Estimating the Cost Effectiveness of NEMT

Step 4: Completing the Cost-Effectiveness Analysis

Estimated Number of Missed Trips	
Trips Provided for **Chronic** Care	1,170
Trips Provided for **Preventive** Care	288
Induced Demand (8%)	117
Total Trips	1,574

Transportation and Medical Costs	
Incremental Transportation Cost	$67,844
Additional Medical Costs for Providing Care	$135,476
Total Costs	$203,320

QALY Adjusted Benefits of Providing NEMT	
Benefits from Treating **Chronic** Conditions	$1,259,741
Benefits from Providing **Prevention** Care	$21,176
Total Benefits Derived from Providing NEMT	$1,280,917

Cost-Effectiveness Ratio of Providing NEMT	**6.30**
Net Cost-Effectiveness of Providing NEMT	**$1,077,597**

$6.30 ROI

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OCTOBER 6, 2020

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Questions?

Tri-County Council
For
Southern Maryland

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