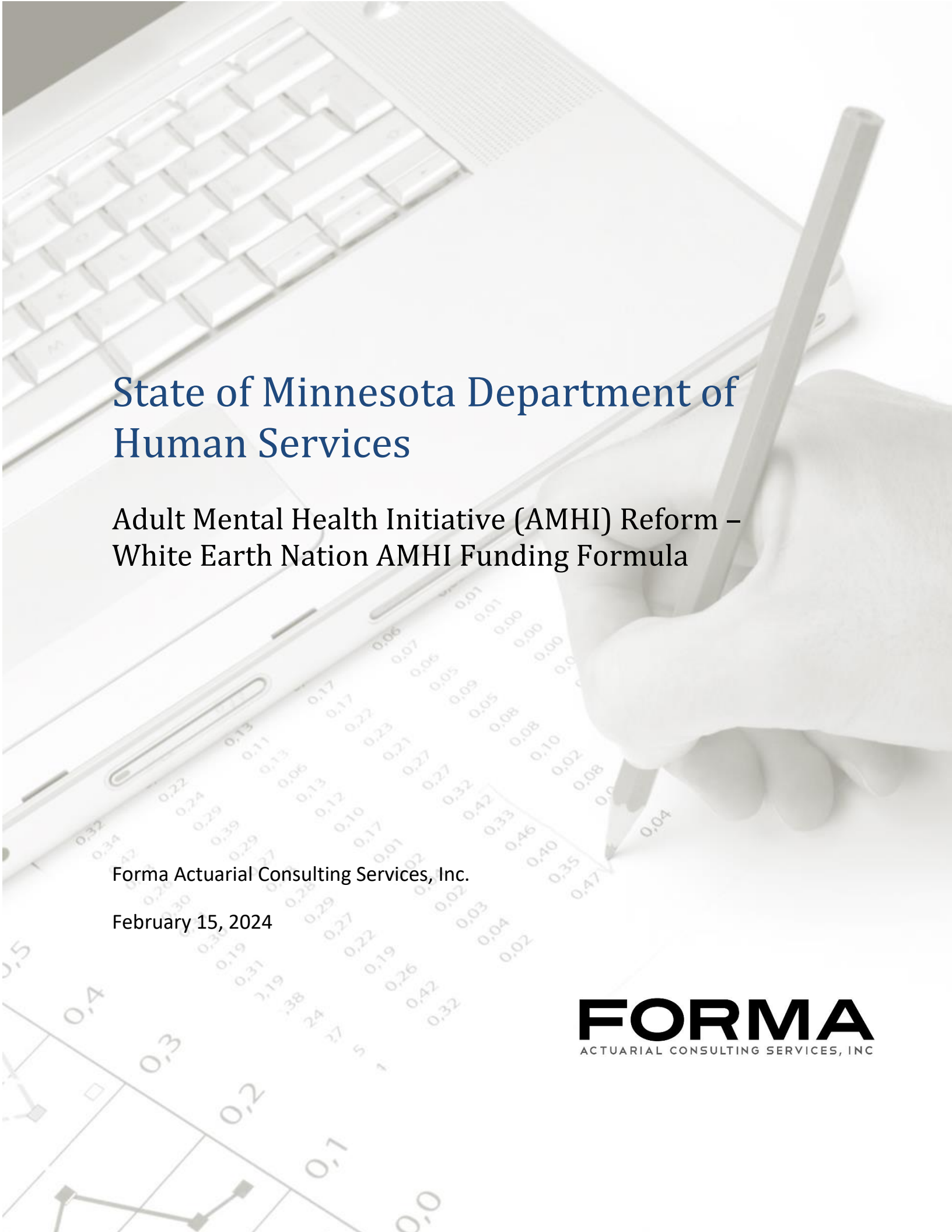

State of Minnesota Department of Human Services

Adult Mental Health Initiative (AMHI) Reform – White Earth Nation AMHI Funding Formula

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ACTUARIAL CONSULTING SERVICES, INC

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Executive Summary

The development of an updated funding formula was a primary goal of the Adult Mental Health Initiative (AMHI) Reform. Starting in 2020, the Minnesota Department of Human Services (DHS) developed an updated funding formula for the AMHIs. The process involved public meetings, the development of a funding model and, ultimately, a group of AMHIs, providers and other stakeholders to develop the ultimate funding distribution. The updated formula was adopted during the 2022 legislative session and will be effective for calendar year 2025. The legislature also increased the overall AMHI funding from $33.5M to $53.4M.

After the development and approval of the revised funding distribution, DHS, with contracted support from Forma Actuarial Consulting Service, Inc. (Forma ACS), an independent Minnesota-based actuarial consulting firm, began work on developing the funding level for the AMHI serving the White Earth Nation (White Earth AMHI). Although this AMHI represented a small portion of the overall AMHI funding ($160K of the total $33.5M AMHI budget), the characteristics of this AMHI required separate, specialized consideration, relative to the other AMHIs. The development team included DHS staff with specialized knowledge in AMHIs and the Native American community and a representative from White Earth Nation.

The funding formula for the White Earth AMHI is the same as the formula for the other AMHIs. Because of differences between the population served by the White Earth AMHI (e.g., the geographic boundaries are not fully defined by a single- or multi-county area of operation) some assumptions have been developed using alternate methods or information sources. In cases where alternate data sources or analyses were used, DHS and Forma ACS worked towards developing credible, defensible assumptions that are reasonably comparable to the inputs for the other AMHIs. Overall, the assumptions should be understood to be reasonably balanced (i.e., neither overly conservative or aggressive) and the treatment of the White Earth AMHI is similar to and equitable with the other AMHIs.

The updated funding formula reallocated the statewide funding based on the county-specific populations, inclusive of members of the White Earth Nation. The integration of the White Earth Nation AMHI into the overall funding formula will result in changes to the existing population assumptions for the other AMHIs, based on the assumed areas of residence for White Earth Nation members. This “recalibration” of the population assumptions is not expected to reduce the current funding levels for the other AMHIs. The White Earth Nation population is very small (0.3% of statewide adults) and additional funding for White Earth AMHI ($300K) was already included in the overall AMHI budget. In addition, nearly all AMHIs will be receiving funding increases when the updated formula is implemented in 2025, which offset the impact of recalibration, if any. Lastly, the calculation recognizes that some members of the eligible population are utilizing other AMHIs and the recalibration adjusts the funding levels to reflect these circumstances.

The projected funding for White Earth AMHI, including the amounts allocated for each component of the formula and the relative funding for the other Statewide AMHIs are shown in the table below:

White Earth AMHI Funding Summary

	Statewide		White Earth AMHI		
Formula Component	**Allocation**	**Per-Capita**	**Allocation**	**% Statewide**	**Per-Capita**
Adj. Per Capita	16,180,943	$3.73	84,804	0.5%	$6.52
SDOH / Medical Risk	10,787,295	$2.49	147,235	1.4%	$11.31
Deprivation Index (ADI)	13,484,119	$3.11	71,581	0.5%	$5.50
Rural Allocation	13,484,119	$3.11	135,913	1.0%	$10.44
Total	53,936,476	$12.44	$435,958	0.8%	$33.77

History of AMHI Reform

Adult Mental Health Initiatives (AMHIs) are regional collaborations that oversee adult mental health services and funding to counties and tribal partners in their areas of operation. The AMHIs are intended to serve as a conduit for regional collaboration and the development and successful operation of community-based mental health services. AMHI areas of operation include single counties in the Minneapolis and St. Paul metro area and multi-county service areas in the greater Minnesota area. An additional AMHI serves the White Earth Nation (White Earth AMHI).

When AMHIs were established in 1996 as part of a series of initiatives to develop community-based approaches to mental health treatment and support, the funding levels were primarily based on the locations of State Mental Health hospitals. [1] Although the structure and funding of AMHIs allowed for greater flexibility in meeting community-specific needs, potential differences in per-capita funding resulted in county-specific service gaps over time. In addition, the absence of an established population-based funding formula makes it difficult to update the distribution to reflect demographic changes over time. The lack of an underlying formula also made it more difficult to justify the current overall funding levels ($33.5M annually) or advocate for increases to the funding over time.

The development of an updated funding formula was a primary goal of the AMHI Reform initiative. In addition to implementing a data-driven, equitable funding distribution, DHS wanted to foster a greater understanding of the services supported by the funding and increase information sharing between the AMHIs and DHS. Forma ACS was hired by DHS in May 2020 to support the development of an updated funding formula. The project included demographic analyses, assessments of population risk and reviews of the financial information from the AMHIs. Forma ACS delivered an initial report to the AMHIs in December 2020. Subsequently, Forma ACS was engaged to develop a model and supporting data to allow DHS to work with a stakeholder group to continue the development and finalization of the funding formula. The model, analytic data, and explanatory report were summarized in a February 2022 Legislative Report on Adult Mental Health Initiatives Reform Funding Formula Development.

The funding formula contained in that report allowed DHS to prioritize specific population characteristics by assigning differential weights to the model inputs. DHS worked with a group of AMHI representatives, clients, and other constituencies to finalize the model inputs and reach consensus on factors impacting the AMHI distribution. The ultimate formula was adopted during the 2022 legislative session. Because the underlying funding levels had remained the same ($33.6M) during the development of the formula, the changes initially resulted in increased funding for some AMHIs and reductions for others. However, additional funding was added to the overall AMHI budget to ensure that no AMHIs would receive reductions to their annual funding. The resulting budget provisions increased the overall AMHI funding to $53.9M annually. The legislative report also included as a recommendation that DHS would continue to partner with the White Earth Nation in the development of a tribal specific funding formula that would be piloted with White Earth Nation, currently the only tribal AMHI, with the understanding that it may be used for other tribes who choose to become their own AMHIs in the future.

[1] White Earth AMHI was added and funded subsequent to the establishment of the other AMHIs.

Funding Formula Development for White Earth Nation AMHI

Although the majority of AMHIs are defined by the single- or multi-county areas of operation, there is an additional AMHI operated by the White Earth Nation that serves members of the Nation and other eligible groups. In CY2022, the White Earth AMHI received $223K in funding. Although the White Earth AMHI was included with the other AMHIs during the initial model development, DHS subsequently decided to update the White Earth AMHI funding after developing the formula for the other AMHIs. Although time and resource constraints partially drove the decision, the need to gather additional, complementary data to align the calculation for the White Earth AMHI with other AMHIs contributed to the decision to defer the calculation. In general, because the White Earth AMHI serves members inside and outside of the geographic boundaries of the reservation, some of the size and risk-characteristics of the population cannot be measured in the exact same way as other AMHIs.

In late-2022 DHS contracted with Forma ACS to gather information, perform supplemental analysis and develop factors specific to the population served by the White Earth AMHI for input into the general payment model. The factors and population sizes were developed in collaboration with representatives from the Nation. The process primarily focused on developing credible factors that can reasonably be compared to the other populations served by the AMHIs, recognizing that there could be risk factors that are specific to the population served by the White Earth AMHI that may not be fully addressed in the current model inputs. Based on input from White Earth Nation, DHS and other stakeholders, a model of assumptions was developed for population size and risk, along with the corresponding funding amount.[2]

Although the formula calculation for the White Earth AMHI relies on alternate, reasonable data sources and methods for some of the model inputs, the formula is the same across all AMHIs. In the future, as the overall funding formula is updated to reflect population changes or overall funding changes, the recalculation of the White Earth AMHI funding can occur simultaneously. The process described in this report also represents a reasonable summary of the steps and information requirements for applying the funding formula to additional tribal AMHIs.

Impact on the Overall AMHI Program

The updated funding formula reallocated the statewide funding based on the county-specific populations, inclusive of members of the White Earth Nation. The integration of the White Earth AMHI into the overall funding formula will result in changes to the existing population assumptions for the other AMHIs, based on the assumed areas of residence for the population served by the White Earth AMHI. This “recalibration” of the population assumptions is not expected to impact the existing funding levels for the other AMHIs. The population is very small (0.3% of statewide adults) and the anticipated additional funding for the White Earth AMHI was already included in the overall AMHI budget. In addition, nearly all AMHIs will be receiving funding increases when the updated formula is implemented in 2025, which offset the impact of recalibration.

[2] During the process, DHS also met with the American Indian Mental Health Advisory Council to discuss the development of the funding formula and integrate the group’s input around White Earth AMHI and the potential for the integration of other Tribal AMHIs.

The assumptions and methodology also integrate the expectation that the other AMHIs are currently serving members of the White Earth Nation, particularly in areas outside the geographic boundaries of the reservation. In developing assumptions for the overall population and its statewide distribution, there was recognition that a portion of the eligible members living within each county should be included with the associated single- or multi-county AMHI and adjusted our population assumptions to reflect this expectation. In effect, this reduces the assumed overall number of eligible members assumed to be served by the White Earth AMHI. However, one would reasonably expect that the members could, and should, be eligible for services from the White Earth AMHI and the AMHI operating in their county of residence and the funding formula reflects this expectation.

Funding Formula Description

The AMHI funding formula develops the aggregate payments based on the ***size of the adult population*** within the AMHIs' geographic area of responsibility and a ***per capita allocation*** for each adult. The per capita payment varies by AMHI, based on an assessment of the relative resource requirements to serve the population in the AMHI's single- or muti-county area of operation or, in the case of the White Earth AMHI, the Tribal members and other eligible adults. The relative resource requirements or "risk" for the individual AMHIs are determined based on multiple population-specific factors, including social determinants of health (SDOH), medical risk, and additional factors intended to reflect differential needs for rural areas. To calculate the funding amount for the White Earth AMHI, assumptions were developed for the following factors:

- Size of the eligible adult population
- The percentages of the population enrolled in Medicare and Medicaid
- The relative prevalence of SDOH (homelessness, severe mental illness, etc.)
- The relative economic deprivation of the populations' areas of residence
- The percentage of the population living in rural areas

The assumptions used to develop the payment amount are based on the best available information from the White Earth Nation, DHS, and additional research performed by Forma ACS. Forma ACS adapted this information, where necessary, to develop the model-specific inputs. The collective judgement of DHS, representatives from White Earth Nation, and Forma ACS has been applied towards developing the most reasonable and defensible assumptions and the current payment amount reflects these internal deliberations.

Formula Input 1 – Eligible Population

With the goal of developing general equity in the distribution of the AMHI dollars, the relative allocations are broadly based on the size of the population the areas served by the AMHIs. Under the current model, a baseline per-adult-per-year amount (***Baseline Per-Capita***) is allocated to each AMHI based on the number of adults within the single- or multi-county area served by the AMHI. Under the current version of the payment model, $16.2M (30%) of the overall funding is allocated Adjusted Baseline Per-Capita distribution.

Assumptions for White Earth AMHI

Although the number of eligible members for the single- and multi-county AMHIs can be derived from census information, similar census information does not accurately reflect the population served by the White Earth AMHI. For example, the eligible population includes both enrolled members of the Nation and other individuals, including the Nation's non-member employees. To develop the number of eligible adults, population information submitted by White Earth AMHI (tribal members and other eligible populations) was relied upon. Assumptions were also developed for the relative number of adults within the tribal membership population and the number of eligible adults utilizing other AMHIs in their county of residence. The resulting population of 13,014 adults is based on the best available information and reflects the collective judgement of the DHS team and a representative from White Earth Nation. As the detail included below demonstrates, some of the agreed-upon assumptions are understood to potentially understate or overstate the eligible population, but, in aggregate, represent a reasonable, balanced approach to determining the number of eligible adults.

Baseline Population: The ***population baseline of 20,000*** represents the enrolled members of the White Earth Nation. This number was submitted by the White Earth AMHI and is generally consistent with information from online searches, including the population size published on the White Earth Nation website. The number does not include non-member adults that could be eligible for services (e.g., domestic partners or other adults within the members' households), which may understate the overall baseline eligibility.

Adult/Child Percentage: AMHIs are expected to serve the needs of the adults within the population. Because the population baseline (20,000) includes all enrolled members of White Earth Nation, assumptions were developed for the relative portion of adults and children. The average adult/child ratio is 75/25% for the counties covering the geographic boundaries of the reservation. However, additional research indicates that the ratio is 65/35%[3] for the overall Native American population in the State, indicating that the census data may overstate the relative percentage of adults within the population. Other information indicates that the median age for Native Americans in Minnesota (30.6) is lower than the median age for the overall population (38.4). It is possible that lower life expectancy could contribute to that difference, but the criterion for tribal membership may also increase the relative portion of younger members.[4] Although we would typically rely on the specific census data from the AMHI's area of operation (75%), we believe it is reasonable assume a lower relative percentage of adults (70%), based on the other available data points, resulting in a starting assumption of 14,000 adults, prior to other adjustments.

Population Distribution and Utilization of Other AMHIs: The 14,000 was adjusted downward to reflect the expectation that members can and should utilize other AMHIs, particularly in areas outside of the geographic boundaries of the reservation. Based on discussions with the White Earth AMHI leadership, assumptions were developed for the population distributions of the members and the relative utilization of other AMHIs. Based on these assumptions, the number of assumed adults was reduced to 12,369.

Additional Eligible Populations: White Earth AMHI leadership identified multiple additional categories of adults that could be eligible to receive services. In total, they identified over 5,000 adults within their utilization and employment data that could be eligible for services. However, a portion of the adults within

[3] United States Census Bureau's American Community Survey 5-year estimates (2019)
[4] It is our understanding that as children move into adulthood, membership is more likely to lapse, resulting in decreases to the relative percentages of adults. Despite their specific membership status, these adults would still be expected to me part of the population being served by the White Earth AMHI.

these categories would be expected to be included in the baseline membership count (e.g., a significant portion of the 1,000+ White Earth Nation employees are tribal members). Based on assumptions around the percentage of members within each category and the potential overlap between categories, the overall number of eligible adults was increased by 645, resulting in a total assumed population of 13,014 adults.

Formula Input 2 – Adjusted Per-Capita Amount

The amount the AMHI receives annually for each adult in the eligible population (Baseline Per-Capita amount) is adjusted for the relative number of Medicare or Medicaid adults in the population. Feedback from the AMHIs indicated that a significant portion of clients receiving services are enrolled in either Medicare or Medicaid. Given the potential for greater relative service utilization from these groups, the stakeholder group agreed to increase the Baseline Per-Capita amount to reflect greater relative resource requirements for populations with larger portions of Medicare and Medicaid enrollees. The ***Adjusted Per-Capita*** amount is based on the average of three separate per capita amounts, reflecting allocations for the overall population, population-specific allocations for Medicare and Medicaid enrollees and the relative distribution within the population served by the AMHI. Under the proposed model, $16.2M (30%) of the overall annual funding is allocated to the Adjusted Per-Capita allocation. Operationally, specific per-capita amounts are allocated for each segment of members (All Adults, Medicare enrollees, Medicaid enrollees) and the average per-capita amount is based on the relative distribution for each AMHI. The allocations and calculations, based on the workgroup's recommendations, are shown in the table below:

Adjusted Baseline Per-Capita Amount – Statewide Allocation and AMHI Example

				Per		Sample AMHI Calculation		
Segment	**Allocation %**	**Allocation**	**Members**	**Member**	**Total[1]**	**Group**	**Population %**	**Per-Capita**
Medicare	**10.0%**	5,393,648	946,997	$5.70	**$6.94**	Medicare	20%	$6.94
Medicaid	**10.0%**	5,393,648	911,179	$5.92	**$7.16**	Medicaid	30%	$7.16
Statewide	**10.0%**	5,393,648	4,336,475	$1.24	**$1.24**	Other	50%	$1.24
Adj. Per-Capita Allocation	**30.0%**	16,180,943	4,336,475	$3.73		Total	100%	$4.16

1. "Total" amount reflects the allocation for individual members. For example, the allocation for each Medicare enrollee is the combined amount allocated to each adult ($1.24), plus the additional amount allocated for Medicare enrollees ($5.70).

Assumptions for White Earth AMHI

A specific statistic around the number of eligible members enrolled in Medicare was not able to be collected. However, a reasonable assumption would be that most of the 65+ adults in the eligible population are either enrolled in Medicare or have a similar requirement for AMHI services. Therefore, the Medicare enrollment assumption was based on the estimated number of adults aged 65 or older in the eligible population.[5] About

[5] Using the over-65 population as a proxy for Medicare enrollees may understate the actual number of Medicare enrollees in the White Earth Nation population. The statewide county-specific Medicare information used to develop the overall model indicated that the Medicare enrollment was about 3% higher than the number of over-65 adults in the census data. We would reasonably expect to see differences between over-65 populations and Medicare populations, given the eligibility requirements (i.e., some under-65 adults are eligible for Medicare). Despite these differences, we

30% of the adults are 65+ for the counties covering the geographic boundaries of the reservation. Other information indicates that the median age for Native Americans in Minnesota (30.6) is lower than the median age for the overall population (38.4). It is possible that lower life expectancy could contribute to that difference, which would decrease the relative number 65+ adults. Based on these data points, there is an assumption that 25% of the population is enrolled in Medicare or have similar requirements for AMHI services as Medicare enrollees.

A specific statistic around the number of eligible members enrolled in Medicaid was not able to be collected. However, multiple data points indicate that a large portion of the under-65 adult population is enrolled in Medicaid or a similar program (e.g., Indian Health Services (IHS)).[6] Based on the following information and analyses, it was determined that it was reasonable to assume that of 65% population was enrolled in Medicaid or had similar service requirements to Medicaid enrollees:

- The Medicaid enrollment data indicates around 32,000 self-identified Native Americans adult enrollees. Because White Earth Nation represents around 20-25% of the Native American population in Minnesota, the number of the Medicaid members assumed to be part of the White Earth Nation would be around 7,500, or 55-60% of the eligible population.
- There is significant correlation between the county-specific poverty rates and the relative percentage of Medicaid enrollees in Minnesota. In fact, Medicaid enrollment increases exponentially, as the poverty rate increases. Statistics around the poverty rate for Native Americans in Minnesota and White Earth Nation specifically, indicate a poverty rate of 23-37%. Although there are no counties in Minnesota with similarly high poverty rates, a growth function, based on the county-specific Medicaid statistics, would indicate Medicaid enrollment of 70-75%.
- One could reasonably assume that additional members enrolled in IHS, but not included in the Medicaid data would demonstrate similar service requirements as those enrolled in Medicaid. Therefore, it is reasonable to assume that the numbers of members enrolled in Medicaid or have similar service requirements would fall within the spectrum between the Medicaid data indicators (55-60%), and the poverty rate indicators (70-75%).

Under the assumptions that 25% of the population are similar to Medicare and enrollees and 65% are similar to Medicaid enrollees, the remaining 10% of the population are assumed to be either covered by their employer, purchasing alternate coverage or uninsured. Based on feedback from White Earth AMHI representatives and internal discussion, it was agreed that this distribution was reasonable, based on the available information. Based on these assumptions, and the same per-capita calculation methodology allocation used for the other AMHIs, the Adjusted Per-Capita allocation for White Earth AMHI is $6.44, resulting in a total allocation of $84,804 for this portion of the funding formula, which represents 0.5% of the Adjusted Per-Capita allocation across all AMHIs ($16.2M). The calculation is shown below:

believe it is reasonable to use a more conservative assumption for this segment of the population, given the other age-specific statistics we reviewed and the large portion of adults assumed to be enrolled in Medicaid.

[6] Although a large portion of the population would be eligible for coverage under Indian Health Services (IHS), members in Minnesota are structurally and formally encouraged to also apply for Medicaid benefits when they register for or receive services from IHS.

Adjusted Baseline Per-Capita Amount – White Earth AMHI

Population	Adults		Rate/Avg
Medicare	25%		$6.94
Medicaid	65%		$7.16
Other Adults	10%		$1.24
Total	100%	**Average**	**$6.52**
		Members	13,014
		Total	**$84,804**

Formula Input 2 – Social Determinants of Health and Medical Risk

Higher-risk individuals might be more likely to need services and require greater intensity of services. Population characteristics that might influence the relative service needs include the overall health status of the population (medical risk) and individual or environmental factors that can influence health outcomes (Social Determinants of Health). Feedback from the AMHIs indicated that the risk of the population served by the AMHI should be a significant consideration in determining the relative levels of funding. The workgroup supported the use of Social Determinant of Health indicators (SDOH) and medical risk indicators to help identify populations of higher relative risk.

Under the proposed model, $10.8M (20%) of the overall annual funding is allocated to serve members with SDOH and higher medical risk. All AMHIs receive a per-capita amount for each Medicaid enrollee ($11.84 on average) to reflect their population risk, but populations with higher levels of relative risk receive a higher per-capita amount.

Although relative risk information is not available for the entire adult population, DHS has medical risk and SDOH data for the Medicaid-enrolled population. Because the Medicaid population represents a large portion of the population served by the AMHIs, this data was understood to provide credible information on the relative risk between the AMHI-specific populations. Although the Medicaid data could have been treated as "representative" of the SDOH within the overall adult population, the workgroup chose to determine the per-capita allocation based on *the relative risk and relative numbers of Medicaid enrollees* within a single- or multi-county service area.[7] Operationally, a set amount of dollars was allocated for each SDOH and the AMHI-specific funding was based on each Medicaid-enrolled member in their population with the SDOH.

The workgroup decided to allocate the 85% of SDOH and Medical Risk pool based on the relative number of members with the following SDOH:

- **30% - Severe Mental Illness (SMI):** Indicator based on medical claims information in the DHS claims data warehouse. CD-9: 301.83, ICD-10: F60.3). Includes members with Severe and Persistent Mental Illness (SPMI).
- **20% - Substance Use Disorder (SUD):** Based on medical claims information in the DHS claims data warehouse.

[7] If the Medicaid-based risk factors were assumed to be representative of the overall adult population risk, the relative proportion of Medicaid enrollees would have had less influence on the calculation.

- **20% - Deep Poverty:** Information developed from applications for state programs where proof of income is needed to verify eligibility.
- **15% - Homelessness:** Indicator included if recipients report homelessness during the reporting period.

The remaining **15% - Medical Risk** allocation is based on the John's Hopkins Adjusted Clinical Group® (ACG®) risk indictors. The average scores of the Medicaid enrollees within each AMHI's area of operation were normalized to the entire Medicaid population, meaning that an AMHI with a score of "1.20" would be expected to serve a population whose medical risk is 120% of the overall Medicaid population. The relative per-capita funding for this portion of the allocation is increased or decreased based on the relative risk differential (e.g., 120% of the average per-member distribution for the "medical risk" portion of the SDOH and Medical Risk pool).

Assumptions for the White Earth AMHI

The DHS data includes indictors for members self-identifying as Native American, which allows us to understand the relative proportion of members with social determinants of health within the overall population and the population located within the counties covering the geographic area of the reservation. The relative percentages of Medicaid enrollees identified as having one or more of the SDOH and the resulting per-capita allocations (i.e., per-Medicaid enrollee) are shown in the table below:

State of Minnesota DHS - AMHI
SDOH Prevalence - Statewide and Native American Populations

Population Segment	SMI %	SUD %	Deep Poverty %	Medical Risk	Home-less %	Per Medicaid Enrollee
Statewide Medicaid	**28.3%**	**14.6%**	**27.4%**	**100.0%**	**6.9%**	**$11.84**
Native Americans Medicaid	38.3%	38.3%	32.0%	131.5%	21.1%	$21.58
- Living in Counties bordering White Earth Reservation	34.5%	41.7%	28.3%	130.5%	20.1%	$21.05
- Living in Other Counties	38.7%	37.9%	32.4%	131.6%	21.2%	$21.64

The information indicates consistently higher proportions of members with SDOH for Native Americans, relative to Statewide Medicaid. In addition, the percentages are generally consistent between the various population segments we reviewed. To develop the allocation for White Earth AMHI, the relative percentages within and outside the counties bordering the reservation were blended by 78%/22%, (e.g., SUD% = 0.78 x 41.7% + 0.32 x 37.9% = 40.8%), which reflects the overall assumptions for the relative distribution of the population across the state, after adjusting for the relative proportions being served by other AMHIs. Based on the DHS enrollment information, the relative numbers of Native Americans with SDOH and our distribution assumptions, a SDOH allocation was calculated to $21.18 per Medicaid enrollee.

The allocation for SDOH is explicitly based on the number of Medicaid enrollees being served by the AMHI. To develop the number of Medicaid enrollees for White Earth AMHI, it was assumed that 23.5% of the Native Americans in the Medicaid data were White Earth Nation members.[8] The resulting 7,500 members was reduced by 7% to reflect the relative percentage of members who are assumed to be utilizing other

[8] Approximately 85,000 Native Americans live in Minnesota. Based on the assumption that the White Earth Nation population represents 20,000 members, we would assume 23.5% of the Native Americans are White Earth Nation members.

AMHIs. Although the resulting 6,953 members is lower than our overall assumption of 8,500 members being enrolled in Medicaid or a similar program (e.g., IHS), the funding allocation for SDOH across the AMHIs is highly impacted by the specific counts of adults with SDOH in the Medicaid enrollment data. While it is believed that an additional portion of the White Earth AMHI population has overall service requirements similar to the Medicaid enrollees, it is more consistent with the overall funding distribution to develop the SDOH allocation based on the assumed enrollees in the Medicaid data. In total, the allocation for White Earth AMHI is $147,235, which is 1.4% of the overall funding ($10.8M) for SDOH and Medical Risk.

The combined assumptions and formula allocation for the White Earth AMHI are shown in the table below:

SDOH Allocation - Statewide and White Earth AMHI

					White Earth AMHI			
	Percentage	Funding Allocation	Statewide Medicaid Enrollees	Per Member	% with SDOH	Medicaid Enrollees	Per Member	Funding Allocation
Severe Mental Illness	30%	$3,236,189	257,706	$12.56	35%	2,467	$12.56	$30,980
Substance Use Disorder	20%	$2,157,459	132,811	$16.24	41%	2,840	$16.24	$46,135
Deep Poverty	20%	$2,157,459	249,705	$8.64	29%	2,032	$8.64	$17,557
Homelessness	15%	$1,618,094	62,858	$25.74	20%	1,415	$25.74	$36,425
Medical Risk	15%	$1,618,094	911,179	$1.78		6,953	$2.32	$16,139
Total	**100%**	**$10,787,295**	**911,179**	**$11.84**		**6,953**	**$21.18**	**$147,235**

	Medical Risk	Per Capita
Total Medicaid	1.00	*$1.78*
White Earth Nation	1.31	*$2.32*

Formula Input 3 – Area Deprivation Index

Additional portions of the funding are allocated to the AMHIs that serve areas with greater levels of poverty, lower access to services, higher levels of unemployment, or other factors that might create additional need for services or increase the expense for delivering services. Although detail level data may not be readily available for some metrics, it is reasonable to expect that income, education, employment, and housing quality would impact relative service needs. Based on feedback from the AMHIs, the workgroup concluded that these issues should be considered when determining the funding levels.

The model contains two factors that can adjust the amount received by the AMHIs to reflect these additional risk and cost considerations. One factor allocates a portion of the funding to all AMHIs based on the relative level of deprivation in the single- or multi-county service area as indicated by the Area Deprivation Index (ADI).[9] Under the proposed model, $13.5M (25%) of the overall funding is distributed based on the relative levels of deprivation. Each AMHI is assigned an ADI score (on a 1 to 10 scale) reflecting the relative level of socioeconomic disadvantage within their area of operation. Each AMHI receives a portion of the ADI

[9] The Area Deprivation Index (ADI) was originally created by the US federal government from long-form Census data and primarily used at the county level to assess mortality and disease prevalence. Over time, the ADI has been refined to the census block group (i.e., "neighborhood") level. Currently, the University of Wisconsin School of Medicine and Public Health develops and publishes the metrics based on the American Community Survey (ACS) Five Year Estimates. Each census block group receives an area deprivation index (ADI), a composite measure of neighborhood socioeconomic disadvantage. The calculation combines 17 census measures capturing education, employment, income, poverty, and housing characteristics. For the model development, we used the 2018 ADI, based on ACS data for 2018, which is a 5-year average of ACS data obtained from 2014-2018.

allocation, but the relative level of funding is scaled proportionally to the AMHI's relative ADI score. For example, an AMHI with an ADI of 7.0 receives twice the per-capita ADI allocation as an AMHI with a score of 3.5. The calculation is shown in the following table:

ADI Allocation - Statewide Distribution Example

	Population	ADI Score	Per Capita	Total
AMHI 1	320,000	7.0	$4.54	$1,456,000
AMHI 2	125,000	3.5	$2.27	$284,000
.....	...	...	...	...
Total Minnesota	4,350,000	4.77	$3.11	$13,484,000

In the example, $13.5M of AMHI funds are included in the ADI distribution. The average per capita amount to be distributed is based on the total allocation divided by the total number of adults ($13.5M / 4.35M = $3.11). The amount allocated to each AMHI is based on their relative ADI score, divided by the statewide average ADI score, and multiplied by the number of adults in their population. Since AMHI 1 has an ADI score that is 1.46 times the statewide average (7.0/4.8) they receive a per capita allocation that is 146% of the $3.11 average ($4.54).

Assumptions for the White Earth AMHI

For the White Earth Nation AMHI, we observed that the zip codes within and around the reservation's geographic boundary are all assigned ADIs of 7-9. The population-weighted average ADI for these zip codes is 8.71. It is a reasonable ADI assumption for the percentage of the population assumed to be living in the geographic boundary of the reservation and surrounding areas. 8.71 is also believed to be a reasonable assumption for the assumed 5% of members assumed to be living in other rural areas in Minnesota.

Although the average ADIs for the Metro area counties are lower than the statewide average, there are areas within the counties that reflect high levels of deprivation. For example, 10% of the populations in Hennepin and Ramsey Counties live in zip codes with ADIs of 7-9. In St. Louis County (Duluth and surrounding communities), half the population lives in zip codes with ADIs of 8-10. Under the assumption that the White Earth Nation members live in areas of greater deprivation within the metro areas, the ADI for the 25% of members living in Metro areas is believed to be between 7-9. However, the lower relative deprivation of the Twin Cities area indicates that a lower factor would be more appropriate for this segment of the population.[10] Based the average ADI for the 10% of members living in the highest areas of deprivation in the metro counties, an ADI of 7.37 was assumed for the members living in the Twin Cities metro area. An ADI of 9.08 was also assumed for the 5% of the eligible population assumed to be living in the Duluth area, based on the 10% highest areas of deprivation within St. Louis County. To blend the factors, assumptions were integrated for the utilization of other AMHIs. For example, although 20% of the eligible population are assumed to be living in the Twin Cities metro area, 15% of these members are assumed to be utilizing other AMHIs.

[10] Depending on the counties included in the analysis, less than 8% of the Twin Cities population live in a zip code with an ADIs of eight. Less than 1% live in a zip code with an ADI of nine. Based on these general observations, it would be difficult to justify an ADI of 8.71, unless we assume that 70% of more of the White Earth Nation population are included in the <1% of the overall Twin Cities population who live in zip codes with an ADI of nine.

Under these population distribution assumptions, the blended ADI for White Earth AMHI 8.46. Based on the distribution methodology, the resulting per-capita allocation is $5.50 (8.46 / 4.77 x $3.11). The total White Earth AMHI allocation for Area Deprivation is $71,581, which is 0.5% of the overall funding ($13.5M) for this relative risk factor.

Formula Input 4 – Rural Allocations

Another factor allocates additional funding on a per-capita basis to AMHIs that are understood to serve large portions of the population living in rural areas of Minnesota. It also is reasonable to expect that AMHIs that support large, rural areas may require additional funding due to access issues for their population or the additional expenses for delivering services (e.g., travel expenses), despite the lack of targeted, specific information in support of these expectations. Feedback from the AMHIs indicated that these issues should be considered when determining the funding levels. The workgroup determined that $13.5M (25%) of the overall funding is distributed based on the relative proportions of members living in rural areas.

Because AMHIs may serve rural and non-rural adults, the relative percentages of each AHMI's population that are living in rural areas are used to determine the amount added to each AMHIs per capita payment. Unlike the other model components, which distribute the funding based on the number of adults, the model calculates the rural allocation based on ***total population*** within the AMHIs' service area living in "rural" geographic areas. Despite the differences in the general methodology, the allocations between AMHIs would be similar under the overall population and adult-specific distributions of rural members.[11] The total and AMHI-specific numbers of adults living in "rural" areas within the state are based on the Rural-Urban Commuting Area (RUCA) assessment, which assigns a 1-10 score by zip code or state-county-tract Federal Information Processing System (FIPS) codes. Areas with RUCA scores of five or higher were designated "rural" and the dollars allocated to this factor were distributed based on the AMHI's relative proportions of their populations living in rural areas. The calculation is shown in the table below:

Rural Allocation – Statewide Distribution Example

	Total Population	Rural Population	Rural Per Capita	Total
AMHI 1 (10% rural)	400,000	40,000	$9.40	$375,800
AMHI 2 (60% rural)	160,000	96,000	$9.40	$902,000
AMHI 3 (non-rural)	800,000	0	$9.40	$0
…..	…		…	…
Rural Population	1,450,000		$9.40	$13,484,119
Other Population	3,850,000		$0.00	$0
Total Minnesota	5,300,000		$2.54	$13,484,119

[11] Differences could exist where rural areas have greater or lower proportions of children relative to other rural areas. Differences in the relative numbers of children between rural and non-rural areas would not be expected to have a substantial impact, since the model distributes this component of the funding between the rural areas, themselves.

Assumptions for the White Earth AMHI

The assumed proportion of the White Earth AMHI population living in rural areas is based on the overall assumptions for population distribution (i.e., living on or near the reservation, Twin Cities Metro Area, etc.). Because the FIPS covering the reservation's geographic area are all assigned RUCA scores of five or higher, these members would be assumed to be living in rural areas. Members assumed to be living in the Twin Cities or Duluth areas are not included as part of the rural population. Like the development of other assumptions based on geographic location, adjustments were made for the assumed numbers of members utilizing other AMHIs in their county of residence.

For consistency with the calculation with the other AMHIs, $9.40 is multiplied by the *overall* assumed population (adults and children). Based on the distribution expectations for the population and the adjustments for utilization of other AMHIs, approximately 79% of the 18,316 overall White Earth AMHI population is assumed to be living in areas with a RUCA score of five or more.[12] The net 14,465 people assumed to be living in a rural areas results in a total allocation of $135,913 for White Earth AMHI, which represents 1% of the overall Rural Allocation across all AMHIs.

Summary

The combined allocation for White Earth AMHI is shown in the table below:

White Earth AMHI Funding Summary

	Statewide		White Earth AMHI		
Formula Component	Allocation	Per-Capita	Allocation	% Statewide	Per-Capita
Adj. Per Capita	16,180,943	$3.73	84,804	0.5%	$6.52
SDOH / Medical Risk	10,787,295	$2.49	147,235	1.4%	$11.31
Deprivation Index (ADI)	13,484,119	$3.11	71,581	0.5%	$5.50
Rural Allocation	13,484,119	$3.11	135,913	1.0%	$10.44
Total	53,936,476	$12.44	$435,958	0.8%	$33.77

As the table demonstrates, the per-capita funding for the White Earth AMHI is higher than the Statewide average in aggregate, and for the various components of the funding formula. Given the workgroup's emphasis on increasing funding to reflect population risk (Medicaid enrollment, SDOH) and regional deprivation, this is expected, given the risk characteristics and location of the population being served by the AMHI. Based on the distribution choices developed by the workgroup, most AMHIs serving rural populations are expected to receive per-capita amounts that are 150%-200% of the statewide average. In addition, the significantly higher prevalence of SDOH and Medicaid enrollment in the White Earth Nation population would be expected to drive additional funding, based on the workgroup's emphasis on allocating additional funding to reflect the differential risk of these populations.

As the report demonstrates, the funding formula treats the White Earth AMHI similar to the other AMHIs, even though some assumptions have been developed using alternate methods or information sources. In

[12] The 18,316 population is based on the baseline 20,000 membership assumption. Similar to other assumptions, the population is adjusted downwards to reflect the expectation that a portion of the eligible population is assumed to be utilizing other AMHIs.

cases where there was reliance on alternate data sources or analyses, there was work towards developing credible assumptions that are reasonably comparable to the inputs for the other AMHIs. There is also recognition that the eligible population is utilizing other AMHIs and assumptions were developed to recognize these circumstances. Overall, the assumptions used to develop the calculation are believed to be reasonably balanced (i.e., neither overly conservative nor aggressive) and treatment of the White Earth AMHI should be understood to be similar to and equitable with the other AMHIs. This process and outcome meet the goals of the legislative report and provides a reasonable template and process for the integration of other Tribal AMHIs into the program.