

**REPORT OF THE
DEPARTMENT OF HEALTH ON**

**Regulation Of Swimming
Pools And Other
Recreational Bathing
Facilities In Virginia**

**TO THE GOVERNOR AND
THE GENERAL ASSEMBLY OF VIRGINIA**



SENATE DOCUMENT NO. 9

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VIRGINIA DEPARTMENT OF HEALTH

**REGULATION OF SWIMMING POOLS
AND OTHER RECREATIONAL BATHING FACILITIES IN VIRGINIA**

SJR 205 STUDY COMMITTEE REPORT

OCTOBER 13, 1989

VDH STUDY COMMITTEE

Robert W. Hicks	Virginia Department of Health Division of Sanitarian Services
John E. Benko, M.P.H.	Virginia Department of Health Division of Sanitarian Services
Gordon Rudd Charles Pierce	National Pools, Roanoke, VA and member of National Spa and Pool Institute (NSPI)
Robert Zura Dr. Richard Edlich	University of Virginia Charlottesville, VA
James Bowman	Virginia Department of Health Fairfax County Health District
Nancy M. Welch, M.D.	Virginia Department of Health Chesapeake Health District
Carl D. Armstrong, M.D.	Virginia Department of Health Division of Health Hazards Control

**REGULATION OF SWIMMING POOLS
AND OTHER RECREATIONAL BATHING FACILITIES IN VIRGINIA**

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STUDY MANDATE

SJR 205 requested a study of the need for additional swimming pool regulations and regulations to cover other water recreation facilities (See Appendix 1).

A committee was formed with representatives from state and local health departments, the swimming pool industry, and other interested parties.

Reasons cited for this study are as follows: (See Appendix 1)

- 1. Virginia's climate contributes to a greater interest in water sports, use of public and private swimming pools, and other water recreation facilities.**
- 2. Improper maintenance of swimming pools and other recreation facilities has the potential to facilitate the transmission of infectious diseases.**
- 3. The Department of Health has the responsibility under the Code of Virginia to inspect, investigate, evaluate and take samples to prevent communicable disease from occurring.**

PURPOSE OF STUDY

Public swimming pools, spas and hydrotherapy pools are usually operated by public or private agencies, such as apartment developments, communities, schools, clubs and hospitals. Because of their availability to the public, pools should be under the supervision of a health regulatory agency. Supervision should be specifically described in sanitary codes adopted and enforced by a state health department. In the absence of these established standards for public pools, swimmers may be susceptible to a variety of water-borne pathogens. (J. Burn Care Rehab 1989; 10:pp 74-78).

Numerous infectious diseases have been contracted from bacterial contamination of unsanitary pool waters. Among these are skin, gastrointestinal and upper respiratory infections. These consequences of inadequate pool sanitation and safety standards also become potential sources of litigation against pool operators. In an effort to protect the bather, state health agencies must identify practices and standards for the safe operation and maintenance of swimming pools, spas and hydrotherapy pools.

In 1962, the Board of Health of the Commonwealth of Virginia adopted regulations for swimming pools that were limited to tourist establishments (hotels, lodging places and campgrounds). This leaves many types of public and private pools, spas and hydrotherapy pools which are not currently regulated for maintenance or safety. These include facilities in the following: apartment and condominium developments; private residences; private swim clubs, schools; colleges and universities; hospitals or nursing homes; day care centers or other child care facilities; spas at health clubs and other facilities not associated with tourist facilities; and public pools not in regulated tourist facilities.

The current swimming pool regulations recommend that the chlorination equipment be operated so as to have a free chlorine residual content of not less than 0.5 ppm and a hydrogen concentration (pH) of 7.2 or above. These standards, however, have been revised and upgraded by the Centers for Disease Control in Atlanta, Georgia. Depending on pH, a free chlorine concentration of 0.4 to 1.0 ppm should be maintained at all times and is currently recommended by the Centers for Disease Control. (The Centers for Disease Control, Atlanta, Jan. 1985, p 10).

While the Virginia Health Department had limited jurisdiction over public swimming pools, it documented in 1982 one of the consequences of inadequate pool maintenance in a club swimming pool. These findings implicated the pool water as the cause of dental enamel erosion in competitive swimmers who swam in a private club pool. Because this report did not serve as a catalyst for either revision of the outdated regulations or expansion of their jurisdiction, the current study was undertaken to evaluate the need for better monitoring of the sanitary quality of public hydrotherapy facilities and swimming pools not located in tourist establishment facilities.

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VIRGINIA DEPARTMENT OF HEALTH

1989 SURVEY

SURVEY DEFINITIONS

In August, 1989, the Division of Sanitarian Services of the State Health Department conducted a survey of the 36 health districts. The questionnaire survey requested information regarding the number of swimming facilities within the district that are categorized as follows: public swimming pools; semi-public swimming pools; tourist pools; water recreation facilities; and health spa pools. (Refer to the definitions below). Also, information was requested on whether or not swimming pool ordinances had been adopted locally and if so, how many pools were regulated under local ordinance. The results are tabulated in the charts on pages 7, 8, and 9.

Public Swimming Pool - means any pool intended for public recreational use.

Semi-Public Swimming Pool - means a pool serving a condominium or apartment complex operated or owned by a community group with use limited to members and guests.

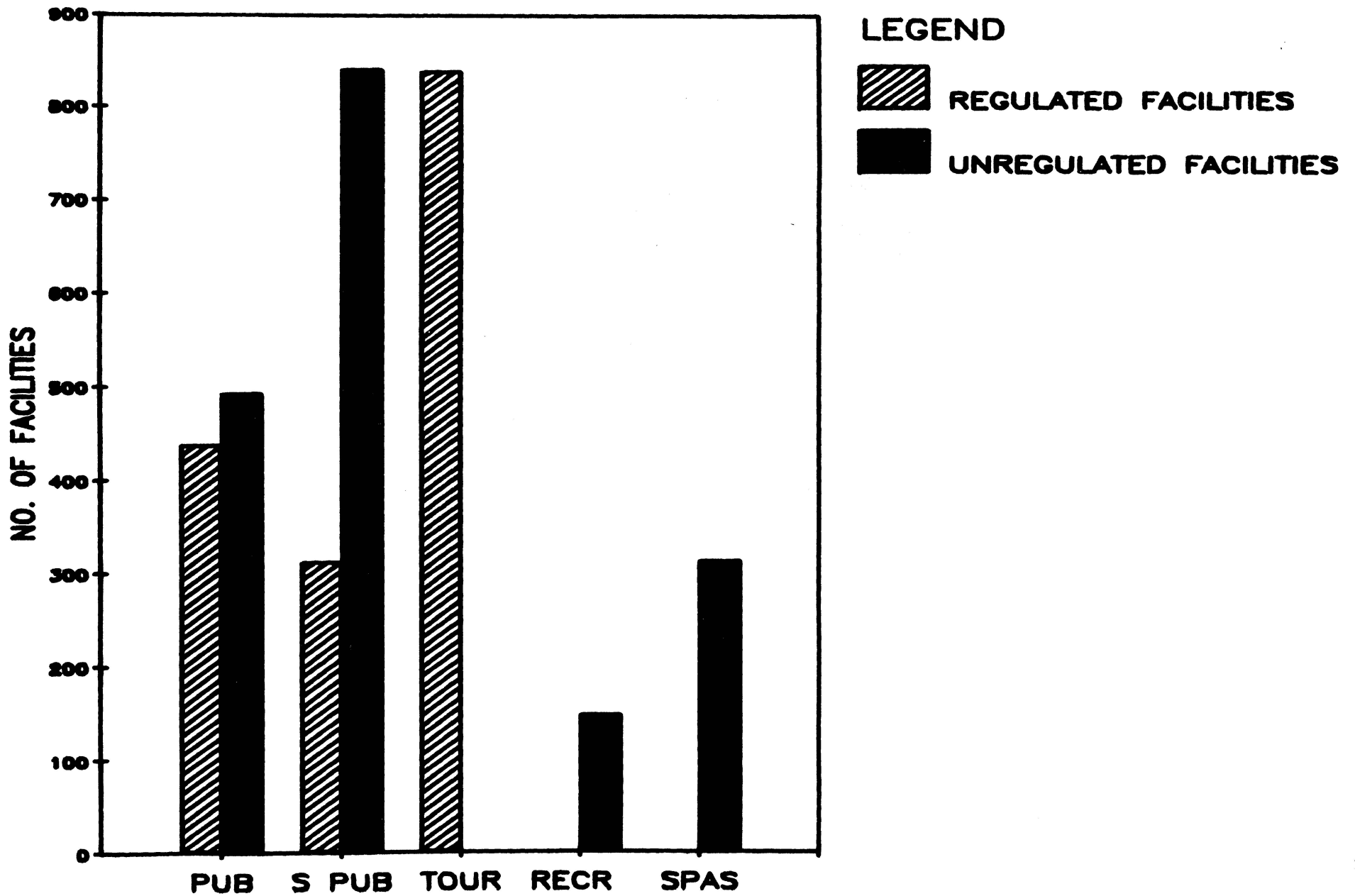
Tourist Pool - means a swimming pool operated in conjunction with a hotel, motel, campground, etc.

Recreation Facility - means a water recreation area including a beach at a lake.

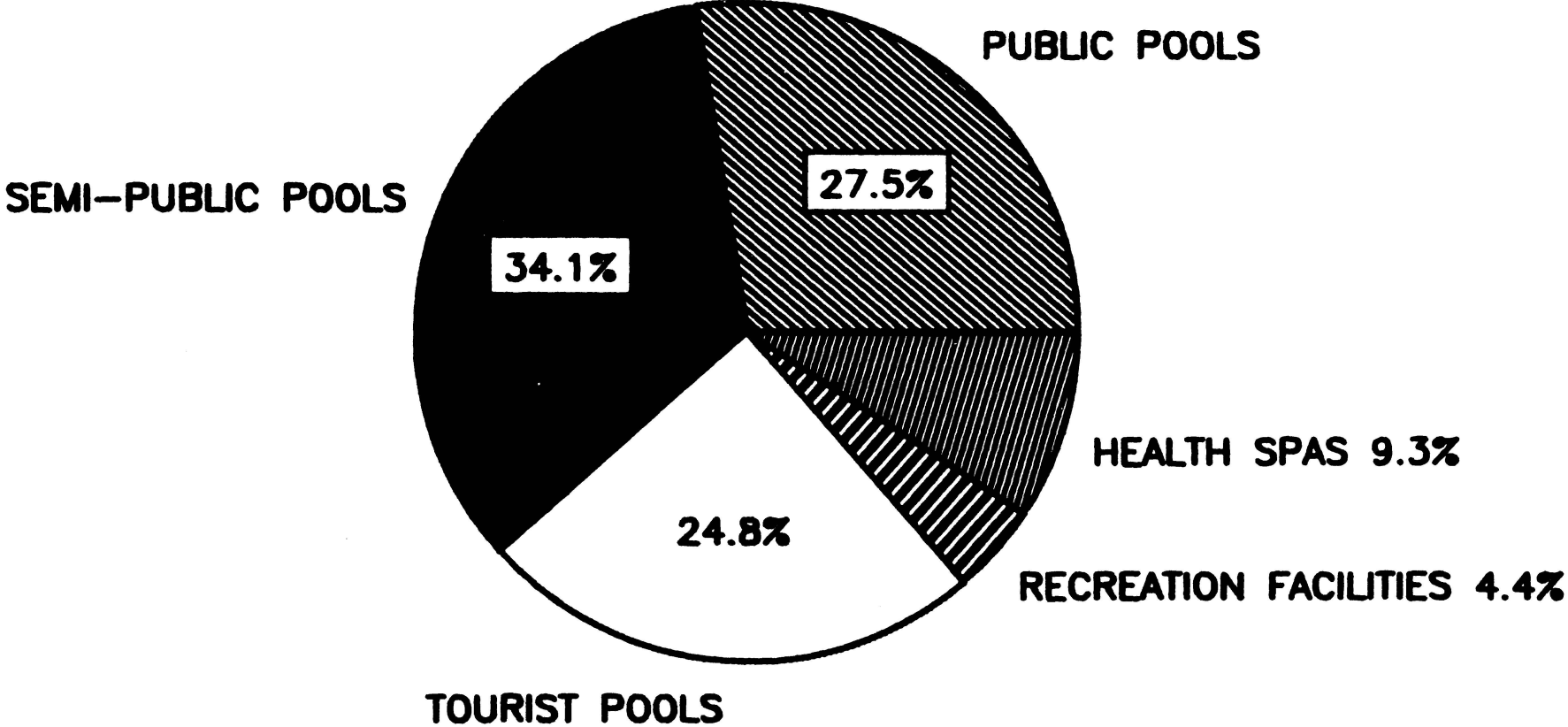
Health Spa Pool - means a swimming pool, hotel tub, or therapy pool operated as part of a health spa.

Since the survey information contains estimated numbers of unregulated pools, the number of actual pools may be higher than reported.

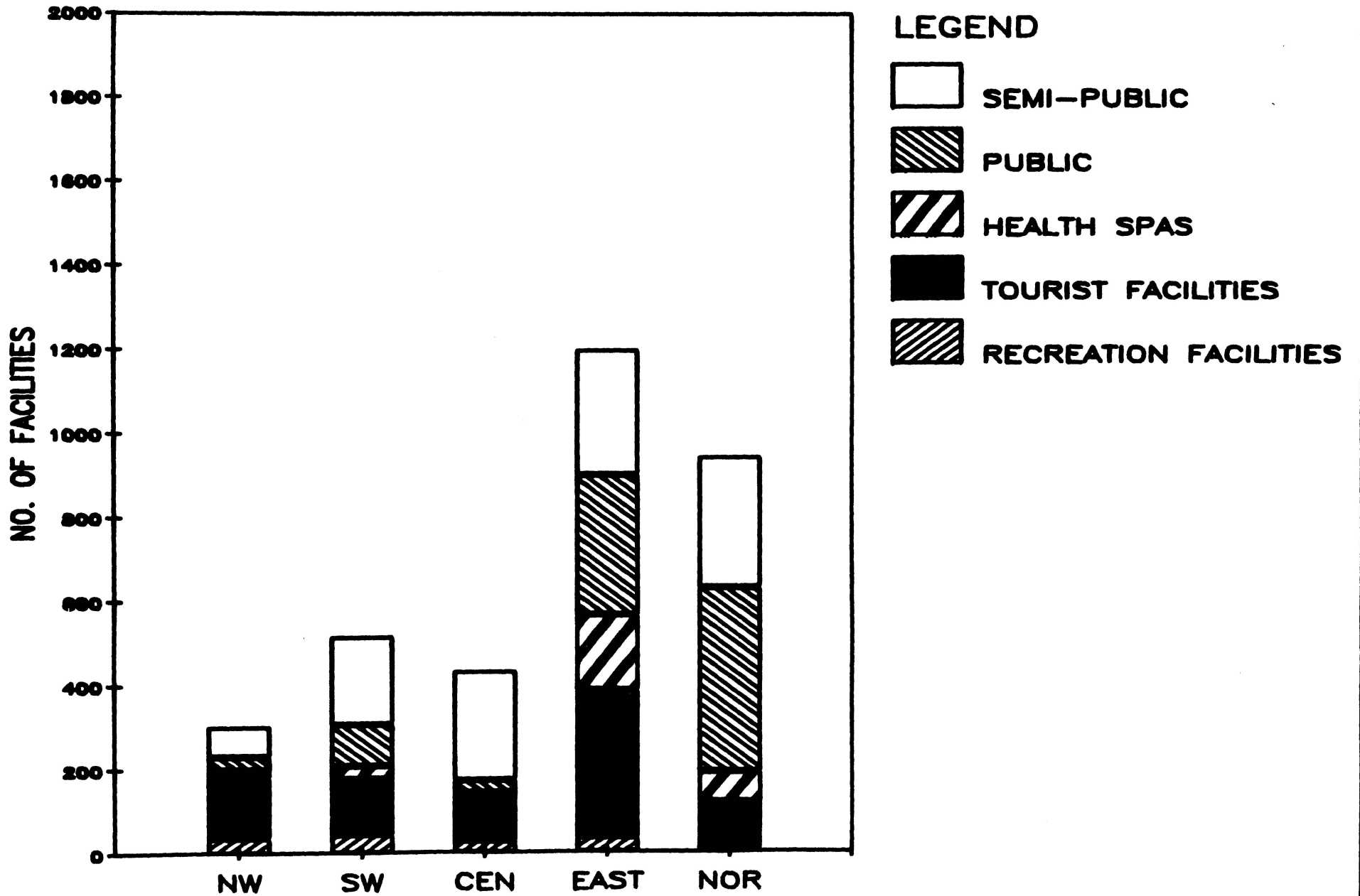
REGULATION OF SWIMMING FACILITIES



TYPES OF SWIMMING FACILITIES



TYPES OF SWIMMING FACILITIES BY REGION



STATEMENT OF NEED

Pools and spas that are not properly maintained and supervised have a great potential for creating public health problems. Additional authority to regulate all facilities on page 6 is needed to protect the public health of Virginians.

A literature search was conducted to investigate swimming pool and recreational bathing accidents and injuries. Also, literature reports of illness and disease associated with pools, spas and recreational waters were studied. The following are specific examples of how disease and injury can result from a swimming pool, spa or recreational bathing facility environment.

- A. Non-regulation of public and private pools has led to poor maintenance of pool filtration systems, thereby creating the potential for viral transmission.

In 1977, there was a disease outbreak in 105 individuals due to adenovirus type 3 in a community coincidental with a defect in a pool's filtration system and insufficient chlorine levels in the water. (American Journal of Epidemiology, Vol. III, No. 2, pp. 229-237).

- B. Unsupervised pools can lead to accidental injuries, drownings, and near-drownings which may result in permanent disability or death.

Swimming pools are the predominate site for drowning accidents in children. Natural bodies of water account for most adolescent drownings. (Pediatric Annals 17: February 2, 1987, pp. 125-132).

In Canada, drowning is the second leading cause of accidental death in people under 20 years of age. Research has revealed consistent patterns of behavior and circumstances surround these accidents. One of these circumstances is the lack of adult supervision. (Canadian Journal of Public Health, Vol. 75, May/June 1984).

- C. Unregulated public and private pools can result in pools that are over-chlorinated, resulting in possible injury; or that are under-chlorinated, facilitating transmission of communicable disease.

In 1982, The Virginia Health Department reported an outbreak of erosion of dental enamel in competitive swimmers who swam in a private club pool with no buffering capacity and a pH of 2.7, an acid concentration approximately 100,000 times that recommended for pools. These findings, plus the apparently inadequate maintenance practices, implicated the pool water as the cause of the enamel erosion. (Centers for Disease Control. MMWR 1983;32:pp 361-362).

- D. Recreational swimming is enjoyed by millions of people each year. This enjoyment is often reduced by infection and illness.

There is direct evidence of transmission of viral infections by swimming pools. (American Journal of Public Health, 1981, Vol. 71, No. 9, pp. 1026-1030).

- E. Special regulations are needed for public spas and hot tub facilities to prevent skin diseases from occurring in the general public.

There are many published reports of outbreaks of Pseudomonas folliculitis, a skin disease, associated with spas, hot tubs and whirlpools. The organism Pseudomonas aeruginosa has the ability to withstand chlorine and multiply in water with elevated temperatures. (Journal of Clinical Microbiology, March 1986, pp. 655-659).

There is a positive correlation between the spa and hot tub environment and conditions favoring the growth of potential pathogenic organisms. These areas have special requirements and should not be regulated as though they were small swimming pools. (Canadian Journal of Public Health, Vol. 75, May/June 1984, pp. 223-226).

- F. Unregulated recreational bathing areas present potential public health hazards with contaminated water by causing bacterial infections.

Six children were hospitalized with Shigella sonnei infections. Each child had swum in the same recreational lake. The outbreak was epidemiologically linked to swimming and the lake was found to be contaminated. (American Journal of Public Health, Feb. 1987, Vol. 77, No. 2).

Regulation is also needed to ensure that only qualified personnel are in charge of pool maintenance and pool safety. Currently, only jurisdictions with a local swimming pool ordinance certify individuals who are trained to maintain sanitizing chemical quality of a pool and know how to provide first aid, cardiopulmonary resuscitation and other safety measures at a swimming pool or spa. For example, in Tidewater Virginia certification training consists of 8 hours of classroom instruction and passing an examination at the completion of the course. A course fee of \$5.00 per participant is charged for this class.

RECOMMENDATIONS

The committee concludes that the design, construction, management and operation of swimming pools and spas can pose health and safety risks. Since residents and visitors to the Commonwealth continue to use swimming pools and spas for both recreational and therapeutic activities, the risk to their health and safety depends, in part, on how the facility is constructed and operated. The committee believes risks are not limited to pools and spas operated by tourist establishments and therefore, it recommends that all public pools should be subject to some degree of regulation.

Current regulation is limited to § 625.0, Volume 1, of the Uniform Statewide Building Code and to the regulations adopted by the State Board of Health in accordance with the authority given under Title 35.1. The committee reviewed standards adopted by other states and standards nationally recognized by organizations, such as, the American Public Health Association and the National Swimming Pool and Spa Association. In light of this information, the committee concluded that technical criteria in both existing sets of state regulations would need to be reviewed and amended, except for the provisions of the Uniform Statewide Building Code that apply to private residential swimming pools or spas.

The State Department of Health currently has an internal task force drafting changes to regulations for pools and spas operated by tourist establishments and will share their recommendations with the Department of Housing and Community Development for their consideration.

Even with updating the existing regulations, many health and safety concerns will not be addressed. The Uniform Statewide Building Code governs the design and construction of all pools in the Commonwealth, but the regulations of the State Department of Health are limited to the operation and maintenance of swimming pools operated by hotels, motels, campgrounds, and summer camps. All other pools and spas, after constructed and approval for use by the local building officials, are not subject to any type of regulation, unless requirements are imposed by local ordinances.

In order to minimize many of the safety and health risks the General Assembly would have to adopt legislation to expand the authority of state agencies to regulate the operation and maintenance of swimming pools and spas. The committee developed a range of recommendations which the General Assembly may consider.

The most comprehensive regulatory approach would include granting additional regulatory authority to state agencies. The State Board of Health would be authorized to adopt operational and maintenance requirements for swimming pools, spas and other water recreational facilities other than private residential facilities. The Department of Commerce would be authorized to establish a Board of Swimming Pool Operators, which would adopt requirements for minimum professional standards for personnel operating such facilities. The advantage of this approach is that the Commonwealth, through its agencies, would be actively minimizing the safety and health risks by prohibiting the operation of swimming facilities which do not comply with operational and maintenance standards and would prohibit persons who do not demonstrate minimum competency from

operating a swimming facility. The obvious concern of this approach is the additional cost of providing personnel and fiscal resources to administer and implement these regulatory programs. In order to offset this cost, a grant of authority to charge and collect fees might be considered. The committee recommends this first option.

The total estimated cost of this approach is \$240,000 annually. The State Department of Health would be responsible for inspecting and permitting 851 additional swimming pools. Based on Fairfax County's experience regulating swimming pools under local ordinance, it costs \$134 per pool annually. At this rate it would cost the Health Department \$115,000 for the additional 851 pools. However, funding only this amount would not support a statewide implementation of a permitting program under the Department's present system of assigning full time equivalent positions. This amount equates to nearly four full time sanitarian positions, which could be assigned to only four of the 36 health districts. To support the creation of a Board of Swimming Pool Operators under the Department of Commerce would cost \$125,000 annually, part of which could be offset by collecting a fee for a pool operator's license.

A second approach, probably less effective, would be to choose only one of the above actions. Either only grant the State Board of Health the authority to prohibit the operation of swimming pools not in compliance with adopted standards or only grant to the Department of Commerce the authority to adopt requirements for minimum professional standards for personnel operating such facilities. This approach is less restrictive and probably less costly than the recommended option.

A third approach would be to require by legislation that each swimming pool or spa owner post in clear view of the users the daily results of the water quality testing of the pool or spa. The posting should compare the testing results to the operational performance standards based on the pool manufacturer's specifications. Examples of water quality data includes pH, type of disinfectant and its effective concentration, water temperature, and water turnover rate. Copies of the test data must be kept on file for review by the users for one year. This approach provides the users the data to compare with the manufacturer's specifications. The user of the pool can use the data to decide if he wishes to use the pool. This approach appears to be the least restrictive and forces the user, in effect, to regulate the owner. Any costs to the Commonwealth would result from complaint investigation to determine if the required information is posted.

APPENDIX I

SENATE JOINT RESOLUTION NO. 205

Requesting the Virginia Department of Health to study the need for health regulation of swimming pools and other water recreation facilities open to the public.

Agreed to by the Senate, February 6, 1989

Agreed to by the House of Delegates, February 17, 1989

WHEREAS, the Commonwealth's temperate climate has contributed to greater interest in water sports and recreation and to an increase in the use of public and private swimming pools and other water recreation facilities; and

WHEREAS, without proper maintenance, swimming pools and other water recreation facilities may facilitate the transmission of certain infectious diseases, such as impetigo and certain infections of the ears, eyes, nose and throat; and

WHEREAS, it is the right of the State Health Commissioner or his designee, pursuant to § 32.1-25 of the Code of Virginia, to enter any property "to inspect, investigate, evaluate, conduct tests or take samples for testing as he deems necessary"; and

WHEREAS, pursuant to § 32.1-13, the Board of Health may promulgate in certain cases regulations for the purpose of suppressing "communicable, contagious and infectious diseases"; now, therefore, be it

RESOLVED by the Senate, the House of Delegates concurring, That the Virginia Department of Health is requested to study the need for health regulation of swimming pools and other water-recreation facilities open to the public.

All agencies of the Commonwealth shall provide assistance upon request as the Department of Health may deem appropriate.

The Department of Health shall complete its work in time to submit its findings to the 1990 Session of the General Assembly as provided in the procedures of the Division of Legislative Automated Systems for processing legislative documents.

