



STATUS REPORT

AQUATIC WARM WATER THERAPY SERVICES

October 2016

BY

WARM WATER WORKS GROUP

The initial Aquatic Therapy Services Task Force Report to the Marathon County Board was provided on October 10, 2013. This report is an update to the financial status and client activity through 2015.

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In 2008, there was concern that the warm water therapy pool could be eliminated. Many of the individuals who regularly used the pool for therapeutic exercise were alarmed. A small group of users decided to band together and work toward positive change. Thus, the group Warm Water Works was born.

Warm Water Works has:

- Partnered with North Central Health Care in developing and distributing marketing packets for providers which included a promotional DVD, brochures, physician referral form, etc.
- Increased referral providers from 50 to over 200.
- Provided financial support to low income pool users.
- Assisted North Central Health Care Administration in adjusting physical therapy reimbursement rates to current market value, thereby increasing revenue per session.
- Participated in health fairs throughout the community.
- Provided informational presentations to community groups.
- Provided financial support for staff training to enhance current programs.
- Established the Kwik Trip Script program as a continuing fund raising source of income in addition to other fund raising activities for Aquatic Services.
- Met with numerous Marathon County Board representatives and attended numerous County Board and Committee meetings regarding the importance of the Therapeutic Pool.

Warm Water Works is:

- Grass roots activism.
- Positive.
- Committed, to finding ways to continue this extremely valuable resource.
- Persistent, in our belief that a new therapy pool is critical for a large number of citizens.
- Fund-raising, continues to support marketing efforts and to support staff initiatives.
- Educational, to ensure that area physicians, community representatives, and those who would benefit from their services know of its availability.
- Caring, supports individuals in need.
- Fair, engages in providing service for ALL citizens, especially vulnerable populations.
- Cost-effective, real attention is paid to efficiency and quality of pool operations.
- Advocacy, for users who may not be able to advocate for themselves.
- Citizen involvement, to be involved and speak up for needs in our community.
- Monitoring, staying aware of actions and decisions related to the Therapeutic Pool and its users.
- Promotion, for the public health of our community.

Warm Water Works continues to believe, passionately, in the value of the therapy pool – for our seniors, for our citizens in need of rehabilitation, for our differently-abled, for our users who simply want to remain able to take care of themselves in our community.



Terminology of Aquatic Services

ADS – Adults with development disabilities

Aquatics for Arthritis – Instructor led, gentle range of motion, along with balance and gait skills; self-pay

Aquatic Physical Therapy – One-on-one with licensed Physical Therapist/Physical Therapist Assistant; paid by most insurance companies

Fitt Class – Instructor lead, high level class with focuses on increasing strength and endurance; self-pay

Maintenance Therapy – Step-down program guided by aquatic staff and geared for individuals that would not be safe, or could not carry out an exercise program independently; self-pay or covered by Community Care Connections of Wisconsin (CCCW)

Medically Monitored Treatment (MMT) – MMT program at North Central Health Care utilizes the therapeutic pool for a place of exercise for patients in the program.

Open Fitt/Family Fitt – Step-down program for previous therapy clients, as well as open to the public. Family Fitt is reduced hours for family members/children; self-pay

Therapeutic Pool – Completed physician referral form required (a recreational pool does not require physician referral)



EXECUTIVE SUMMARY

The information and data provided in this report, in addition to the original Aquatic Therapy Services Task Force Report to the Marathon County Board October 2013 (Attachment A), is a compelling endorsement that Marathon County should maintain and replace the existing Warm Water Therapeutic Pool. Aging population, positive growth in revenue, positive growth in activity, solid community support including medical community, diversity of users, very high quality user ratings, and significant number of county residents using the service all point to maintaining this high quality community resource.

This is a vital and positive partnership of local government and the private sector that works and does not utilize significant taxpayer resources. It serves a critical part of our most vulnerable residents. This service meets two parts of the County Boards "Overarching goals for Health and Vulnerable Populations ..."

Program Area: Health "People practice behaviors, prevention and early intervention to delay or lessen the impacts of aging, disease and chronic physical conditions.

Program Area: Vulnerable Populations "People who are at risk are identified early and receive interventions that promote their safety and wellbeing."

Elimination of the Warm Water Therapeutic Pool after 18 years (established 1977) of valuable community service would ignore these two county goals. It is important to note, the Therapeutic Pool is not a Recreational Swimming Facility. The Therapeutic Pool is a rehabilitation facility that requires a doctor's referral to use the resource.

A case could be made with the appropriate research, that by maintaining this Therapeutic Pool, Marathon County residents remain independent and out of more costly support programs. This is especially true for low income seniors who would need nursing home financial assistance should they lose their independence. Every person kept out of the nursing home has a daily value, a cost savings for individuals, families, and tax payers.

A question to be considered is: "Why would Marathon County discontinue a valuable high quality service, utilized by many county residents, with vastly improved financials, that is highly valued by our medical community, and has been in existence for 18 years?"

Any segment of the population educated on this community resource see's the value and wisdom of maintaining this resource. An investment in the Therapeutic Pool is an investment in our aging population. In order to help achieve the county's goal of being the healthiest county in the state, the Therapeutic Pool is an important asset towards that goal.

We recommend maintaining the Warm Water Therapeutic Pool's services and construction of a new facility.

FINANCIAL SUMMARY
Attention to financial stability

- Recent trends are positive and in the right direction.
- 172%, 144% growth in gross revenue and net revenue respectively, since 2009 when changes to pool pricing/marketing were initiated, page 6.
- Expenses have been managed effectively, page 6.
- County tax levy support eliminated for the past three years, page 6.
- Service is provided county wide, page 14 zip code table.
- Since 2009 it is estimated that over 4,000 served, averaging 1,300 per year.
- 700 plus clients need Therapeutic Pool ongoing maintenance to maintain physical independence, page 13.
- Only 5.6 full-time equivalent employees manage and operate the programs, a great bang for the buck.

These significant positive results were achieved in spite of 60-67% of reimbursements over the past three years from Medicare/Medicaid; the lowest reimbursement rates of all payers, page 7.

GROWING AGING POPULATION
Defines the need for at least 25 years

- Population over 65 will grow significantly (approximately 78%) over the next 25 years, page 11.
- Largest user group of pool services are seniors, page 7 therapy payer mix table.
- Current client survey of 81 pool users, 72 greater than age 50, and 59 greater than age 60, indicates 66 respondents would need a higher level of care within 12 months or less. This could mean some public assistance for their care, including nursing home, should the therapeutic services be eliminated, page 9.
- 60-67% of Aquatic clients receive financial reimbursement from Medicare/Medicaid, page 7. It is evident that the therapeutic pool is heavily used by seniors and low income residents, the most vulnerable residents of Marathon County.

QUALITY MEASURES
Outstanding reflection of a cherished community resource

- 94.4% of survey respondents rated their quality of service as excellent, page 15.
- 100% of physicians responding to survey (114) rate the service necessary or critical to their patients' health, page 17.
- When asked how likely you are to refer patients for Aquatic Services they responded 4.8 on a scale of 1-5 with 5 being likely, page 17.
- Treatment goals are being met 84-93% for the past four (4) years, page 15.

CLIENT USE ACTIVITY SUMMARY
Resource fully utilized

- An average of 27,531 pool visits over the last three years, with an average of 1,319 therapeutic users annually, page 13.
- Nearly 500 new therapy patients referred each year, page 13. There is additional pool capacity available with additional staffing, page 13.
- Utilization of the pool encompasses residents from virtually all areas of the county, page 14.

COMMUNITY SUPPORT
Widespread Support

- Marathon County Medical Society, comprised of 447 members, page 20.
- 270 Referring Physicians, page 17.
- Currently 2,385 resident petitions, page 16.
- Positive media coverage of benefits of the therapeutic pool resulted in increased referrals.

DIVERSITY OF CLIENTS
A resource for any community resident of need

- Significant senior population.
- Mentally challenged population.
- Nursing home dementia patients.
- Related workforce injuries.
- Developmentally disabled population.
- Veterans.
- Sport injuries.
- Post-surgery rehabilitation.
- Mobility maintenance.
- Pain management.
- Motor vehicle accident injuries.
- Medically Monitored Treatment Program.

POTENTIAL USERS

- The growing opioid abuse epidemic is being prioritized by County Board members in recent months, and the Aquatic Therapy Pool staff has made connections with the Pain Management Clinic to provide a therapeutic pool-based alternative to prescribing prescription pain medication for patients. For some, prescription drugs can be a gateway to addiction and the need for additional intervention. In the last few months, we have experienced an increase in the number of referrals from the Pain Management Clinic to the pool. Aquatic Services is one piece in the sparse continuum of substance use prevention and intervention.
- In the last few months we added North Central Health Care Medically Monitored Treatment program a place to come for exercise. These individuals that are in this program are there for substance abuse. Many were detoxing from opioid use.

**North Central Health Care
Aquatic Services Analysis
Years 2009-2015**

Financial Summary:

	2009 Actual	2010 Actual	2011 Actual	2012 Actual	2013 Actual	2014 Actual	2015 Actual
Revenue:							
Gross Revenue	\$397,140	\$547,004	\$879,868	\$957,268	\$1,010,791	\$1,071,490	\$1,078,953

Gross revenue has grown 172%.

Contractual Adj's	(\$126,436)	(\$164,571)	(\$281,377)	(\$354,686)	(\$380,293)	(\$420,311)	(\$409,355)
Other Revenue	\$8,466	\$1,996	\$9,374	\$9,302	\$14,683	\$12,885	\$12,403
Net Revenue	\$279,170	\$384,429	\$607,865	\$611,884	\$645,181	\$664,064	\$682,001

Net revenue before expenses has grown by 144%.

Expense:							
Salaries	\$179,061	\$211,796	\$233,329	\$254,446	\$266,448	\$269,665	\$284,874
Benefits	\$84,827	\$95,144	\$101,893	\$108,696	\$104,884	\$102,669	\$109,146
Other Direct Expense	\$31,407	\$40,708	\$51,990	\$56,120	\$58,796	\$71,493	\$44,689
Indirect Expense	\$200,175	\$225,552	\$209,407	\$216,566	\$248,263	\$232,159	\$259,311
Total Expense	\$495,470	\$573,200	\$596,619	\$635,828	\$678,391	\$675,986	\$698,020

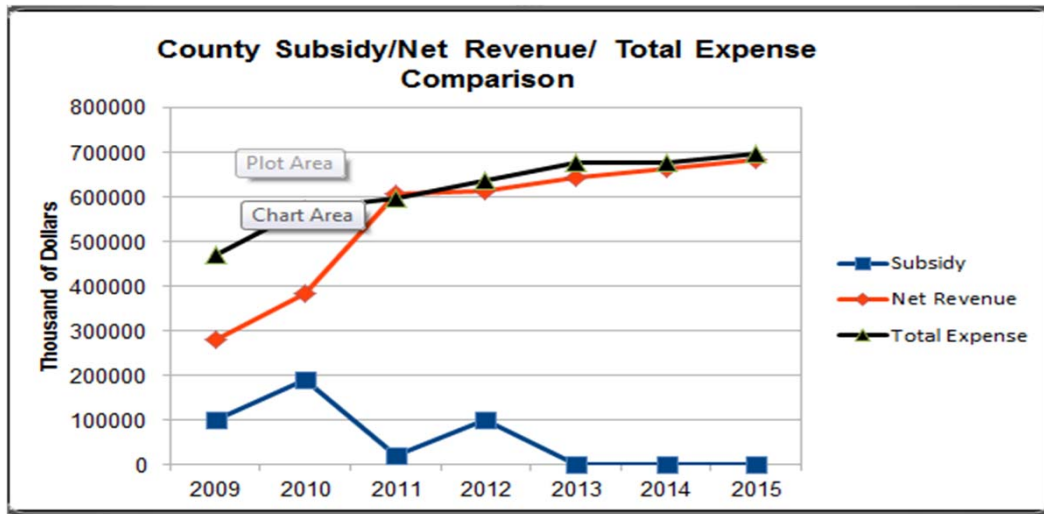
Effective expense management reflects only a 41% increase.

Excess Revenue (Expense)	(\$216,300)	(\$188,771)	\$11,246	(\$23,944)	(\$33,210)	(\$11,922)	(\$16,019) *
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*The accumulated net revenue loss over the past five years is (73,849) or 14,770 per year average. Based on 1,300 users per year, the cost subsidy would be \$11.36 per user.

Designated County Levy	\$100,000	\$189,291	\$20,000	\$100,000	\$0	\$0	\$0
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Excess Revenue (Expense)	(\$116,300)	\$520	\$31,246	\$76,056	(\$33,210)	(\$11,922)	(\$16,019)
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As directed by the county in 2009, the county subsidy has been eliminated the past three years.
Source of information is: NCHC Internal Accounting

	2009 Actual	2010 Actual	2011 Actual	2012 Actual	2013 Actual	2014 Actual	2015 Actual
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Gross Revenue Breakdown:

Therapy (Physical)	\$315,116	\$457,852	\$718,289	\$848,067	\$895,234	\$948,914	\$958,946 *
Pool classes, rental, other	\$82,024	\$89,152	\$161,579	\$109,201	\$115,557	\$122,576	\$120,007
Total Gross Revenue	\$397,140	\$547,004	\$879,868	\$957,268	\$1,010,791	\$1,071,490	\$1,078,953

Physical Therapy represents 89% of Therapeutic Pool revenue, the highest priced revenue category. Physical Therapy revenue has increased 204% since 2009.

Activity Summary:

Therapy Payer Mix:

Self Pay	14%	7%	7%	7%	6%	4%	7%
Medicare	33%] 49%	45%] 64%	39%] 55%	40%] 59%	47%] 67%	45%] 63%	39%] 60%
Medicaid/Family Care	16%	19%	16%	19%	20%	18%	21%
Insurance	37%	29%	38%	34%	27%	33%	33%
Total	100%	100%	100%	100%	100%	100%	100%

The past three years reveal, that 60% plus of the Therapy Payer Mix is Medicare and Medicaid, the lowest reimbursement sources. Most of the clients in these reimbursement categories are seniors and lower income.

Number of Clients Physical Therapy:	451	495	565	599	512	536	551
Service Hours Maintenance Therapy:	2411	2959	3823	3818	3889	3961	3948 *

Physical Therapy activity has increased by 64% since 2009.

This chart reflects the initiatives put in place to increase the average charge per service.

Current Reimbursement:

Medicare	\$105
Medicaid	\$93

Current Charges:

Evaluation	\$345
Therapy	\$276
Aquatic Maintenance	\$51

The number of clients and services have remained constant over the past five years. Uncertainty over the Therapeutic Pool's future limited staffing growth to service more patients.

Source of information is: NCHC Internal Accounting

Summary Conclusions:

- Significant positive improvement in gross and net revenue.
- Excellent expense management in a growth period.
- Revenue growth and therapy activity has remained stable the past three years. Growth has stalled due to continued uncertainty over the Therapeutic Pool's future, restricting staffing growth, especially physical therapists. Recruitment has been ineffective with uncertainty of Therapeutic Pool future.
- These positive financial results were accomplished in spite of inefficient outdated water treatment equipment, air ventilation and heating system.
- Growth has stopped due to uncertainty of program.



Client Survey Results

“If our pool permanently closed, how long would it be before you would need additional assistance due to a decline in your health?”

63 I live in my own home, independently. I would need additional assistance:

- 4 Within one week
- 9 Within two weeks
- 12 Within one month
- 6 Within two months
- 6 Within six months
- 13 Within one year
- 2 More than one year but less than three years
- 11 Three+ years

18 I currently have assistance where I live. I would need to move to the next level of care:

- 3 Within one week
- 1 Within two weeks
- 6 Within one month
- 0 Within two months
- 2 Within six months
- 4 Within one year
- 0 More than one year but less than three years
- 1 Three+ years

Age of survey respondents:

- | | |
|-----------------|-----------------|
| <u>3</u> 20-30 | <u>15</u> 66-70 |
| <u>2</u> 31-40 | <u>18</u> 71-75 |
| <u>4</u> 41-50 | <u>8</u> 76-80 |
| <u>13</u> 51-60 | <u>6</u> 81-90 |
| <u>12</u> 61-65 | |

This limited survey conducted over a two week period reflects how fast the client would digress in their physical abilities to maintain their independence.

50 of the 63 respondents would need a greater level of care in one year or less to maintain the same quality of life they have today.

Where the respondents already have some assistance, 16 of 18 would need even greater assistance in one year or less should the Therapeutic Pool close.

It is unknown how many of those surveyed may need some form of financial assistance and/or nursing home care.



WE NEED YOUR HELP!
PLEASE COMPLETE THIS SURVEY & Return by July 14th

As part of our request for a new warm water therapy pool, we need to prove to the Marathon County Board that our clients' health would suffer if our pool did not exist at all.

We need all pool users to answer the question: "If our pool permanently closed, how long would it be before you would need additional assistance due to a decline in your health?"

If you are living in your own home, "additional assistance" could be defined as: help with house cleaning, laundry, food preparation, bathing/hygiene, dressing yourself, etc.

If you live at home and already have some assistance from a family member or service **OR** you currently live in a group home, assisted living facility, or nursing home, how long would it take before you would need to move to a place that provides a greater level of care, such as a group home, assisted living facility, or nursing home?

Please answer the following questions by checking the boxes below. We are asking for age only for demographic purposes. Your replies are confidential and your name is not requested or required.

_____ I live in my own home, independently. I would need additional assistance:

- _____ Within one week
- _____ Within two weeks
- _____ Within one month
- _____ Within two months
- _____ Within six months
- _____ Within one year
- _____ More than one year but less than three years
- _____ Three+ years

_____ I currently have assistance where I live. I would need to move to the next level of care:

- _____ Within one week
- _____ Within two weeks
- _____ Within one month
- _____ Within two months
- _____ Within six months
- _____ Within one year
- _____ More than one year but less than three years
- _____ Three+ years

What is your age? _____

Please return the survey to the pool.

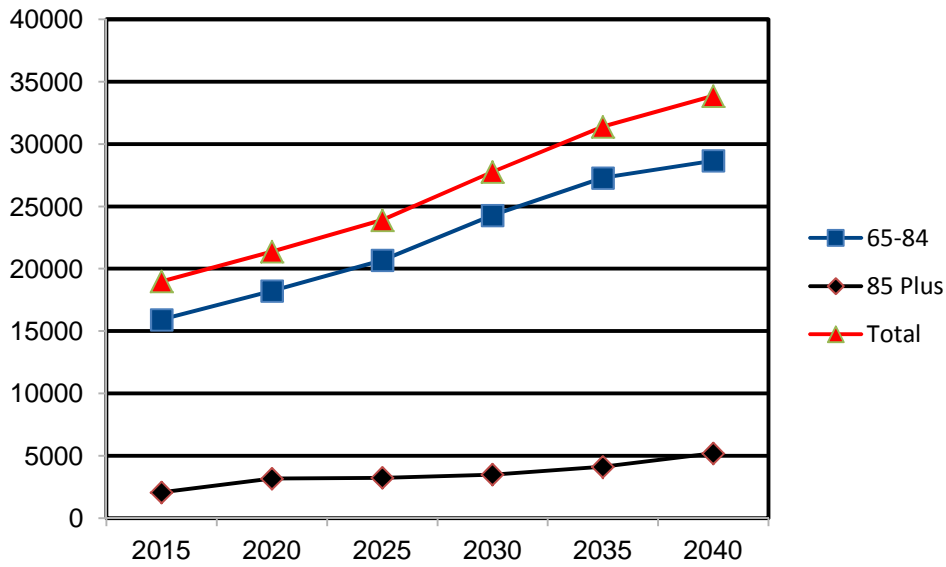
Thank you,
Warm Water Works

Marathon County Aging Projections

numbers in thousands

	65-84	85 Plus	Total
2015	15922	2066	18988
2020	18220	3160	21380
2025	20680	3228	23904
2030	24288	3485	27773
2035	27290	4110	31400
2040	28670	5200	33870

Marathon County Aging



U.S. Census Bureau
Population Projections by Sex and Age, 2010-2040, Wisconsin Counties, Final Release
Vintage 2013 projections

United States Aging Projections
Resident Population – numbers in thousands

	65-84	85 plus	Total
2015	41526	6304	47830
2020	49714	6727	56441
2025	58439	7482	65920
2030	64975	9132	74107
2035	67324	11909	79233
2040	67710	14634	82344

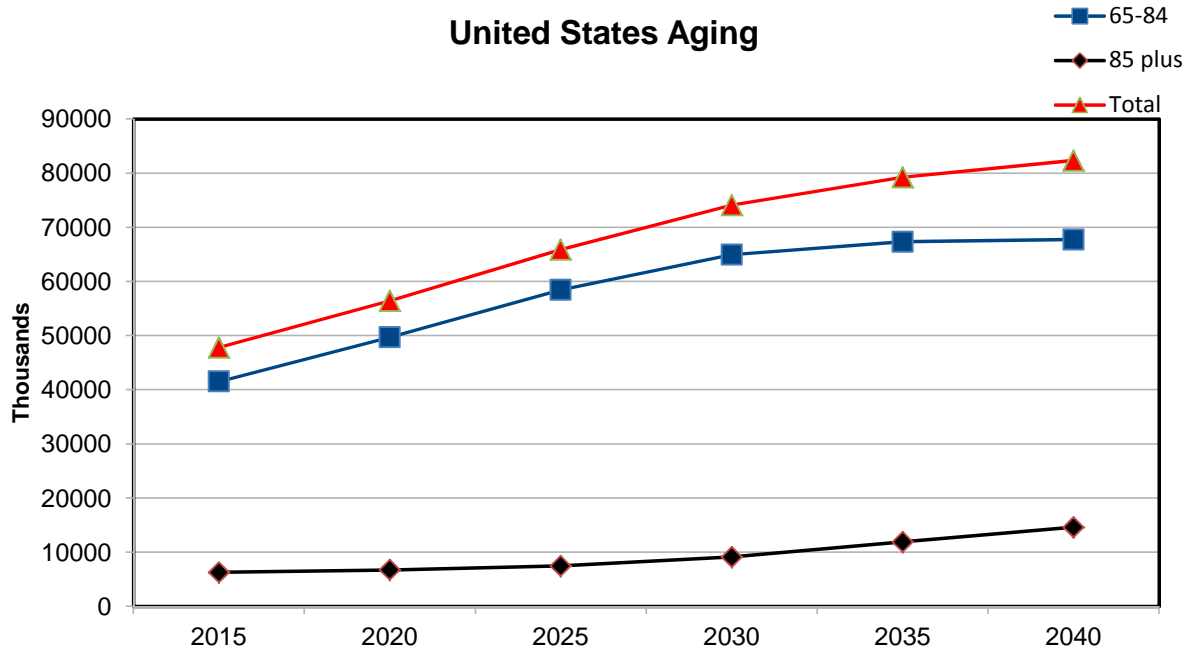


Table 3. Projections of the Population by Sex and Selected Age Groups for the United States: 2015 to 2060 (NP2014-T3)

Source: U.S. Census Bureau, Population Division



Client Usage

2013	Clients/Consumer	Visits
Community Fitt:	746	20,275
Classes:	76	2,013
Physical Therapy:	471	4,025
Maintenance Therapy:	12	759
Adult Day Services:		296
<i>Nursing Home didn't start until 2014.</i>		
Total	1,305	27,368
2014		
Community Fitt:	743	19,371
Classes:	68	2,512
Physical Therapy:	498	3,897
Maintenance Therapy:	15	789
Nursing Home:		286
Adult Day Services:		271
Total	1,324	27,126
2015		
Community Fitt:	742	20,420
Classes:	66	2,304
Physical Therapy:	498	4,024
Maintenance Therapy:	10	733
Nursing Home:		235
Adult Day Services:		384
Total	1,316	28,100

Nursing Home and Adult Day Services - we do not have number of clients, just total visits for the year.

Utilization by Zip Code				
2016		Physical Therapy	Community Open Fitt and Classes	County
54401	Wausau	136	329	Marathon
54402	Wausau	3	15	Marathon
54403	Wausau	137	323	Marathon
54405	Abbotsford	2	1	Marathon
54411	Athens	5	8	Marathon
54414	Birnamwood	6	9	Marathon/Shawano*
54421	Colby		1	Marathon
54425	Dorchester	2	2	Marathon
54426	Fenwood	3	8	Marathon
54429	Elderon		1	Marathon
54440	Hatley	12	24	Marathon
54448	Marathon City	8	15	Marathon
54449	Marshfield	4	11	Marathon/Wood*
54455	Mosinee	46	122	Marathon
54471	Ringle	7	23	Marathon
54474	Rothschild	25	66	Marathon
54476	Weston	92	263	Marathon
54484	Stratford		1	Marathon
Total		488	1222	

2016		Physical Therapy	Community Open Fitt and Classes	County
53502	Albany, WI	1		Green
54409	Antigo	3	5	Langlade
54424	Kempster	1	1	Langlade
54464	Phlox	1	1	Langlade
54491	White Lake	1		Langlade
54435	Gleason	1	1	Lincoln
54442	Irma		5	Lincoln
54452	Merrill	30	64	Lincoln
54487	Tomahawk		3	Lincoln
54501	Monico		1	Oneida
54562	Three Lakes	1		Oneida
54423	Custer		1	Portage
54443	Junction City	2	8	Portage
54467	Plover	2	2	Portage
54473	Rosholt		1	Portage
54481	Stevens Point	4	5	Portage
54482	Stevens Point	3	6	Portage
54459	Ogema	1	1	Price
54513	Brantwood	1		Price
54408	Aniwa	3	5	Shawano
54416	Bowler	1	1	Shawano
54427	Eland	2	2	Shawano
54499	Wittenberg	2		Shawano
54414	Birnamwood	6	9	Shawano/Marathon
54451	Medford		3	Taylor
54470	Rib Lake	1	1	Taylor
54495	Wisconsin Rapids		1	Wood
54449	Marshfield	4	11	Wood/Marathon
28759	Mills River, NC	1		
55401	Minneapolis, MN	1		
Total		73	138	

*Due to zip codes linked to two counties, clients have been counted for each county.



Quality Outcome Measures

Aquatic Services Customer Satisfaction Survey

% of Clients Rating Services Excellent on Survey

- 97 % in 2013
- 94% in 2014
- 94.4% in 2015 (late in 2015 only physical therapy clients surveyed)
- 91.3% through September 2016
94.4% average rating for the past 4 years

% of Clients Meeting Treatment Goals

- 92% in 2013
- 88% in 2014
- 84% in 2015
- 93% YTD 2016

Currently, 2,385 people of Marathon County have signed the petition in support of replacing the Aquatic Therapy Pool at North Central Health Care. Petitioners were asked to identify the district they live in, however not all respondents completed this question.

District	Number of Respondents	District	Number of Respondents
1	226	20	43
2	91	21	43
3	24	22	48
4	77	23	56
5	50	24	19
6	66	25	15
7	79	26	36
8	50	27	2
9	63	28	2
10	43	29	2
11	57	30	1
12	46	31	4
13	29	32	13
14	24	33	38
15	36	34	5
16	87	35	44
17	88	36	82
18	94	37	74
19	44	38	24



Physician Survey Results

- **270 Surveys sent to referring physicians**
- **113 received back and endorses this program**
- **41.4% return rate**
- **100% of the returned surveys felt Aquatic Services programming is valuable to this Community.**
- **4.8 was the average number for how likely the physician was to refer their current population to Aquatic Services. (This was a 1-5 rating.)**

Comments from Physician's

"I have many patients of different age groups, who use the pool regularly and it is the most important piece of maintaining current function."

"Greater wellness, less postoperative complications with greater outcomes to postop rehab"

"I sincerely hope the facility will continue to provide services"

"Need to enhance services for kids and veterans"

"My patients who go there are pleased with these services"

"The Health Care Center pool put Wausau on the map for advanced rehabilitation that you can't get in other small areas. Younger patients sometimes are hesitant due to high % of older clients."

"Aquatic Services are/have been life changing to numerous of my patients."

"We refer many patients to Aquatic Therapy, NCHC is one of the only places serving our older clients, and not sure what we would do without it."

"This is a valuable and rare service we can offer to patients. Many communities can't offer this level of care. Our patients appreciate it"

"Present program very available and helpful to my patients. A big asset to the community"

"The therapy pool is a valuable and needed resource for this community."

“Awesome program. Frequently refer patients suffering diffuse pain syndrome and those that struggle to ambulate safely”

“As a P.T. for the VA I rely heavily on the pool and the great people and clinicians running it.”

“This is an extremely important service in our community for rehabilitation!”

“Aquatic Therapy helped me personally recover more rapidly from an Achilles tendon rupture. Many of my pediatric patients benefit from expert support of the pool.”

“This pool has been essential part of maintaining our patients’ mobility. Staff has been excellent and very supportive.”

“The Aquatic Services has been essential to the patients I treat. It would be a GREAT loss to our community if it would not be available.”

“This program is an absolute necessity to our community. My patients have fabulous outcomes.”

“Aquatic Therapy is an extremely important option for our patients. I have referred and will continue to refer many patients. Patients benefit from aquatic therapy that DO NOT benefit from other therapeutic modalities.”

“The pool is INVALUABLE resource to my patients, young and old alike. It is crucial that funding is secured to continue this program.”

“The Aquatic Therapy programs and pool access at NCHC is invaluable to our orthopedic patients population providing gravity free aerobic exercise.”

“A very valuable asset to the Medical Community.”

“Fantastic Aquatic P.T. services. Brad and his team, consistently exceed expectations”

“This is a valuable service and would inhibit the care of vulnerable patients.”

“It is imperative for the health of our community that a therapeutic pool and programs are available to serve the patient population those benefits from these services.”

“I send a lot of older people for therapy, especially given the history of falls. A couple hip surgeries for a fracture is likely more expensive than a pool. Let’s not be penny wise and dollar foolish.”

(Quotes are printed as stated by physicians. Duplicate statements were not recorded.)



Therapy Pool Usage Survey and Statement of Support

Physicians: please complete this survey and return it in the post –paid envelope **no later than Monday August 22nd 2016**. Alternately, you may fax it to 715-849-2046 Attention: Brenda Budnik.

1. Do you feel NCHC Aquatic Services' programming is valuable to this community and meets the needs of some of your current patient population not served by other providers in the county?

_____ Yes

_____ No

If no, please explain why:

2. How likely are you to refer portions of your current patient population for aquatic physical therapy or independent use of the therapy pool? (5=definitely, 1=rarely) _____
3. Is there any patient population that is not presently served by NCHC Aquatic Services, but could be served if programs were modified? If so, please describe/explain:

4. Additional Comments (optional):

5. I endorse the continuation of the Aquatic Therapy Services provided under the direction of North Central Health Care. I fully support replacing the current therapy pool facility. This service is important to many individuals in our community, especially our aging and vulnerable populations. Without the pool, many individuals would need a much higher degree of care (E.g. home health services, assisting living, nursing home, etc.).

PHYSICIAN'S NAME (please print): _____

PHYSICIAN'S NAME (signature): _____

MARATHON COUNTY MEDICAL SOCIETY

3104 N. 13TH Street, Wausau, WI 54403

July 26, 2016

Dear County Board Supervisors,

We are writing to you as representatives of Marathon County's Medical Society in support of maintaining a therapeutic pool.

As physicians we refer and encourage our patients to use the therapeutic pool in Wausau. Many of our patients require a warm water pool to aid in physical therapy due to weakness that limit land based therapy. This type of patient would not have as positive of an outcome without the pool. They would lose much of their independence from incomplete recovery and therapy. Specifically this type of therapy benefits the elderly. Their numbers will continue to grow over the upcoming years in our county.

The Marathon County Medical Society includes 447 physicians involved in all specialties.

Thank you for your consideration of maintaining a therapeutic pool in our county.

Sincerely,

William Johnston, MD

President

Mary Jo Freeman, MD

Immediate Past President

Michele Montgomery, MD

Vice President

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4 November 2016

To: Marathon County Board Members

From: Mark Schuler, MD

Re: North Central Health Care Pool

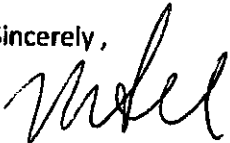
Dear Board Members:

For nearly 16 years, I have been practicing Physical Medicine in the Wausau area. In that time, there has been no other single treatment that has proven more successful in managing my patients' pain and associated impairments than that of the Aquatic Physical Therapy regimen and associated programs at NCHC. This is not hyperbole. Although medications, land based therapy, and injections are commonly used in my practice, and are often helpful, there is simply no comparison. The pool environment is more than just a 'non impact' form of exercise for older adults with arthritic joints (although it is obviously an excellent venue for these patients). It brings together a facility which is singular in the central Wisconsin region – providing the correct temperature, size, equipment, and access features – with knowledgeable and experienced staff who are able to leverage these unique attributes to achieve pain reduction and functional gain for the patients that are referred. Many of these folks rely upon the pool beyond the completion of their formal therapy sessions to remain functional in their day to day lives. For many, it is the reason they can live with little or no pain medication, get back to work, or stay independent in their own homes.

Pools are expensive to build and maintain. But the investment, in this particular case, is well worth it. There is simply no equivalent alternative in the area that will provide the level of benefit of this pool facility. I implore you to allocate the necessary funds to keep a community based, therapy directed, warm water pool program available to the citizens of Marathon County.

Please contact me any time if you wish to discuss further the importance of your consideration on this issue. My office phone is 715-847-3042.

Sincerely,



Mark Schuler, MD

Charles F. MacCarthy, M.D.
2105 Ridge View Drive
Wausau WI 54401
January 10, 2017

To: Marathon County Board Members

Re: The importance of the NCHC Aquatic Therapy Program

I am a 78 year old retired physician who has many of the aches and pains typical of people my age. The Aquatic Therapy Program and the Physical Therapists who staff it have been very beneficial to me. It helped me prepare for and then recover from hip replacement surgery in 2010. More recently, it has helped me cope with the pain of spinal arthritis and shoulder injuries. I visit the pool two to three times weekly, and go through a series of exercises that the physical therapists designed specifically for me, and then gave me very detailed instructions on how to do the exercises to gain maximum benefit.

Every week, I see the physical therapists devoting the same personal attention to patients with developmental disabilities, strokes and other neurological illnesses, traumatic injuries from automobile accidents, gunshot wounds, falls and other sources, and many others who suffer from arthritis and other age related disabilities. Like myself, these patients are able to do exercises while supported by the warm water of the pool much more easily and effectively than they could manage in a gymnasium. The pool makes many forms of exercise safer, especially for people with limited mobility. (Some actually enter and leave the pool in wheelchairs, walkers, braces and other equipment that would make dry land therapeutic exercise difficult or impossible.)

I know that County Board members feel responsible for careful management of County funds. I applaud you for that. But – I am writing to emphasize the importance of the *mission* of the Aquatic Program. An understanding and appreciation of the importance of that mission should guide your discussions about the best ways to sustain it in the future. Like other areas of the NCHC facilities, the pool is old and in need of major maintenance or replacement. But, the most important component of the Aquatic Program – the highly skilled staff – is in very good shape, and deserves to work within an upgraded facility to continue its very important work. Please give this your thoughtful consideration.

Thank you.



Charles F. MacCarthy, M.D.

January 10, 2017

Kris Ferguson M.D.
Medical Director, Advanced Pain Management
400 Westwood Drive Suite 200
Wausau, WI 54401
715-261-0425

To Whom It May Concern,

My practice, in the Wausau community, is based on innovative pain management services. One of our top priorities is to reduce opioid use.

Opioid addiction is a problem in communities all over the United States. This has resulted in financial and social burdens not only for the families who are affected, but for local governments who have to address mental health issues. The need to improve managing a patient's prescription medication is a large undertaking. This burden of addiction not only should be addressed by the medical community, but by the entire community as a whole. The medical community's responsibility is to decrease the use of opiates for pain control, and support is needed from our local government to aid with this mission.

Treating pain is evolving to less medication use and a more active involvement by the patient. A decrease in opioid use often requires a disciplined approach. I have come to rely on the services of NCHC and their aquatic program to help reduce my patient's use of opiate medications.

The use of the aquatic facility has succeeded in treating pain where other programs have failed. Aquatic Therapy has allowed patients to see an alternative solution to their pain management. The education and treatment they receive from Aquatic Services at NCHC helps patients manage their issues long after therapy has been completed. They are able to manage their pain through self-based techniques and exercise programs created specifically to meet their needs.

The decreased use of opiates will help reduce this community's burden both financially and socially. We at Advanced Pain Management are doing our part by addressing the overuse of opiates by creating an alternative solution for pain management. As stated in the Marathon County Mission Statement below we are asking the Marathon County Board to support our efforts and the Aquatic Services to support funding, to build a new pool at North Central Health Care.

"Marathon County Government serves people by leading, coordinating, and providing county, regional, and statewide initiatives. It directly or in cooperation with other public and private partners provides services and creates opportunities that make Marathon County and the surrounding area a preferred place to live, work, visit, and do business."

Kris Ferguson
1/10/17



To: Marathon County Health and Human Services Committee
FROM: Steve Anderson on behalf of the Warm Works Group
DATE: January 31, 2017
RE: Aquatic Therapy Pool

WE KNOW SIX THINGS FOR SURE

To those who have spent considerable time analyzing this facility, its programs, and the Marathon County residents it serves, it has become a "Vital" resource in maintaining healthy living for the aging, pain management for those afflicted with various internal injuries or disease, a rehabilitation source for injured workers, and an exercise facility for mentally disabled adults and children.

A large majority of the users are some of the more vulnerable lower income members of our community.

The Aquatic Therapeutic Pool (ATP) resource meets the County's Mission on several levels:

Goal, become the healthiest county in Wisconsin.

Program Area: Health "People practice behaviors, prevention and early intervention to delay or lessen the impacts of aging, disease and chronic physical conditions.

Program Area: Vulnerable Populations "People who are at risk are identified early and receive interventions that promote their safety and wellbeing."

More people have and do use the ATP than a majority of the population recognize. The use will only grow, with the senior (65+) population projected to grow by more than 75% in the next 25 years and recently as a substitute or reduction in opioid prescriptions for pain management. If pain management physicians continue to find positive results from Warm Water Aquatic Therapy, it could be part of the answer to Marathon County's growing drug issues.

The ATP has become a special public/private success story spurred the past eight years by the grass roots Warm Water Works group.

As proposed, County taxpayers would pay the costs for a new facility.

THEREFORE SEVERAL QUESTIONS COME TO MIND

Why aren't we pursuing a 'community conversation', including the medical profession, to determine the public merits of maintaining this resource, and if this endeavor could become a fully integrated public/private community project with the County's leadership?

Isn't this what government should be doing?

Why is all the focus on the cost of construction, with little or no discussion on the merits, benefits, quality of services, etc.? Doesn't need come before cost considerations?

Why is the cost of re-purposing the old facility part of the cost analysis? Don't you still have to demolish the existing facility if you decide to close it?

Why would you close an operation that has for many years had exemplary quality ratings by users and physicians?

It seems that these questions and the factors referenced above should be part of the information you are looking for in question 4. B. and B. 1.

Respectfully Submitted,

Steve Anderson
R11009 River Road
Ringle, WI. 54471
715-551-1228
spindr48@gmail.com



North Central Health Care
Aquatic Services

AQUATIC THERAPY SERVICES TASK FORCE
REPORT TO THE
MARATHON COUNTY BOARD

Thursday, October 10, 2013

Aquatic Therapy Task Force Members

Steve Anderson
Sue Gebhardt
Gary Gisselman
Linda Haney
Dr. Thomas Joseph
Jack Kivi
John Robinson

Support Staff

Brad Beilke
Brenda Budnik
Brenda Glodowski
Terry Kaiser
Toni Simonson

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Appendix 7: Quality Dashboards

Aquatic Therapy Services Task Force

Executive Summary

In 1977 North Central Health Care (NCHC) opened its pool to the community, initially serving individuals with developmental disabilities and persistent mental illness who were transferred from state institutions back to the community. In 1998 NCHC began offering aquatic therapy services to address a need in the community. Since it opened, the pool has served the community well but it has outlived its design life and is facing structural, mechanical and operational issues. The pool's equipment is outdated and inefficient to operate.

The services provided through the aquatic therapy program are unique and have a positive impact on the quality of life for the pool users. Services are provided based on a recognized medical need with a required physician referral. The combination of a warm water environment along with a dedicated professional staff has resulted in a quality program serving the needs of the residents of Marathon County. The affiliation with NCHC Psychiatric Hospital allows patients to access insurance coverage and Medicare and Medicaid funding. In the last four years there has been a 119.2% increase in net revenue while expenses have increases 28.3%.

Currently 199 physicians are referring patients to the program for treatment. In 2012 there were over 20,000 visits to the pool. Services ranging from intensive therapy sessions, and related maintenance therapy to water exercise programs allow the users to increase or maintain flexibility and strength. The unique warm water pool allows users to live independently, improve the quality of their lives, and/or return to work.

Over the past several months the Aquatic Therapy Services Task Force has been meeting to review the current and future use of the pool. Members have evaluated the financial information, pool utilization rates and future demographic trends and met with representatives from the physician community. Based on the information collected, the Task Force members believe that there is a demonstrated need for the County to continue to provide aquatic therapy services and that there is the ability for that program to generate significant income. The Task Force's findings are summarized in the attached report.

However in order to complete the evaluation of the future capital needs and prepare a long term financial plan the Task Force recommends that the County engage the services of a professional design team to develop a Preliminary Design, Evaluation and Analysis of Options Report. The report would address issues relating to the appropriate size of the facility, design options and location. It would also evaluate funding sources available to support these services in the future. Once the Report is completed the County will be in a better position to make a decision on moving toward the replacement of the existing pool necessary to support aquatic therapy services.

History of the Pool

HISTORY AND BACKGROUND OF THE NCHC AQUATIC THERAPY POOL

NCHC's therapeutic pool was built in 1977. At that time, over 100 Marathon County residents with developmental disabilities and severe and persistent mental illness, most of whom were transitioned from the state institutions, lived at NCHC. The therapy pool was used by these individuals as part of their rehabilitation program. Over time, many of these individuals were successfully transitioned from NCHC to live in the community. Other populations served at that time included children that participated in the Birth to Three program, inpatient clients from the Psychiatric Hospital and Drug and Alcohol treatment unit, and people from community.

In April, 1998, NCHC began to offer aquatic physical therapy. The program was initially offered two days per week (12-13 hours); growth and expansion continued over the years and currently water therapy is offered 32 hours per week. The therapy pool is available six days per week (57.5 hours total) for physical therapy, "on-your-own" therapy/exercise and structured classes.

In late 2008, with the assistance of a volunteer whose profession was strategic marketing planning and marketing communication, both a strategic marketing plan and marketing communication plan were developed with input from pool staff and approval by NCHC's CEO. In 2008, 225 patients received aquatic physical therapy treatment. During 2012 (four years later), a 104% increase was noted (458 patients).

In 2008, 124 hours of maintenance physical therapy were performed by a pool aid (rather than a physical therapist). A 333% increase was noted in 2012, with 533 hours of maintenance physical therapy provided to patients.

Referring physicians have grown from 156 (in 2008) to 199 in 2012. This represents a 28% increase.

In 2010 there were 622 individuals who used the pool for "on-your-own" therapy/exercise. This increased to 715 in 2012, representing a 15% increase in this two year span. Enrollment in classes remained stable.

In mid-2009, staff was increased to handle the increasing number of patients. As identified in the Strategic Marketing Plan, pricing was not commensurate with other physical therapy services offered in the region, so fee increases have gradually been made. This has helped the therapy pool increase its profitability and get closer to a “break-even” budget. It currently operates without County subsidy.

CREATION OF AQUATIC TASK FORCE

The County Board authorized the creation of an Aquatic Task Force to address the need for the an aquatic therapy pool on a go-forward basis as the pool is starting to experience signs of aging and needs repair/replacement. The first meeting of this committee was held on June 18, 2013. The purpose of this task force is to address aquatic physical therapy needs in the County. Issues to be addressed by the task force include:

- Evaluate the existing facility
- Evaluate aquatic therapy needs in the future
- Identify options to provide aquatic therapy services to the residents of the county
- Identify funding sources

The task force is comprised of seven individuals representing the County Board, physician community, therapy pool patients/users, business community, and the community at large. Four non-voting NCHC employees also serve on the committee.

The task force is charged with making a recommendation to the Health and Human Services Committee of the Marathon County Board by November 1, 2013.

Defining the Service Needs

WHAT MAKES AQUATIC PHYSICAL THERAPY UNIQUE AND DISTINGUISHES IT FROM LAND-BASED THERAPY?

Aquatic Services provides a warm-water environment with handicapped-accessible locker rooms, pool design, and ramps into the water for those who are in wheelchairs or cannot do stairs. The unique 90-degree water temperature facilitates muscle relaxation and increases peripheral circulation. Natural buoyancy of the water reduces the force of gravity and can help increase range of motion, balance, strength, coordination, and overall health without the risk of falling. Due to the offloading of a patient's weight, therapists can be more aggressive with treatment in the water than on land, and aquatic therapy is generally more tolerable for the patient.

WHY IS IT IMPORTANT TO HAVE THESE SERVICES AVAILABLE?

User Perspective

Individuals of all ages participate in the warm water pool in five ways:

1. Aquatic Physical Therapy – at the direction of their physician, the patient will work one-on-one with a physical therapist to achieve individualized goals. 86% of the pool's revenue comes from this source.
2. Maintenance Physical Therapy – a "step-down" program where a pool aide will assist the patient following formal physical therapy. 4% of the pool's revenue comes from this source.
3. "On-Your-Own" program – patients who have been discharged from physical therapy will be provided with a self-directed exercise program for use in the warm water therapy pool. For some patients, continued use of the facility will be short-lived, but for others it becomes a life-long commitment to maintaining their health and minimizing the effect of a chronic medical condition. 8% of the pool's revenue comes from this source.
4. Water Exercise Classes – NCHC provides structured classes, including Aquatics for Arthritis and Water Walking for those individuals who prefer, and are able to tolerate, an instructor-led group session. 2% of the pool's revenue comes from this source.
5. Mount View Care Center – patients of the nursing home began using the warm water pool in 2012, assisted by Mount View Care staff members and unpaid pool volunteers who act as aides. Nursing home patients suffering from Alzheimer's disease have found that the warm water pool helps improve cognitive abilities, mood, posture, and functional status. Less than 1% of the pool's revenue comes from this source.

Patients feel comfortable in the warm water pool as they are surrounded by others with similar medical conditions or disabilities. The temperature, pool depth, pool design, and handicapped features and are not duplicated by any other facility within a 150 mile radius of Wausau, Wisconsin.

Physical therapy patients have shared the following testimonials regarding NCHC Aquatic Services:

"My experience exceeded my expectations. I made exceptional gains in the pool which I doubt would have been possible otherwise." (Jean Burgener)

"At age 47, I found myself paralyzed from the chest down and after four months of land physical therapy, I began aquatic therapy at NCHC. When my therapy ended, I was encouraged to continue exercises on my own. At first I was so weak I had to have an attendant drive me to the pool and assist with showering, dressing, transferring, and getting up and down the wheelchair ramp. I have been using the pool six days per week for the past 21 years. The pool has kept me healthy and strong and is the only way I can exercise out of my wheelchair. It has provided with me independence, including the ability to drive, and kept me out of the hospital and nursing home!" (Dave Tlusty)

"After my car accident, I was simply recovering. Now after Aquatic Therapy, and using the pool, I am finally healing. Aquatic Therapy has given my three kids their mom back. I owe the pool and my therapists everything." (Courtney Pfeifer)

"My physician, Dr. Bart Isaacson, referred me to NCHC Aquatic Therapy for stiffness due to a foot injury and the need to strengthen the muscles in my back. I am especially grateful for the knowledgeable and helpful therapy personnel who treated me; I now continue using the therapy pool on my own. What an improvement in this 76 year old body! (Wally Lewitzke)

Physician Perspective

All aquatic programs require physician authorization/prescription. 199 physicians currently refer patients to NCHC Aquatic Services. During the past 18 months patients with 1,445 diagnoses were treated. The percentage by diagnosis was:

- 31% back pain/neck pain
- 21% extremity pain (joint and neurological)
- 19% arthritis
- 11% general weakness/balance issues/post-surgery
- 6% fibromyalgia/myalgia
- 6% diabetes, obesity, and related medical issues
- 6% other

Physicians have shared the following comments regarding NCHC Aquatic Services:

"Without the NCHC's warm water pool, many of my patients would lose their mobility, independence, ability to leave their home, and would not be able to live alone." (Dr. Erik Anderson, Aspirus Westhill Medical Specialists)

"I see patients with unique diagnoses that would not improve without the therapy pool. My best results (from the pool) are with my toughest patients. I have never had a patient "flunk" aquatic therapy. If the NCHC warm water pool failed to exist, we would see a functional decline in society that would need to get picked up by other County services." (Dr. Laurie Wolf, Acuity Neurology, S.C.)

"If the pool failed to exist, rehabilitation of my patients would take a huge step backward. We have a unique opportunity to enhance the health of people in Marathon County at NCHC." (Dr. Daniel Seybold, Orthopedic Associates of Wausau)

Health Care Cost Containment

The NCHC therapy pool provides health care cost containment by serving Marathon County's most vulnerable populations, including County residents with disabilities and the elderly. It is beneficial to patients and pool users who cannot tolerate (or have not responded to) traditional land-based physical therapy or exercise programs. The therapy pool helps individuals regain and/or maintain their

independence. Functional training allows many patients the ability to return to the workforce.

Specific health care cost containment examples include:

- Reduction of falls and fractures by focusing on gait and balance
- Provides morbidly obese patients with a tolerable form of exercise
- Stops the progression of existing health conditions and further complications through therapy and exercise
- Provides patients with resources to “take ownership” of their exercise regimen
- Helps avoid costly medical treatments, such as surgical intervention, where possible
- Reduces need for addictive pain medications by reducing pain scales

By promoting a healthier population, reductions in the cost of health care are passed onto Marathon County and its taxpayers.

MEASUREMENTS: MEDICAL OUTCOMES AND PATIENT/PHYSICIAN SATISFACTION

Medical Outcomes

Goals are developed for each patient by the physical therapist. Generally, they are some combination of comfort, range of motion, strength, weight loss, improved cardiac function, better balance/gait, decreased inflammation, reduction in edema, pain scale (reduction in pain), and increased confidence/morale.

Examples include patients who:

- Were reliant on a caregiver’s help to get dressed, but can now dress themselves
- Cannot “do stairs,” but is now able to walk up one flight.
- Are wheelchair-bound but want to maintain their ability to transfer to their bed or use bathroom facilities on their own
- Could only walk 50 feet without stopping, but can now walk a football field
- Was reliant on addictive prescription pain medication, but no longer needs it
- Have returned to work following an injury covered by workers compensation

From a pool user perspective, the following comments have been shared regarding medical outcomes from the “On-Your-Own” and water exercise user population:

"I had a lower lumbar spine fusion in 2009. Aquatic physical therapy allowed me to get back on my feet (literally). I use the warm water pool twice a week for strengthening and a good aerobic workout which would not be possible on land."

"I started coming to the pool 18 years ago. This is my lifeline to mobility. Wausau should be proud to have this therapy pool. It has also been a God-send for my grandson with Cerebral Palsy."

"I am able to maintain my strength and mobility with pool exercise which helps me cope with my rare and debilitating muscle disease."

"I have gained strength and mobility from using this facility. Didn't think I could even get here, but it's been a great help!"

"Because of the pool, stairs are easier and my balance has improved."

"The pool has given me back an active lifestyle. It is amazing."

"It is good therapy for my heart and knee. I feel a lot better after I use the warm water pool."

"Seven years ago my doctor suggested that I do pool therapy before I had a knee replacement and I have kept coming because it is easy exercise and beneficial."

"I have had 2 knee replacements and 2 hip replacements. The pool allows me to exercise with a range of motion not possible any other place."

"I have been coming for 7 years; it keeps me walking and able to enjoy life."

"I can do therapy in water that I cannot do on land. I wouldn't be able to move without the pool."

NCHC uses a "Quality Outcome Dashboard" to measure and monitor outcomes. For fiscal year 2012, two key measurements are pertinent to Medical Outcomes:

1. Percentage of Clients That Met Treatment Goals on Completion of Service: 91%.
2. Percentage of Customer Satisfaction: 96% rated satisfaction as "excellent" (which is the highest rating that can be provided).

Patient Satisfaction

Patients are asked to complete a survey following the completion of aquatic physical therapy. The care provided by the Aquatic Services staff received high rankings. However, due to the aging pool and locker rooms, categories which rank the facility received lower scores. Patients were asked to rate each of the following statements (excellent, good, fair, or poor). The percentage of EXCELLENT scores is as follows:

1. My physical therapist was courteous: 96%
2. All aquatic staff members were courteous: 86%
3. I was satisfied with the treatment provided by my physical therapists: 93%
4. My appointments for physical therapy were scheduled quickly: 92%
5. My physical therapist understood my problem or condition: 92%
6. The instructions my physical therapist gave me were helpful: 93%
7. I would recommend this facility to family or friends: 92%
8. I was satisfied with the cleanliness of the pool area: 78%
9. I was satisfied with the cleanliness of the locker rooms: 57%

Physician Satisfaction

In August, 2013, Physician Satisfaction Surveys were mailed to the 199 physicians currently referring patients to NCHC Aquatic Services. 93 surveys (representing a 48% return rate) were received. Questions asked, and the percentage of responses for each, follows:

1. Do you feel NCHC Aquatic Services programming is valuable to this community and meets the needs of some of your current patient population not served by other providers in the county?
100% Yes 0% No

2. Have you/would you refer a patient to Aquatic Services if they had the following diagnosis? Check all that could apply even if you do not have patients with these conditions in your practice.

92% Arthritis
91% Neck pain / Back pain
91% Generalized Weakness/ Balance Issues
88% Fibromyalgia/Myalgia
88% Extremity Pain (joint and neurological pain)
81% Cerebrovascular Accident (including stroke)
76% Neurological Deficiencies (E.g.: M.S., M.D., C.P., Spinal Cord Injury, & Spinal Bifida)
74% Neuropathy
66% Traumatic Brain/ Spinal Cord Injuries
58% Amputations

3. How likely are you to refer portions of your current patient population for aquatic physical therapy or independent use of the therapy pool?
(5=definitely, 1=rarely)

81% Definitely (5)
15% (4)
3% (3)
1% (2)
0% Rarely (1)

WHO ARE THE CURRENT USERS OF THE POOL?

NCHC Aquatic Services recently conducted a demographics survey. Of physical therapy patients, 87% were from Marathon County, and 13% from other counties in Wisconsin (and beyond).

For the "On-Your-Own" program, 95% were from Marathon County, and 5% from other Wisconsin counties.

The largest five-year age span of pool users is age 66-70. 72% of the user population is age 41-75.

The **Physician Perspective** section of this document lists the general categories of medical conditions treated in the pool: back pain/neck pain; extremity pain (joint and neurological); arthritis; general weakness/balance issues/post-surgery; fibromyalgia/myalgia; and diabetes, obesity, and related medical issues.

WHO ARE THE FUTURE USERS OF THE POOL?

There is no question that our population is aging. Utilization is expected to increase as age increases and overall health diminishes. Life expectancies are all increasing, and as such, people will become more focused on healthy lifestyles and maintaining their mobility.

TABLE 1

DEMOGRAPHIC DATA						
Table 1						
	2013	2015	2020	2025	2030	
Age	Total	Total	Total	Total	Total	Change 20 years
0-19	35931	35938	37011	38353	39289	109.3
20-34	26545	28423	27931	26885	26209	98.7
35-49	28601	26975	28324	30691	32497	113.6
50-64	26829	33023	29348	27736	26260	97.9
65-79	12890	15499	19060	22209	24423	189.5
80+	5914	6108	6490	7445	9196	155.5
	136710	145966	148164	153319	157874	115.5

Based on projections from the U.S. Census Bureau, the population of Marathon County between 65 and 79 will grow by 89.5% by 2030, and the population over age 80 will grow by 55.5%, compared with an anticipated growth in the county's population of 15.5%. Table 1 summarizes the anticipated changes.

The Affordable Care Act (ACA) puts greater emphasis on "value-based purchasing," or in other words, greater emphasis on services that have a demonstrated impact on improving health and lowering overall healthcare costs. Aquatic physical therapy can provide the desired outcome as patients tend to improve more readily and are much less likely to be readmitted to the hospital.

Dr. Rick Reding, Medical Director of Aspirus Memory Clinic, has provided documentation of studies that show aquatic therapy is also beneficial in treating Alzheimer's patients. According to "Annuals of Long-Term Care," May 2013, it is estimated that 5.2 million Americans have Alzheimer's disease (AD) and one in three older adults dies with AD or other dementia. Presently, there is no cure for AD. Land-based exercises that involve aerobic activity, muscular strengthening, flexibility, and balance are not possible when an AD patient is nonambulatory. The aquatic environment provides buoyancy, allowing nonambulatory AD patients to

practice ambulatory and balancing skills. Studies prove that aquatic physical therapy improves AD patients' cognition, mood, posture, and functional status.

As noted in the **User Perspective**, patients of Mount View Care Center are using the pool on an increasing basis. Results similar to the study noted above have been documented. Rachel Riehle, NCHC Legacies by the Lake Life Enrichment Coordinator shared this observation: *"Our residents on Legacies by the Lake and Mount View love spending time in the pool. Their time in the pool plays such an important part in improving their mood and physical well-being – smiling, walking in the pool, talking with their peers and the volunteers, and playing ball. Not enough can be said about the importance of the connections our residents have been able to make with the pool volunteers and staff. These moments help them feel special and connected to their community. The North Central Health Care warm water pool is clearly immensely valuable to our residents and our community."*

NCHC is a "neutral" facility (not associated with any local/regional physician/hospital network) that offers many complimentary services to the elderly and disabled of Marathon County. The pool's affiliation with NCHC's psychiatric hospital expands reimbursement sources to include Medicare, Medicaid, and other third party insurance sources. Without such affiliation, insurance reimbursement would be limited.

The regional physician community indicates that NCHC Aquatic Services is a valued, essential resource that helps the disabled and elderly maintain or enhance their quality of life. It is impossible to measure dollars saved by maintaining or improving the quality of life. Nor is it possible to measure the increased financial burden on Marathon County if NCHC Aquatic Services did not exist and residents needed to rely on more costly County health services.

Delivery Options

Affiliation with Hospitals/Clinics

The Aquatic Services Warm Water Therapeutic Pool is associated with North Central Health Care and operates under the hospital license of the Psychiatric Hospital. It has no affiliation with Aspirus Wausau Hospital, Ministry St. Clare's Hospital in Weston, or the Marshfield Clinic yet receives referrals from all of them.

Unique Attributes of NCHC Aquatic Therapy Services

Accessibility

- ♦ Convenient parking near the entrance, including handicapped parking stalls.
- ♦ Separate men's and women's handicapped locker rooms.
- ♦ Grab bars throughout the locker and shower rooms.
- ♦ Mat table for changing.
- ♦ Hand held showers with safety chairs available.
- ♦ Unisex handicapped locker rooms with showers to allow caregivers to assist patients.
- ♦ Inclined wheelchair ramp.
- ♦ Three angular stairwells with hand rails.
- ♦ Hand rails on pool deck.
- ♦ Poolside seating for caregivers.

Other Delivery Options

1. Hospitals or other providers

There are no other Warm Water Therapy Pools within a 150-mile radius of Marathon County. The closest pool is in Madison, WI and is operated by the UW Sports Medicine Fitness Center. They are in the process of building an additional warm water therapy facility in the new UW Hospital under construction in the Madison suburb of Sun Prairie.

Locally St. Clare Hospital has a tank type exercise pool that is 6 ft. wide x 12 ft. long x 4 ft. deep. It is too small to provide the type of therapy provided by NCHC Aquatic Therapy Services.

There is an exercise pool in Green Bay supported by the Cerebral Palsy Association. It is a warm water pool but is primarily for exercise. They have

instructors to direct exercise classes but do not have physical therapists nor do they provide any therapy services.

Eau Claire, WI has a small therapy pool that will accommodate two or three people. It is primarily used for rehabilitation after accident or surgery.

Antigo and Wittenberg have warm water pools but they are recreational only. Neither provides any therapy services or handicap locker rooms.

2. YMCA

The YMCA has cool water pools with water temperatures approximately 80-82 degrees. The YMCA is not Medicare licensed and does not provide Aquatic therapy. The pools are primarily recreational with additional services for exercise and YMCA sponsored swim team.

The access for disabled and elderly persons is very difficult. They do not have a ramp access. The normal access is by using straight vertical ladders that are built into the wall.

3. Schools

The public school pools are primarily for classroom instruction and swim team. The pools are cool water with temperatures in the mid to low 80 degree range for classroom and in the mid to upper 70 degree range while swim team is in session.

Public swim is normally held before school starts and during evening hours after school and team events are finished. All public sessions are for exercise only with no physical therapy provided. Access to the pools is the vertical ladders built into the pool wall.

Financial Trends

In 2008 there was considerable discussion relating to the financial condition of the Aquatic Therapy Services program. As a result of those discussions the County Board provided a subsidy for the program. In January 2009, a Strategic Marketing Plan and Marketing Communication Plan were developed by a volunteer, Sue Gebhardt, with assistance from NCHC pool staff and executive management. Other friends of the pool (known as the "Warm Water Works" group) raised funds to pay for the various marketing materials that were designed to market the pool, specifically to area physicians. Over the past four years physician referrals have steadily increased. Table 2 tracks the increase in revenue and expenses over the last four years.

Table 2 – Revenue and Expenses

	Revenue		Expenses
	Gross	Net	
2009	\$387,140	\$279,170	\$495,470
2010	\$547,004	\$384,429	\$573,200
2011	\$879,868	\$607,865	\$596,619
2012	\$957,268	\$611,884	\$635,828
2013*	\$530,401	\$344,804	\$347,150
(*6 months)			

Over the last four years there has been a 141% increase in gross revenue and 119.2% increase in net revenue. The difference is due to contractual adjustments. In an effort to increase revenues from non-Medicare and Medicaid patients and price aquatic physical therapy services so they are commensurate with other land-based therapy services in our area, the average charge per service has increased by 76.3%, and physical therapy charges have increased by 107% during this same period of time. It is anticipated that there will continue to be growth in the amount recovered through insurance and Medicare. There has been a 32.8% increase in the number of clients and 58.4% increase in the number of client hours reflecting growth and intensity of services provided. Table 3 reflects the source of payment for the services.

Table 3
Payer Source

	2009	2010	2011	2012	2013*	5 yr ave
Self Pay	14	7	7	7	7	8.4
Medicare	33	45	39	40	45	40.4
Medicaid	9	15	13	15	15	13.4
Insurance	37	29	38	34	27	33
Family Care	7	4	3	4	6	4.8
(* 6 months)						

There has also been a growth in the number of veterans utilizing the pool. Detailed financial information is available in Appendix 1 to the report.

Current Conditions

The pool building is approximately 9,430 square feet with the pool having a 3,120 square foot print. Most pools have a design life of approximately 25 years; NCHC's pool is 36 years old. In May 2013 Angus Young conducted an inspection of the pool building; their report found the following:

- Over the years the pool has developed leaks which have created voids under the pool deck and building foundation along the north and south wall.
- The framework of the glass portion of the building is rusted and most window seals have failed
- The coating on the electrical wiring has become brittle and breaking off causing electrical shorts
- There are locations where the concrete masonry unit has cracking on the inside of exterior wall
- The reinforcing in slabs supporting the concrete slab roof has started rusting
- The concrete in the pool equipment room is heavily deteriorated and the condition raised concerns over its structural integrity
- There is a need for interior and exterior repairs

A copy of their report "NCHC Pool Building Inspection Report" is attached in Appendix 4.

In addition to the structural issues there are concerns over the efficiency of the existing hot water heating system. Currently the steam that is used to heat to pool water is generated at the boiler plant in a different building and piped to the pool. The system is estimated to be 60% efficient. The air handling system is also very inefficient and outdated, making it very costly to keep the air temperature greater than the water temperature of 90 degrees, which is required by code.

The chemical pumps and auto readers are obsolete and have broken down in the past resulting in shutdowns at the pool. It is becoming increasingly difficult to maintain that system. Pools pumps and plumbing lines are beyond their design lives. Windows, doors and lockers are showing signs of deterioration due to the exposure to chlorine over the years.

There are a number of options that are available which include continuing to make repairs as needed; replacing the pool in its present location; or develop alternatives after evaluating the future needs of the pool and developing a design to meet those needs. That evaluation process should include discussions

with users groups including the medical community over their needs and developing alternatives to meet those needs. Questions relating to the size of the pool, depth, configuration, and costs should all be considered. Should the pool be reconstructed at its current location or somewhere else on the NCHC campus? If the pool were replaced at its current location what impact would the construction process have on patients, referrals and staff. The process would also include an evaluation of the capital and operational costs associated with each option.

Recommendation

Given the number of unknowns associated with the options and the limitations of the expertise of our members, the Task Force recommends that the County engage the services of professional design team with expertise in designing aquatic therapy pools to develop a Preliminary Design, Evaluation and Analysis of Options Report. The report would address issues relating to the appropriate size of the facility, design options and location and evaluate funding available to support these services in the future. It is estimated that the Report would cost approximately \$50,000. Once the Report is completed the County will be in a better position to make a decision on moving toward the replacement of the existing pool necessary to support aquatic therapy services.

There is significant interest in the community in ensuring that aquatic therapy services remain available in the future. Once the Report is complete and the options and costs have been developed, the community should be engaged in discussions about how to fund the capital improvements. Based on the feedback the Task Force has received we believe that there may be community interest in assisting with the funding of the project.

Appendices

1. Financial Information
2. Utilization Data
3. Demographic Data
4. Angus Young Report
5. List of Relevant Studies
6. Equipment List
7. Quality Dashboards

**North Central Health Care
Aquatic Therapy Services: 5 Year Trend**

Financial Summary:

	2009	2010	2011	2012	2013
	Actual	Actual	Actual	Actual	Jan-June
Revenue:					
Gross Revenue	\$397,140	\$547,004	\$879,868	\$957,268	\$530,401
Contractual Adj's	(\$126,436)	(\$164,571)	(\$281,377)	(\$354,686)	(\$198,295)
Other Revenue	\$8,466	\$1,996	\$9,374	\$9,302	\$12,698
Net Revenue	\$279,170	\$384,429	\$607,865	\$611,884	\$344,804
Expense:					
Salaries	\$179,061	\$211,796	\$233,329	\$254,446	\$129,871
Benefits	\$84,827	\$95,144	\$101,893	\$108,696	\$49,465
Other Direct Expense	\$31,407	\$40,708	\$51,990	\$56,120	\$17,497
Indirect Expense	\$200,175	\$225,552	\$209,407	\$216,566	\$150,317
Total Expense	\$495,470	\$573,200	\$596,619	\$635,828	\$347,150
Excess Revenue (Expense)	(\$216,300)	(\$188,771)	\$11,246	(\$23,944)	(\$2,346)
Designated County Levy	\$100,000	\$189,291	\$20,000	\$100,000	\$0
Excess Revenue (Expense)	(\$116,300)	\$520	\$31,246	\$76,056	(\$2,346)

Additional Information:	2009 Actual	2010 Actual	2011 Actual	2012 Actual	2013 Jan-June
Gross Revenue Breakdown:					
Therapy	\$315,116	\$457,852	\$718,289	\$848,067	\$470,633
Pool classes, rental, other	\$82,024	\$89,152	\$161,579	\$109,201	\$59,768
Total Gross Revenue	\$397,140	\$547,004	\$879,868	\$957,268	\$530,401
Therapy Payer Mix:					
Self Pay	14%	7%	7%	7%	7%
Medicare	33%	45%	39%	40%	45%
Medicaid	9%	15%	13%	15%	15%
Insurance	37%	29%	38%	34%	27%
Family Care	7%	4%	3%	4%	6%
Total	100%	100%	100%	100%	100%
Number of Clients:	451	495	565	599	405
Service Hours:	2411	2959	3823	3818	2036
Average Charge Per Service	\$131	\$155	\$188	\$222	\$231
Current Reimbursement:					
Medicare					\$105
Medicaid					\$93
Current Charges:					
Evaluation					\$340
Therapy					\$270
Aquatic Maintenance					\$50

Utilization

	2008	2009	Increase over Prev Yr		2010	Increase over Prev Yr		2011	Increase over Prev Yr		2012	Increase over Prev Yr		Total Increase
PT Evals	225	326	144.9	370	113.5	445	120.3	458	102.9	203.6	458	102.9	203.6	
Maintenance Therapy (Hours)	124	234	188.7	285	121.8	485	170.2	533	109.9	429.8	533	109.9	429.8	
Community Swim				662		655	98.9	715	109.2	108.0	715	109.2	108.0	
# of Visits (Comm. Swim)				19166		17477	91.2	20193	115.5	105.4	20193	115.5	105.4	
Classes				75		68	90.7	74	108.8	98.7	74	108.8	98.7	



North Central Health Care

Aquatic Services

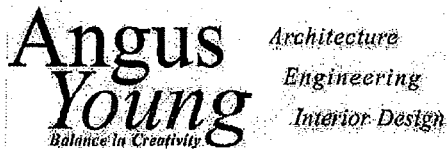
Utilization by Zip Code

2010 - July 2013	Physical Therapy	Community Swim and Classes
City	No. of Clients	No. of Clients
Wausau 54401	371	215
Wausau 54402	7	4
Wausau 54403	345	177
Abbotsford	2	1
Aniwa	5	3
Antigo	9	1
Athens	11	7
Birnamwood	7	1
Brokaw	3	0
Edgar	9	3
Eland	1	1
Hatley	25	9
Marathon City	21	6
Marshfield	9	2
Medford	5	0
Merrill	76	12
Mosinee	129	56
Ringle	16	13
Rothschild	54	19
Schofield/Weston	227	119
Spencer	1	0
Stratford	2	0
Wittenberg	5	3
Other	66	10
Total	1406	662

Demographic Data

Appendix 3

Age	2010						2015						2020						2025						2030									
	Male		Female		Total		Male		Female		Total		Male		Female		Total		Male		Female		Total		Male		Female		Total					
0-4	4233	4045	8278	4519	4316	8835	106.7	4713	4502	9215	104.3	4768	4557	9325	101.2	4751	4538	9289	99.6	4751	4538	9289	99.6	4751	4538	9289	99.6	4751	4538	9289	99.6	4751	4538	9289
5-9	4376	4215	8591	4566	4362	8928	103.9	4852	4635	9487	106.3	5031	4809	9840	103.7	5068	4846	9914	100.8	5068	4846	9914	100.8	5068	4846	9914	100.8	5068	4846	9914	100.8	5068	4846	9914
10-14	4750	4449	9199	4591	4421	9012	98.0	4778	4564	9342	103.7	5061	4837	9898	106.0	5237	5007	10244	103.5	5237	5007	10244	103.5	5237	5007	10244	103.5	5237	5007	10244	103.5	5237	5007	10244
15-19	5198	4665	9863	4803	4360	9163	92.9	4635	4332	8967	97.9	4816	4474	9290	103.6	5097	4745	9842	105.9	5097	4745	9842	105.9	5097	4745	9842	105.9	5097	4745	9842	105.9	5097	4745	9842
20-24	4458	4161	8619	4461	4004	8465	98.2	4118	3741	7859	92.8	3972	3719	7691	97.9	4128	3844	7972	103.7	4128	3844	7972	103.7	4128	3844	7972	103.7	4128	3844	7972	103.7	4128	3844	7972
25-29	4864	4657	9521	5062	4759	9821	103.2	5057	4593	9650	98.3	4671	4293	8964	92.9	4497	4267	8764	97.8	4497	4267	8764	97.8	4497	4267	8764	97.8	4497	4267	8764	97.8	4497	4267	8764
30-34	4395	4010	8405	5214	4923	10137	120.6	5407	5015	10422	102.8	5389	4841	10230	98.2	4961	4512	9473	92.6	4961	4512	9473	92.6	4961	4512	9473	92.6	4961	4512	9473	92.6	4961	4512	9473
35-39	4366	4079	8445	4619	4195	8814	104.4	5446	5119	10565	119.9	5626	5203	10829	102.5	5602	5025	10627	98.1	5602	5025	10627	98.1	5602	5025	10627	98.1	5602	5025	10627	98.1	5602	5025	10627
40-44	4814	4606	9420	4505	4166	8671	92.0	4739	4283	9022	104.0	5565	5211	10776	119.4	5741	5293	11034	102.4	5741	5293	11034	102.4	5741	5293	11034	102.4	5741	5293	11034	102.4	5741	5293	11034
45-49	5455	5281	10736	4870	4620	9490	88.4	4558	4179	8737	92.1	4789	4297	9086	104.0	5612	5224	10836	119.3	5612	5224	10836	119.3	5612	5224	10836	119.3	5612	5224	10836	119.3	5612	5224	10836
50-54	5271	5027	10298	5415	5190	10605	103.0	4838	4542	9380	88.4	4530	4112	8642	92.1	4763	4233	8996	104.1	4763	4233	8996	104.1	4763	4233	8996	104.1	4763	4233	8996	104.1	4763	4233	8996
55-59	4686	4516	9202	5144	4841	13585	147.6	5289	5042	10331	76.0	4730	4418	9148	88.5	4435	4005	8440	92.3	4435	4005	8440	92.3	4435	4005	8440	92.3	4435	4005	8440	92.3	4435	4005	8440
60-64	3697	3632	7329	4475	4358	8833	120.5	4921	4716	9637	109.1	5067	4879	9946	103.2	4541	4283	8824	88.7	4541	4283	8824	88.7	4541	4283	8824	88.7	4541	4283	8824	88.7	4541	4283	8824
65-69	2706	2727	5433	3460	3420	6880	126.6	4199	4111	8310	120.8	4629	4458	9087	109.4	4782	4322	9104	100.2	4782	4322	9104	100.2	4782	4322	9104	100.2	4782	4322	9104	100.2	4782	4322	9104
70-74	1955	2137	4092	2417	2537	4954	121.1	3103	3191	6294	127.0	3780	3648	7428	118.0	4186	4187	8373	112.7	4186	4187	8373	112.7	4186	4187	8373	112.7	4186	4187	8373	112.7	4186	4187	8373
75-79	1498	1867	3365	1676	1989	3665	108.9	2085	2371	4456	121.6	2698	2996	5694	127.8	3316	3630	6946	122.0	3316	3630	6946	122.0	3316	3630	6946	122.0	3316	3630	6946	122.0	3316	3630	6946
80-84	1142	1697	2839	1136	1588	2724	95.9	1285	1707	2992	109.8	1615	2051	3666	122.5	2116	2610	4726	128.9	2116	2610	4726	128.9	2116	2610	4726	128.9	2116	2610	4726	128.9	2116	2610	4726



PROJECT MEMO

TO: Mr. Terry Kaiser
COMPANY: North Central Health Care
FROM: Jim Tibbetts & Zach Goswick
RE: NCHC Pool Building Inspection Report
PROJECT: 52490

May 22, 2013

Page 1 of 3

Mr. Kaiser,

In this report Angus Young will provide a review of the existing pool building based on a visual inspection and a review of the existing building plans. The report is concentrated on the 'pool' area only and does not address the current locker and shower rooms (refer to attached sketch). Within this report is an analysis of the existing structural and current mechanical system. AYA will provide a cost estimate to correct the known deficiencies and an alternate for replacement of the pool facility.

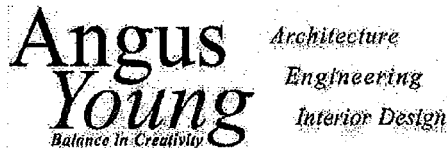
The original 'pool' building was completed in 1977. The pool building is approximately 9,430 square feet with the pool itself approximately 3,120 square feet. The building superstructure in the pool area is mainly constructed of precast double tee roof panels supported by concrete block walls with brick veneers, which in turn are supported by concrete block foundation walls and concrete footings. Portions of the roof are also constructed of concrete slabs and glass. Some portions of the foundation walls are concrete as well. The roofing consists of a ballasted EPDM roof. Our structural inspection and analysis of the building focused on four major components of the building; the roof, the pool deck/slab, the walls, and the foundations. This report will convey and summarize our findings for each of these four components.

The roof structure (composed of concrete double tees) had very little deterioration and looks to be in excellent condition in most areas. Some cracking was evident in a few locations along the exterior non-bearing walls but the cracks are small and have not opened up. The cracking appears to be caused by movement in the walls and do not pose a structural stability concern. A few minor areas along the concrete double tees showed some staining due to rusting of exposed embed plates and reinforcing. It is our opinion that the concrete double tee roof structure can be repaired by cleaning the existing rusted areas and applying a protective coating to those areas as well as the rest of the roof structure to arrest any future rusting. In other areas, where concrete slab roofs are used, the reinforcing in the slabs has started rusting and is staining the surfaces of the concrete. Quantifying the extent of the rusting cannot be completed without destructive demolition, so it is not possible to determine if the structural capacity of the roof has been reduced due to deterioration. Given the unknown extent of rusting, Angus-Young's recommendation would be to complete some destructive demolition with the intent of determining if any reduction in strength has occurred. If reductions have occurred, the roof slab will need to be replaced. Also, the glass portion of the building has steel framing that is deteriorating at the connections to the concrete roof (staining the roof at each connection) and at the base of the support column. The extent of the deterioration leads us to the recommendation that the glass portion of the building be removed and framing be replaced if the glass structure is to be rebuilt.

The pool deck does not appear to have many signs of deterioration other than some cracked tile. However, during our on-site investigation, we were informed that the pool has developed holes in the past which allowed massive amounts of water to escape. This can create voids in the soils below the pool deck and the building foundations. Due to the age of the pool deck and the increasing chance for future holes in the pool as it ages, we recommend replacement of the pool. This does not address any issues caused by the past pool leakages but does reduce the possibility of them reoccurring. The foundation section of this report will address the current possibility for voids in the soil.

X:\52490\data\52490_Analysis Report.doc

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The slabs inside the pool equipment room are heavily deteriorated and no longer have adequate structural capacity. They should be replaced along with the heavily corroded steel stairs and steel pipes extending into the existing tank walls.

Concrete masonry units (CMU) were used in the construction of the building as the structural load bearing element and a backup to a brick exterior veneer. Some of the brick portions were also used on the interior of the building. There are locations where the CMU has cracking on the inside of the exterior walls. We believe these are mostly due to settlement of the walls and deterioration of steel lintel framing at every window. The cracked CMU can be easily replaced, however the causes of the cracking must be dealt with first. It is our recommendation that all the steel lintels above the windows and doors have their bottom plates replaced due to extensive corrosion. During the replacement of the plates, the lintels should be inspected to determine if the entire lintel needs replacement as well. Once this is completed, the cracked CMU can be replaced. The brick veneer on the exterior of the building has extensive cracking and is in need of Tuckpointing. Cracked brick should be replaced as well. Repair of the lintels and solving issues with settlement should alleviate most future cracking in the brick, however we also recommend placing expansion and contraction joints closer to the corners of the building to eliminate cracking close to the corners of the walls. The exterior brick veneer around the pool has much more white powder (efflorescence) and spalling of the face on the exterior face than the remainder of the building. We believe this is caused by moisture migration through the brick. We would recommend the efflorescence be cleaned and a moisture resistant coating be applied to the interior surface of the cmu to help reduce future moisture migration through the wall. The concrete roof bears on two locations where brick was used on the interior of the building. This bearing point has undergone seasonal loading cycles and the brick pier has cracked. We recommend replacement of the brick at these points.

The foundation walls are mainly constructed by extending the cmu down to the footing. We believe the foundations have settled in locations where escaping water from the pool eroded soils from under the building. This caused sink holes to develop in the parking lots adjacent to the building and it is a reasonable conclusion that it also caused the settlement we observed along the north and south walls of the pool. The escaping water can create unknown soil conditions below the foundations as well as the pool deck. Ultrasonic testing can be used to determine if any voids still exist in the soils below the slab and foundations. We believe this to be the most reliable method of verifying voids, however, reduced bearing pressures in the soils can still exist due to the eroded soils even if no voids exist. This means that the soils under the walls and the foundations may not be able to handle the original design loads and have the potential for extended future settlement. Our recommendation to minimize these possibilities would be to remove the pool deck and floor slabs adjacent to the walls and to complete soil testing (ensuring the soils are still adequate.) The testing should be done in numerous locations along the interior and exterior of the foundations and should be completed by a licensed geotechnical engineer.

We have prepared three cost estimates to be used for discussion with respect to the onsite inspection and review of the original building drawings, these estimates are for the pool area only and do not cover renovation of the existing toilet and locker rooms and engineering fees roughly 5% of construction costs;

The first estimate pertains to repairs that we see need to be completed that will minimize further damage to the existing exterior steel window lintels and the degradation of the concrete flooring in the pool equipment room.

The second estimates scope is with the current HVAC system and the pool heater function. Currently, the existing pool heating system is connected to the buildings steam plant, the primary costs in the estimate would be to install a natural gas boiler for heating of the pool water, this estimate would also provide a new Air Handling Unit for the pool area. The goal for these systems would be for energy efficiency and reduced maintenance costs. However a preliminary estimate would have a payback from 10 to 14 years (this would require further investigation).



PROJECT MEMO

The third estimate is for a complete renovation of the pool, pool deck, pool equipment and mechanical HVAC equipment retaining the existing building shell. This renovation would reduce the pools foot print by 25% based on the current and future needs of the pools usage. The upgrade would use current pool technologies, lighting and general esthetics of the pool area.

Estimated Costs for Exterior & Interior Repairs: \$ 210,000.00

- Exterior Repair of existing structural lintels above windows & louvers
- Repair of flashings and structural framing at sky-light
- Cleaning and epoxy painting of existing pool ceiling and walls
- Replacing exterior flashings / copings
- Interior repair of concrete slabs in Pool Equipment Room
- New stairs in pool equipment room

Estimated Costs for Mechanical Upgrades: \$ 245,380.00

- Replace existing steam hot water heating system with a packaged natural gas unit
- Replace existing Air Handling Unit
- Provide upgraded exhaust in Pool Equipment & Mechanical Room
- New Natural Gas Supply to Pool Equipment Room
- Electrical Connections to new equipment

This Scheme would still require exterior repairs with respect to masonry and existing steel lintels as outlined in the above exterior & interior repair costs.

Estimated Costs for New Pool and Related Equipment \$ 925,000.00 to \$ 1,235,000.00

- Remove existing pool and related equipment and Air Handling Units
 - Demolition of pool equipment room including existing concrete tanks and piping
- New Swimming Pool to be approximately 25% smaller (67,500 gallons)
 - To include code required accessible ramp(s)
 - Depth of pool from 2.5 feet to 5.5 feet
- New pool equipment including tanks and delivery system and piping
- New Air Handling Unit serving the pool area
- Investigation of existing South building wall with respect to settling
- Reduction in size of sky-light and upgrades in windows
- New pool deck
- New Lighting
- Installation of drop ceiling to cut down noise (in between pre-cast concrete beams).

Please do not hesitate to contact me with any questions you may have.

Sincerely,

Jim Tibbetts, Project Manager AAiA
 Zach Goswick, Engineering Manager PE, SE, CDT
 Angus Young Associates, Inc.

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AQUATIC THERAPY STUDY RESULTS

Aquatic Therapy versus Conventional Land Based Therapy for Parkinson's Disease

*Jamile Vivas PhD, PT Pablo Arios, PhD, Javier Cuduro, PhD
August 2011 Galicia, Spain*

Conclusion:

Only the aquatic therapy group improved after comparing several types of test scores.

Study of the Effects of Aquatic Exercise in Elderly Women

Yoshihara Kiaasura Kogokuim Universit Tokyo, Japan

Conclusion:

Middle aged to elderly women showed improvements in abdominal and back muscle endurance and suggested that, as abdominal circumference decreased, daily living improved.

Hydrotherapy after Total Knee Arthroplasty

*Giaquinto S., & Crotolo E
IRCCS San Raffaele Pisana, Rome, Italy*

Conclusion:

Pain, Stiffness and Function were all positively affected by Aquatic Therapy. Test scores were significantly better for the Aquatic Therapy group when compared to gym treatments. Aquatic Therapy is recommended after Knee Replacement in a geriatric population.

Early Aquatic Physical Therapy Improves Function

*E.M. Villalta, BPhys, C.,L. Peuis, Bphys LaTrobe University, Victoria,
Australia*

Conclusion:

Aquatic Physical Therapy scan be used with, or instead of land-based therapy after orthopedic surgery. Particularly, rotator cuff repair, total knee replacement, total hip replacement, and post ACL reconstruction.

The Effects of Aquatic Therapy for Individuals with Low Back Pain

Gunsoo Hou, Minhaeng Cho National University, South Korea

Conclusion:

We conclude that aquatic therapy is beneficial for patients with low back pain, as it resulted in the increase of low back muscle strength and a decrease in pain.

The Perceived Benefits of Aquatic Therapy as Intervention Tool

National Center on Physical Activity & Disability

Conclusion:

The study demonstrated that quality of life could be significantly improved through aquatic therapy. Participants had decreased levels of pain and improved cardiovascular capacity.

Aquatic Therapy and Alzheimer's Disease

Kent W. Myers, MD Midwestern University Glendale, AZ

Testimonial by Caregiver: After two months of Aquatic Therapy she said, “ In a way it was like having our dad back. It was amazing that he could communicate, speak in sentences, and follow directions. He really proved he could understand.”

Conclusion:

Aquatic Therapy appears to be effective for a number of neurological and musculoskeletal disorders, and it may be more effective than land-based physiotherapy. The improvement in our case study patient's cognitive skills during Aquatic Therapy was especially impressive.

CASE REPORT

Aquatic Therapy and Alzheimer's Disease

Kent W. Myers, MD^{1,2} • Dina Capek, RN² • Holly Shill, MD³ • Marwan Sabbagh, MD^{3,4}

Affiliations:

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³Department of Neurology, Banner Sun Health Research Institute, Sun City, AZ

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Disclosures:

The authors report no relevant financial relationships.

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Abstract: Aquatic therapy (AT) has been used for decades to provide physical therapy for patients with lower extremity deformities. Recently, investigators also have shown potential benefits for patients with neurological conditions, such as balance disorders, Parkinson's disease, and post-stroke effects. This case report documents a patient with severe Alzheimer's disease who responded well to Halliwick-concept AT, and both subjective and objective evidence is presented to document his improvement. This case suggests a need to further investigate the potential of AT to improve the quality of life of patients with dementia.

Key words: Aquatic therapy, Alzheimer's disease, dementia, activities of daily living.

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It is estimated that 5.2 million Americans have Alzheimer's disease (AD), and one in three older adults dies with AD or another dementia.¹ In the absence of a cure for AD, there are numerous physical and cognitive interventions that attempt to slow further cognitive decline and improve quality of life, particularly in achieving greater independence in activities of daily living (ADLs). Exercise therapy is one of these modalities that has shown the potential to improve physical and cognitive functioning in persons of all ages. To maintain health in older adults, the American College of Sports Medicine and the American Heart Association recommend a variety of land-based exercises that involve aerobic activity, muscular strengthening, flexibility, and balance²; however, nonambulatory patients with advanced AD are generally incapable of performing the same activities as their ambulatory peers. Therefore, it may be questionable whether land-based exercise could provide these nonambulatory patients with any measurable benefits.

The aquatic environment provides buoyancy, which confers an enhanced ability for nonambulatory patients to practice ambulatory and balancing skills. As a result, aquatic therapy (AT) has been used for a variety of neurological and musculoskeletal conditions, including balance disorders, post-stroke effects, Parkinson's disease, total brain injuries, and lower extremity arthritis, but has not been used specifically for dementia. In this article, we present a case report of a nonambulatory patient with advanced AD who underwent AT using the Halliwick concept (Table 1).³⁻⁷ This form of AT was originally developed in the 1930s to help patients with physical disabilities to become independent in the water, and it is based on a 10-point program that focuses on skills such as mental adjustment, postural control, balance, ambulation in the water, and, ultimately, basic swimming movements.³ Our case report suggests that AT may possibly enhance the cognitive and motor skills in patients with advanced AD.

Case Report

Our case patient was an 89-year-old man with advanced AD who resided in a dementia unit for about 1 year. He had received a dementia diagnosis 5 years prior

to being admitted to the dementia unit. His medical history included controlled hypertension, asymptomatic paroxysmal atrial fibrillation, treated dyslipidemia, and asymptomatic prostate cancer. His regular medications included aspirin, ramipril, amlodipine, hydrochlorothiazide, digoxin, simvastatin, donepezil, and memantine. Upon admission to the dementia unit, a cranial computed tomography scan showed no abnormalities except for periventricular age-related white matter changes. He was nonambulatory and incapable of any basic ADLs, except for the ability to self-feed.

Using the Minimum Data Set 3.0, we conducted an assessment of his cognition, mood, and functional status (Table 2).^{8,9} The findings of these assessments were consistent with a diagnosis of advanced dementia, and he remained poorly communicative and expressionless. After failing to progress after 6 weeks of conventional physical therapy, which included twice weekly sessions that consisted of range of motion exercises, balance training, and lower extremity strengthening exercises, AT was initiated twice weekly for 30 minutes over a period of 3 months. A baseline fall risk assessment,¹⁰ a Mini-Mental State Examination (MMSE), and an Apraxia Screen of TULIA¹¹ were performed after 1 month of AT and followed serially over the next 2 months (Table 2). MMSE and AST testing were also administered on several occasions in the water by his aquatic therapist. His MMSE and AST scores were noticeably improved in the water, and his MMSE score on land improved from 2/30 at baseline to 4/30 at the follow-up evaluation after 3 months. The examiner noted that he was

Table 1. Common Types of Aquatic Therapy^a

Type	Description
Ai Chi	Uses exercises that strengthen and tone the body while promoting relaxation and encouraging a healthy mind-body relationship.
Bad Ragaz Ring Method	Individuals are instructed through a series of movements while supported by rings or flotation devices in the water.
Halliwick Concept	The water is used with rotational patterns to help teach balance and postural control.
Task-Type Training Approach	Uses a task-oriented approach that emphasizes functional skills performed in functional positions. It is often used for patients with neurological conditions, such as those who have sustained a stroke.
Watsu	A form of passive aquatic therapy that uses the principles of Zen Shiatsu (massage) to move patients in the water in a manner that allows one part of the body to stretch at a time.

^aTable based on information in references 3-7 in the citation list.

clearly more expressive and talkative than he was during his baseline MMSE examination.

The objective evidence of improvement is limited by the floor effect of these scales since there is no good way to assess the degrees of advanced dementia. His fall risk scores also trended downward (Table 2). However, his fall risk was transiently higher for 2 to 3 hours after his AT

Table 2. Results of the Case Patient's Cognition, Mood, and Functional Assessments Before and After Starting Aquatic Therapy (AT)

Assessment	Years Before AT		Months Before AT					Begin AT	+2 Months of AT			+3 Months of AT		Follow-up Evaluation		
	2.5	2	1	9	6	4	3		2	Baseline Evaluation	Session A	Session B	Session C		Session A	Session B
Cognitive patterns ^a			3	4	0	0		Deferred	Deferred							
Mood/depression ^b			0	0	0	0		0	0							
Independence/ADL scale ^c			1	1	1	1	1		1							
MMSE ^d	18								2	5 ^e	8 ^e	5 ^e	7 ^e	7 ^e		4
AST ^f									2	3 ^e		5 ^e	3 ^e	1 ^e		1
Fall risk ^g							13	10	7	9						

Abbreviations: ADL, activities of daily living; AST, Apraxia Screen of TULIA; MMSE, Mini-Mental State Examination.

^aCognition was scored on a scale of 0-15, with a score of ≤ 8 indicating severe cognitive impairment.

^bMood/depression was scored on a scale of 0-27, with a score of 0-4 indicating minimal depression.

^cIndependence was scored on a scale of 0-6, with a score of 6 indicating very dependent.

^dMMSE was scored on a scale of 0-30, with a score of ≤ 9 indicating severe cognitive impairment.

^eDesignates evaluation during AT.

^fAST was scored on a scale of 0-12, with a score of < 5 indicating apraxia.

^gFall risk was scored on a scale of 0-22, with a score of 0 indicating no fall risk.

sessions, when the staff noticed that he would attempt to stand from his wheelchair and walk on his own, not remembering that he needed help. They also noticed that for 2 to 3 hours after his AT sessions he was smiling more and talking more clearly without his usual trouble finding words. He even joked with the staff.

In addition, although the case patient was seated and submerged in warm water to his mid-abdomen twice weekly to be bathed, this had no noticeable effect on his cognition, expression, or communication skills; therefore, the mere act of being in the water did not improve his abilities. However, his very first AT session brought a broad smile to his normally expressionless face as he realized that he could ambulate in the water and perform AT rhythmic walking and positioning maneuvers (Figure).

The patient continued to perform AT exercises at increasingly advanced levels over the subsequent 3 months, and he eventually could obey a command to walk in the water to the edge of the pool, retrieve a pool toy, and bring it back to the aquatic therapist. His daughter visited him after 2 months of AT and she was also amazed when she got into the pool with him for a session. She stated, "In a way it was like having our dad back. It was amazing that he could communicate, speak in sentences, and follow directions. He really proved that he could understand."

Discussion

Exercise has been shown to improve physical functioning in community-dwelling elders with AD¹² and to slow the rate of decline in ADL performance in long-term care residents with dementia.^{13,14} What follows is a review of AT

as an exercise program, including appropriate candidates for this therapy and a review of the benefits that have been observed.

Who is a Candidate for Aquatic Therapy?

Patients with decreased conditioning, cognitive impairments, reduced strength and endurance, head and spinal cord injuries, stroke, amputation, arthritis, osteoporosis, chronic back pain, and movement disorders may benefit from AT. Although this is a long list of candidates, there are also several patient groups in whom AT is contraindicated, including persons with aquaphobia and those with a fever or infection. Patients with cardiovascular diseases, particularly those with decompensated heart failure or a history of severe myocardial infarction, also are not candidates for AT.¹⁵ This is because immersion in the water may cause an abnormal cardiac response, especially when these patients are immersed up to their necks. In addition, persons with open wounds should not receive AT; however, patients with surgical wounds following total hip or knee replacement can become candidates for AT starting as early as postoperative day 4.¹⁶ Although incontinence has been considered a contraindication to AT, these patients may become candidates for this therapy if they are toileted before entering the pool and are provided with commercially available incontinence swim briefs.

Benefits of Aquatic Therapy

AT has been reported to have numerous benefits, but particularly in improving balance. What follows is a review of these benefits, including what several small studies have



Figure. The photograph on the left shows the case patient before starting aquatic therapy (AT). The photograph on the right shows the patient participating in his first AT session. Although the patient was normally expressionless, AT brought a smile to his face.

shown with regard to post-stroke rehabilitation, Parkinson's disease, arthritis, and brain injuries.

Balance. Buoyancy in the water and the viscosity of water compared with air enable nonambulatory persons and those at high risk of falls to practice balancing skills while strengthening their lower extremity musculature without the risk of falling. In addition to the Halliwick concept, numerous other AT approaches have been used to improve balance, including water shiatsu (Watsu),⁴ water tai chi (Ai Chi),⁵ the Bad Ragaz ring method,⁶ and a task-type training approach⁷ (Table 1). Morris¹⁷ describes these approaches in detail in an article that outlines how AT improves balance dysfunction in older adults regardless of the physical problem causing the dysfunction, which can include musculoskeletal-related structural limitations, decreased sensory capabilities, motor coordination deficits, and loss of anticipatory control mechanisms.

In 1996, Simmons and Hansen¹⁸ conducted a study that included 52 healthy older adults assigned to one of four groups that met twice weekly for 45 minutes: water exercisers, who performed gait, balance, and lower body strengthening activities in the water; land exercisers, who performed comparable land-based exercises; water sitters, who sat in water while socializing; and land sitters, who sat on land while socializing. Each group had baseline functional reach test (FRT) scores of less than 10 inches, indicating a risk for falling. The groups were retested weekly during the 5-week study period. Only the water exercisers' FRT scores improved weekly, with a final score of 13.4 ± 1.6 inches. Land-based exercisers improved their scores only during the first week, with a final score of 11.3 ± 1.5 inches. The nonexercising groups' scores did not change. Based on their findings, the authors speculated that the freedom of moving freely in the water without the risk of falling enabled the water exercisers to improve their postural skills. They noted that elderly people might limit their movements because they fear falling, but that this can also contribute to falls by impeding their motor skills.¹⁸ This study implies that while gait, balance, and lower body strengthening activities reduce fall risk, aquatic exercises are more effective.

In 2008, Roller and colleagues¹⁹ found that an AT program consisting of active range of motion exercises, water walking, and using water weights for strengthening improved Berg Balance Scale (BBS) scores by 20% in 13 female assisted living residents (mean age, 77.5 years). The AT sessions were 45 minutes each and conducted twice weekly for a 6-week period. Although there was no comparison to a comparable land-based program, the AT participants had developed balance and stumble recovery skills in the water, which reduced their risk of falling and improved their BBS scores. The authors urged further research to assess whether a land-based exercise program could have the same effects.

In 2010, one such study was conducted by Brazilian researchers, who randomly assigned 36 elders to one of three groups: an aquatic exercise group, a nonaquatic exercise group, and a control group.²⁰ All participants were evaluated at baseline and at 6 weeks using the BBS score and the Dynamic Gait Index, and their gait speed and tandem gait were also assessed. Both exercise groups underwent a program to improve lower-limb muscle endurance via 40-minute exercise sessions twice weekly for the study period. The researchers found that the muscle endurance programs provided a significant improvement in static and dynamic balance, regardless of environment (ie, aquatic versus nonaquatic); however, these participants had fewer limitations because they were cognitively intact community-dwelling elders. For long-term care residents with cognitive deficits, particularly those with severe dementia, land-based exercises may not be possible. Regardless, the study provides further evidence that water-based activities can improve balance.

Although incontinence has been considered a contraindication to AT, these patients may become candidates if they are toileted before entering the pool and are provided with incontinence swim briefs.

A study by Gabilan and colleagues²¹ used AT based on the Halliwick concept and the Bad Ragaz ring method to provide vestibular rehabilitation to 21 patients with unilateral vestibular hypofunction due to multiple etiologies. AT was administered three times weekly for 45 minutes in 1.3 meters of water for 12 sessions. No other method of vestibular rehabilitation or therapeutic exercise was allowed and no association with the use of antivertigo medications and AT therapeutic effects was found. Compared with pretreatment results, all patients improved significantly when evaluated with the Brazilian Dizziness Handicap Inventory, dynamic computerized posturography, and the self-perception scale of dizziness intensity. The authors suggested that improvement resulted from recalibration of sensory inputs because the aquatic environment increases visual vestibular mismatch, decreases weight-bearing sensory information, and requires more controlled body translation. While this study was not limited to older adults, it suggests that AT might improve balance in people with vestibular disorders, the prevalence of which increases with age.

Post-Stroke. Several small-scale studies have shown water-based exercises to improve motor function in persons who have sustained a stroke. In 2004, Chu and colleagues²² randomly assigned 12 community-dwelling patients with mild to moderate residual motor defects following a stroke into an experimental group that exercised in chest-deep water and a control group that did arm and hand exercises while sitting on land. Both groups exercised for 1 hour three times a week for 8 weeks. Outcome measures included cardiovascular fitness (VO_2 max), maximal workload, gait speed, BBS score, and overall muscular strength. The BBS improved slightly in both groups, with slightly more improvement in the control group, while the VO_2 max improved by 22%, gait speed improved by 19%, and muscle strength on the more affected side improved by 9% in the experimental group. The improvement in muscle strength was deemed to be statistically significant, and the authors concluded "a water-based exercise program undertaken as a group program may be an effective way to promote fitness in people with stroke."²²

Roller and colleagues found that an AT program consisting of active range of motion exercises, water walking, and using water weights for strengthening improved BBS scores by 20% in female residents.

In 2007, a Brazilian study that evaluated a 12-week program of AT in 15 older adults who were recovering from a stroke found that these patients had a significant improvement in their ADLs compared with the control group of 13 patients.²³ Based on their findings, the authors concluded that water-based exercises could improve the quality of life of stroke patients. In 2011, another small Brazilian study evaluated 10 stroke patients between the ages of 7 and 83 years using a Timed Get Up and Go (TUG) test before and after each of the 12 water exercise sessions, which included stretching, muscle strengthening, balance training, and walking.²⁴ The researchers found that participants' TUG scores generally improved after each session, and all 10 participants improved their TUG scores at 12 weeks compared with their baseline scores.

In 2008, Korean researchers assessed whether AT could improve postural balance and muscle strength in stroke survivors.²⁵ The study randomly assigned 25 ambulatory

chronic stroke patients to an AT group (n=13) or to a conventional therapy group (n=12), both of which attended 1-hour sessions three times a week for 8 weeks. Persons receiving AT performed weight-bearing and balance exercises using the Ai Chi and Halliwick concepts, whereas the conventional therapy group performed gym exercises. Compared with the conventional therapy group, the AT group showed statistically significant improvements in BBS scores, forward and backward weight-bearing abilities of the affected limbs, and knee flexor strength.²⁵

In 2011, Mehrholz and associates²⁶ reviewed several databases to identify studies that examined whether AT could improve stroke outcomes. They included four randomized trials in their assessment, which collectively included 94 participants. Based on their review, the authors concluded that there is insufficient evidence to show water-based exercises after stroke to be effective in reducing disability, and they called for better and larger studies.²⁶ Nevertheless, the authors found no reported adverse effects with AT in any of the studies, which indicates that AT may be safe to try in this population.

Other Potential Benefits of AT. In addition to helping with balance and stroke recovery, AT has been reported to help with numerous other conditions. One small Spanish study assessed whether AT could be beneficial for persons with Parkinson's disease.²⁷ The study randomly assigned 11 patients with Parkinson's disease into land- and water-based physiotherapy groups. Both groups received comparable training to include warm-up exercises, trunk mobility exercises, postural stability training, and transfer training during individual 45-minute sessions twice weekly for 4 weeks. Baseline and post-intervention evaluations were performed 12 hours after Parkinson's medications were withheld and included an FRT, BBS score, gait evaluation, TUG test, and Unified Parkinson's Disease Rating Scale (UPDRS) score. Both groups improved with regard to the FRT. There was no significant difference in either group with respect to gait evaluation and the TUG test, and only the AT group improved with regard to their BBS and UPDRS scores.

In 2000, a small study showed AT to increase postural stability in women with lower extremity arthritis.²⁸ In the study, 24 women with lower extremity arthritis were randomly assigned to an AT group (n=14) or to a control group (n=10). The researchers found that the AT participants had reduced their lateral sway and total sway scores by 18% and 30%, respectively. A more recent study from 2012 that compared aquatic treadmill exercise to land-based treadmill exercise noted a significant improvement in gait kinematics and 100% improvement in perceived pain in knee joint arthritis patients performing these exercises in water.²⁹

AT has also demonstrated greater improvement than land-based physiotherapy following total hip or knee replacement starting as early as postoperative day 4,¹⁶ and a systematic review and meta-analysis in 2013 concluded that early AT following orthopedic surgery does not increase the risk of wound-related adverse events.³⁰ In addition, spinal cord injury patients with spasticity improved significantly and required less medication (baclofen) after 10 weeks of AT and passive range of motion exercises compared with a control group treated only with medication and passive range of motion exercises.³¹ Another study documented reduced spasticity and a significantly decreased quantitative knee-jerk reflex, especially in an affected limb, following a 2-week course of AT in patients with spastic paresis resulting from hemiparesis, paraparesis, tetraparesis, or multiple sclerosis.³²

Several small reports have shown AT to be beneficial for patients who have experienced a brain injury. In 2004, a randomized controlled trial that included 16 patients with brain injury and unilateral spasticity noted improvement in cardiovascular endurance, muscular strength and endurance, and flexibility after an 8-week course of AT three times weekly.³³ More recently, a case report noted AT to be a useful adjunct to land-based physiotherapy to improve balance, gait, coordination, and ataxia in a patient with a traumatic brain injury.³⁴

Conclusion

AT appears to be effective for a number of neurological and musculoskeletal disorders, and it may be more effective than land-based physiotherapy in some cases. The improvement in our case patient's cognitive skills during AT sessions was especially impressive to his family members and to his caregivers, although the carryover effect on land after AT was limited. It is still unclear why AT is so beneficial, but there is speculation that the aquatic environment might recalibrate sensory inputs in cognitively impaired patients because water immersion decreases weight-bearing sensory information and requires less effort to balance, enabling enhanced focus on cognitive skills. Our case report illustrates a need to further study the potential for AT to improve the quality of life of patients with dementia. ♦

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AQUATIC THERAPY USE STATISTICS

1. Nationally, from 2004 – 2007, participation in Aquatic Therapy grew from 5.8 million to 7.2 million people.
2. in 2007, 1.35 million people in the North Central region of the United States participated in Aquatic Therapy.
3. The average age of participants who exercised in water more than 100 days per year is 57 years old. 75% of those participants are female.

Excerpted from Salzman, A. "Aquatic Aftercare and Wellness". In Becker, B, Cole A (eds). **Comprehensive Aquatic Therapy**. 3rd edition. Lippincott, Williams & Wilkins. Pending publication 2009. Statistics compiled in part from 2008 Superstudy of Sports Participation (Aquatic Exercise Slice).

Aquatic Pool Equipment List

1. Equipment

- Wheelchairs for patients to enter the pool or use for showering
- Two in-pool exercise platforms
- One in-pool pull-up station
- Hand held devices such as noodles, foam bar bells with varying degrees of difficulty
- Neck float rings, chest float vests, chest float rings, stomach float belts
- Various ankle weights
- Aqua Toner
- Exercise paddles

North Central Health Care

Person centered. Outcome focused.



Quality Outcome Dashboard

Name: Brenda Budnik

Department: OSL-Aquatic Services

Fiscal Year: 2013

Priority Outcome Goal (included in Performance Evaluation)	Target (rating 2)	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	YTD
Clinical														
% Clients Met Treatment Goals	80-88%	96%	88%	96%	90%	94%	88%	93%	89%	92%				92%
Adverse Outcomes per Year	4-6	0	2	1	1	0	0	0	0	0				4
People														
Employee Engagement Partnership Mean	70-75	/	/	/	/	/	/	80.0						80.0
Service														
% Excellent on Client Satisfaction Survey	75-80%	100%	96%	88%	100%	100%	91%	100%	100%	100%				96%
Community														
Community Service Hours per Month	9-12	9	14	11	13	11	18	13	16	20				13.8
Finance														
Direct Cost /Unit of Service	\$105-\$107	\$103	86	\$131	\$77	\$105	\$91	\$172	118					\$105



North Central Health Care

Person centered. Outcome focused.



Quality Outcome Dashboard

Name: Brenda Budnik
 Department: Aquatic Therapies

Fiscal Year: 2012

Priority Outcome Goal (included in Performance Evaluation)	Target (rating 2)	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	YTD
Clinical*														
% Of Clients That Met Treatment Goals on Completion of Service	73-79%	/	/	90%	95%	94%	88%	88%	97%	91%	92%	84%	91%	91%
Adverse Occurrences	0.06%	0%	0%	0%	0.00%	0.04%	0.00%	0.00%	0.00%	0.00%	0.04%	0.04%		0.01%
People														
Employee Engagement Partnership	75-80	/	/	/	/	/	/	76	/	/	/	69.9	/	69.9
Service														
% Excellent on Client Satisfaction	60-74%	/	/	90%	95%	100%	93%	100%	100%	100%	100%	100%	86%	96%
Community														
Community Service Hours	5-8 Hrs	/	/	21 Hrs	7.5 Hrs	14 Hrs	25 Hrs	9hrs	5hrs	5hrs	5hrs	9hrs	6hrs	10hrs
Finance														
Ave. Direct Cost per Billed Hour	99-104	114	109	141	97	94	103	215	83	97	79	103	132	108

*One Clinical Outcome measure related to Safety is expected in all departments. High Risk, Problem-Prone, and High Volume clinical processes and services should be addressed.