NUTRITION ISSUES IN
LICENSED ADULT CARE FACILITIES
WITHIN
THE CAPITAL REGIONAL DISTRICT

SUBMITTED BY

JOANNE HOUGHTON, RDN, B.Sc.(DIETETICS)

COMMUNITY CARE FACILITIES NUTRITIONIST

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EXECUTIVE SUMMARY

Recognizing the potential for nutrition problems, the Regional Medical Health Officer requested a report on the nutritional status and the quality of nutrition and foods served to residents housed in licensed adult care facilities throughout the Capital Regional District (CRD). There are currently 105 licensed adult care facilities within the CRD including 20 Intermediate Care (IC), 17 Personal Care (PC) and 68 Specialized Residential Care (SRC). The number of licensed adult care facilities has increased by approximately 82% over the past decade. This increase has been primarily SRC facilities.

The nutritional status of residents living in 65 facilities and the quality of nutrition and food service provided therein was assessed by three methods:

1) A nutrition survey - respondents identified the nutritional status of residents and reported raw food costs. Food costs were compared to national guidelines -Agriculture Canada's Nutritious Food Basket figures.

2) Computerized menu analysis and comparison to one of the current Canadian Dietary Standards - The Recommended Nutrient Intakes For Canadians.

3) Inspection of the nutrition and food service component of each facility surveyed and observed degree of compliance to provincial nutrition regulations and standards.

Additionally, the study examined nutrition issues arising from recent demographic changes in licensed adult care facilities since these issues impacted on the nutritional status and the quality of nutrition and foods provided to residents.

In terms of **nutritional status**, the following results were found:

- A total of 922 residents were identified to be "at nutritional risk", representing 43.5% of the population surveyed. This means that these residents had one or more of the following nutritional risk factors:

    1) Weight gain of >10% client's usual weight.
    2) Weight loss of > 10% client's usual weight.
    3) Handicapping conditions that interfere with ability to eat.
    4) Poor or changed appetite.
    5) Insufficient consumption of fluids (<3 cups daily).
    6) Bowel irregularities requiring laxatives.
    7) Possible food and drug interactions.
    8) Food allergies.
    9) Requirement of a therapeutic diet.

  Residents "at nutritional risk" should receive the services of a RDN a minimum once every three months to monitor nutritional status as per provincial nutrition standards.

In terms of the impact of recent demographic changes to licensed adult care facilities, the following issues were presented:

- Facility staff require a minimum level of nutrition expertise to meet the nutritional needs of their residents. However, there are no minimum nutrition education requirements for these individuals. Additionally there is a negligible amount of nutrition education programs in the Victoria area specific to address the needs of the population studied.

- Staff and residents, particularly in the smaller SRC facilities, have limited accessability to the services to community based RDN's who can provide regular on-site consultant nutrition services specific to meet their needs.

- Current staffing levels of the CRD Community Care Facility Program are insufficient to allow qualified personnel to regularly monitor the nutrition and food services of these facilities. At present, the Licensing Officer is only able to inspect a facility once every 1 - 2 years and the Community Care Facility Nutritionist is only able to inspect a facility once every 2 - 3 years. Thus, compliance to regulations and standards may become lax.

Consequently, this study has shown that many individuals housed in licensed adult care facilities within the CRD do not have adequate, appropriate and accessible nutrition and/or nutrition services. There was identified need for the development of a network of community nutrition support services including nutrition education programs and community consultant RDN services. Additionally, adequate funding, appropriate regulations and sufficient licensing services must be available to ensure residents receive a high quality of nutrition and food services. While the staff of each facility have been informed about the findings of this survey, limitations in community nutrition support services may impede the resolution of many identified nutrition issues. If this situation continues on it's current course, and remains unaddressed, the potential for increased incidence of nutrition health and safety issues will escalate.

RECOMMENDATIONS

1. That the report "Issues in Licensed Adult Care Facilities in the Capital Regional District" be forwarded by the Capital Regional District Board for information and action to the Minister of Health, the Provincial Adult Care Licensing Board and all adult care funding agencies (Ministry of Social Services and Housing, Ministry of Health, Mental Health Services, Services to the Handicapped and Long Term Care).

- Specialized Residential Care facilities housed the greatest percentage of residents "at nutritional risk" (48.6%).

- Actual percentage of residents "at nutritional risk" may be higher than reported here since 12.7% of the total population was not assessed at the time of the survey.

In terms of the **quality of nutrition and food service**, the following results were found:

- Fifty-nine percent of the menus that received computer analysis failed to meet "current Canadian Dietary Standards" as required per Adult Care Regulations Section 7(1)(a). These menus failed to provide >80% of the Recommended Nutrient Intakes (RNI's), for one or more common nutrients, based on typical client profile data. This means that 732 residents were housed in facilities providing nutritionally substandard menus. Residents housed in facilities with menus that failed to provide >80% of their RNI's were at a greater risk of nutritional inadequacies than residents housed in facilities with menus that met their RNI's.

- The predominant nutritional issue identified by computer analysis was that 42% of SRC menus failed to provide sufficient calories to meet the recommended energy intake of the average client.

- The median raw food cost for both IC and PC facilities was below the minimum recommended amount stipulated in Agriculture Canada's Nutritious Food Basket Guidelines. Raw food costs ranged from $1.67 to $7.50 per person per day. Specialized Residential Care facilities reported the most variable raw food costs ranging from $2.40 to $7.50 per person per day.

- Sixty-four percent (37) of the facilities responding to the survey housed <25 residents and therefore were not required by legislation to employ the services of a RDN. These facilities were primarily SRC's. Section 7(4)(a) of the Adult Care Regulations does not address the needs for RDN services in facilities housing <25 residents nor the proportionate increased need for RDN services in facilities housing significantly more than 150 residents.

- The need for RDN services appeared to be the greatest in SRC facilities, yet SRC residents received the least RDN time (2.5 min./resident/day) compared to PC (5.1 min./resident/day) and IC (12.0 min./resident/day). Additionally, most SRC facilities were not provided funding for the services of a RDN.

2. **The Capital Regional District Health Committee:**

- Support the development of a network of community consultant Registered Dietitian Nutritionists in order to provide contracted nutrition services to facilities and/or agencies otherwise unable to obtain those services. The Community Dietitian Model similar to that in Nelson and Revelstoke is recommended.

- Support the development of nutrition education programs in the community, specific to meet the needs of residents, and staff of adult care facilities.

- Approve the addition of one Community Care Facility Registered Dietitian Nutritionist position (1 FTE) in the 1992 budget submission.

3. **The Capital Regional District Board recommend the British Columbia Ministry of Health, Community Care Facilities Licensing Branch:**

- That they amend the nutrition component of the Adult Care Regulations to include minimum Registered Dietitian Nutritionist staffing guidelines for <u>all</u> licensed adult care facilities, regardless of capacity, in order to ensure that resident nutrition health and safety issues are addressed by a qualified Nutritionist.

4. **That the Capital Regional District Board recommend to all Adult Care Funding agencies:**

- That they contract the services of Registered Dietitian Nutritionist(s) in order to provide consultant nutrition expertise and nutrition educational programs to facilities where these services are currently lacking. Alternatively, to ensure adequate commitment of financial resources to facilities so that they may independently contract the services of a Registered Dietitian Nutritionist.

- That they ensure adequate commitment of financial resources to facilities in order to enable those facilities to comply with <u>all</u> provincial nutrition regulations and standards.

TABLE OF CONTENTS

GRAPHS AND TABLES

INTRODUCTION

All persons cared for in adult care facilities, whether they are limited in functional capacity, chronically impaired or severely disabled, have the right to adequate appropriate and accessible nutrition. Section 7 of the Provincial Adult Care Regulations exists to ensure this right for those facilities falling under the Community Care Facility Act. The mandate of the Community Care Facilities Program of the Capital Regional district (CRD) is to ensure that licensed care facilities comply with provincial acts, regulations and standards in order to protect the health and safety of residents therein.

Food is an important element that affects the health, safety and well being of these individuals. To date, the quality of foods served and the nutritional status of persons residing in licensed adult care facilities within the CRD not been assessed. What is the impact of recent demographic changes in licensed adult care facilities on the nutritional status and needs of these individuals? How many residents are at nutritional risk? What is the quality of foods served? The purpose of this paper then, is to assess the nutrition and food services of these facilities and to make recommendations to resolve any outstanding issues uncovered.

METHODOLOGY

In order to determine the nutritional status of residents housed in licensed adult care facilities throughout the CRD and the quality of food service provided to those residents, a number of assessment methods were utilized. Assessment methods included a nutrition survey, computerized nutritional assessment of facility menus and facility nutrition and food service inspections.

A nutrition survey

In November of 1990, a nutrition survey was mailed to sixty-five licensed adult care facilities (Appendix A). Eighteen Intermediate Care (IC), 7 Personal Care (PC) and 31 Specialized Residential Care (SRC) facilities were surveyed. "Epi Info version 5" computer program was used to develop the questionnare and analyze the data collected. "Epi Info Version 5" was developed by Centers For Disease Control, Atlanta Georgia and the World Health Organization in Geveva, Switzerland. The survey contained questions about the nutritional status of the residents and the quality of foods provided.

In terms of nutritional status, respondents were asked to identify nutritional risk factors, therapeutic diets provided and texture modified diets provided. Respondents were also asked to indicate the number of clients "At Nutritional Risk" and number of clients "At Routine Nutritional Care". By definition in the "Nutrition and Food Service Standards For Adult Care Facilities" manual (4), the term "Nutritional Risk" was given to any resident having one or more of the nutritional risk factors listed in Table 1, below.

TABLE 1. CRITERIA FOR ASSESSMENT OF NUTRITIONAL STATUS

Nutritional Risk Factors
1 - weight gain of >10% client's usual weight
2 - weight loss of >10% client's usual weight
3 - handicapping conditions that interfere with ability to eat
4 - poor or changed appetite
5 - food allergies
6 - insufficient consumption of fluids (<3 cups per day)
7 - bowel irregularities requiring drugs or laxatives to control
8 - possible food and drug interactions
9 - therapeutic diet required

Residents without any of the above listed nutritional risk factors, nor any other apparent nutritional concern(s) at the time of the survey, were deemed to be at "Routine Nutritional Care". When discrepancies arose in survey response (for example when the respondent indicated "zero" residents at nutritional risk, yet indicated that there were one or more nutritional risk factors were present for their resident population), the respondent was telephoned by an Registered Dietitian Nutritionist (RDN) to clarify "actual" number of residents at nutritional risk. Hence, "actual"

"perceived" numbers of residents at nutritional risk. "Actual" numbers of residents at nutritional risk were used in the results section of this report.

In terms of the quality of nutrition and foods provided, respondents were questioned about raw food costs. Respondents were asked to differentiate between raw food costs, paper goods and cleaning supply costs and staff food costs. Calculations for raw food costs were based on figures reported by participants in the nutrition survey (see sample calculations in appendix B). Calculated raw food costs were then compared to national guidelines - "Agriculture Canada's Nutritious Food Basket". Details of Agriculture Canada's Nutritious food Basket including "use of" and "limitations of" may be found in appendix C.

A summary of the responses to the survey is included in appendix D.

Computerized nutritional analysis of menus.

To further assess the quality of nutrition and foods provided, a computerized menu analysis was conducted for each facility participating in the nutrition survey above. A three day food consumption record for the "typical" resident was entered into "Foodperfect", a nutritional assessment computer program. This program made use of the Canadian Nutrient File database which contained 3500 foods. The Foodperfect program assessed nutritional adequacy of facility menus using national nutrition guidelines - "The Recommended Nutrient Intakes for Canadians" , published by Health and Welfare Canada (5). The Recommended Nutrient Intakes (RNI's) are defined as "that level of dietary intake thought to be sufficiently high to meet the requirements of almost all individuals in a group with specified characteristics (age, sex, physical activity, type of diet)" (5). The RNI's are one of several current "Canadian Dietary Standards"(6). Menus that failed to provide 80% of RNI for one or more essential nutrients based on typical client profile data were substandard and failed to meet Adult Care Regulations Section 7(1)(a)."The lower the provision of a nutrient in relation to the RNI, the greater the risk of nutritional inadequacy" (5). Residents housed in facilities with menus providing <80% of their RNI's were at a greater risk for nutritional inadequacies than residents housed in facilities with menus that **met** their RNI's. A sample computer analysis is included in appendix **E.**

Nutrition and food service inspections.

An additional indicator of the quality of nutrition and food services provided was observed compliance to provincial nutrition regulations (3) and nutrition standards set forth by the British Columbia Ministry of Health (4).

A one half-time RDN was hired by the Community Care Facilities program of the CRD in November of 1989 to be responsible for completing nutrition and food service assessments of licensed adult care facilities by December of 1990. This task was to be accomplished with the assistance of one half-time RDN from the Continuing Care Program of the CRD. During this period 105 facilities, housing 2783 residents, were inspected on one or more occasions to assess the degree of compliance with provincial nutrition regulations and nutrition standards. Each facility participating in the nutrition survey was inspected by an RDN.

In summary, the **nutritional status** of residents in licensed adult care facilities throughout the CRD was assessed by the following indicators:

1) Reported nutritional risk factors.
2) Reported therapeutic diets provided.
3) Reported texture modified diets provided.
4) Identified number of residents at "nutritional risk" and identified number of residents at "routine nutritional care".

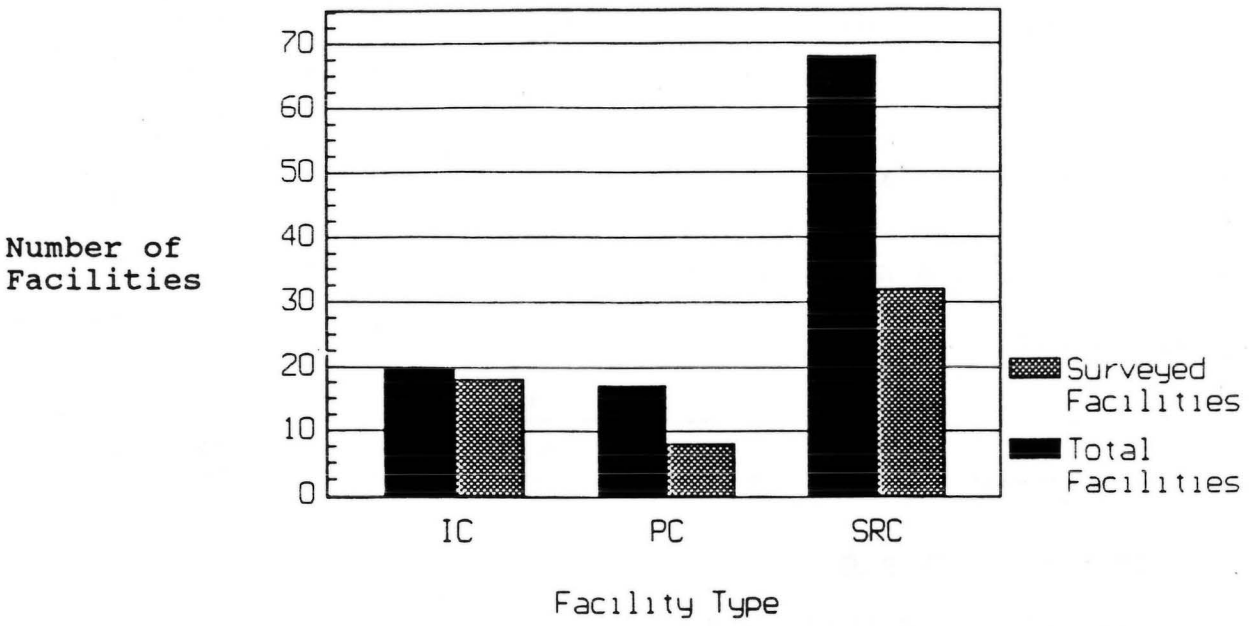
Additionally, the **quality of nutrition and foods provided** to residents housed in licensed adult care facilities throughout the CRD was assessed by the following indicators:

1) Computerized nutritional analysis of facility menus and comparison with the Recommended Nutrient Intakes for typical residents.
2) Reported raw food costs and comparison with Agriculture Canada's Nutritious Food Basket guidelines.
3) Observed compliance to provincial nutrition regulations and standards.

RESULTS

Response to Nutrition Survey

Fifty-eight surveys were returned representing 55% of the total 105 licensed adult care facilities within the CRD (January 1991 statistics). A total number of 2117 residents were housed in the facilities that responded, representing approximately 76% of the resident population in licensed adult care facilities throughout the CRD. Graph 1 below indicates the number of responses obtained for each facility type.



Graph 1. A COMPARISON OF NUMBER OF FACILITIES RESPONDING TO SURVEY WITH ACTUAL NUMBER OF FACILITIES WITHIN THE CAPITAL REGIONAL DISTRICT (JANUARY 1991).

Table 2, below, indicates the funding agency for each facility type included in the survey. Fourteen (77%) Intermediate Care (IC) and 7 (87.5%) Personal Care (PC) facilities were funded through Long Term Care. Four facilities housing IC residents and one facility housing PC residents, were funded through Other agencies (private and/or religious groups). The Ministry of Social Services and Housing, Services to the Handicapped and Mental Health funded only Specialized Residential Care (SRC) facilities. The Ministry of Social Services & Housing funded the majority (71.8%) of SRC facilities.

TABLE 2. FACILITIES PER FUNDING AGENCY

	Facility Type			
Funding Agency	IC	PC	SRC	Total
Long Term Care	14	7	1	22
Ministry of Social Services & Housing	0	0	23	23
Services to the Handicapped	0	0	4	4
Mental Health	0	0	3	3
Other	4	1	1	6
Total	18	8	32	58

Nutritional status of residents.

Intermediate Care Residents

Nutritional risk factors varied depending on facility type as shown in Table 3, page 10. This may be attributed to differences in resident profile. Intermediate Care residents are typically seniors, female, aged 75+. In order of prevalence, identified nutritional risk factors observed in the study population are:

1) **Necessity of a therapeutic diet** - Table 4, page 11, indicates that the therapeutic diets provided to IC residents were primarily diabetic low sodium, high fibre or weight gain (high calorie\high protein). Additionally, IC Clients required the greatest number of texture modified diets (Table 5, page 12).

2) **Irregular bowels requiring drugs or laxatives to control** - For the typical IC resident, irregularities are most often the result of deterioration in intestinal physiological function, sedentary lifestyle, possible food and drug interactions,

laxative abuse\misuse and\or lack of fibre in the diet.

3) **Handicapping conditions interfering with ability to eat\feed** - For the typical IC resident, these conditions most often refer to lack of teeth and\or dentures, poor or ill-fitting dentures, impaired sight or hearing, weak or limited grasp and poor hand to mouth coordination.

4) **Possible food and drug interactions** - Intermediate Care seniors often require a number of drugs (particularly, cardiac, antihypertensives, analgesics and various vitamin and mineral supplements). Combinations of drugs may interfere with nutrient absorption, metabolism and\or utilization. Additionally, numerous drugs have side effects that may alter nutritional status. Common side effects include loss of appetite, altered taste acuity, weight gain\loss, dehydration etc....

5) **Poor or changed appetite** - Usually attributed to a number of factors; the most common ones being depression, food and drug interactions and\or a secondary symptom of a medical condition.

6) **Weight loss greater than 10% usual weight** - Usually attributed to a combination of the above factors.

Personal Care Residents

Personal Care facility residents are typically seniors, female, aged 65+. They differ from the IC resident in that they have limited and less complex care needs. Table 3, page 10, indicates that, unlike the IC resident, "Handicapping Conditions" are not one of the most prevalent risk factors for this group. Hence, most of these residents are able to feed themselves without requiring assistance. Additionally, unlike the IC population, "weight gain" and "dehydration" are two risk factors that predominate in the PC resident population. In order of prevalence, identified nutritional risk factors observed in the study population are:

1) **Necessity of a therapeutic diet** - The PC resident required similar therapeutic diets as the IC resident. Table 4, page 11, indicates that diabetic, high fibre and low sodium diets were the types required most often. Personal Care residents required less texture modifications than IC residents (Table 5, page 12).

2) **Irregular bowels requiring drugs or laxatives to control** - Usually occurring for same reasons as with IC residents.

3) **Possible food and drug interactions** - Usually occurring as per IC residents.

4) **Inadequate fluid consumption** - More PC residents were at "Nutritional Risk" for dehydration (consuming less than three cups of fluids per day) than IC residents .

5) **Weight loss greater than 10% usual weight** - Usually occurring for same reasons as with IC residents.

6) **Weight gain greater than 10% usual weight** - This may be attributed to a number of factors including physiological changes such as decreased metabolic rate coupled with sedentary lifestyle, excessive consumption of calorically dense foods, possible food and drug interactions etc...

Specialized Residential Care Residents

The prevalence of nutritional risk factors for the SRC resident varied significantly from those of the IC and the PC resident (Table 3, page 10). Additionally, the prevalence and frequency of therapeutic and texture modified diets varied significantly from those of the IC and the PC resident (Table 4, page 11, and Table 5, page 12). This reflected the differences in the resident profile.

Specialized Residential Care residents are typically physically and\or mentally handicapped young adults ranging in age from 19 - 59 years. There are approximately an equal number of male and female SRC residents in the SRC facilities studied. Nutritional status may range from "Routine Nutritional Care" (such as the Down's Syndrome client with stable weight and no apparent nutritional risk factors) to "At Nutritional Risk" (such as the client requiring tube feeding).

In order of prevalence, identified nutritional risk factors observed in the study population are:

1) **Handicapping conditions interfering with ability to eat\feed** - Specialized Residential Care residents, particularly those with physical handicaps, often required assistance to eat at meal times. Poor muscle control is the most common handicapping condition observed. Weak grasp, lack of or limited use of limbs, poor hand to mouth coordination, poor chewing and sucking ability are just a few observed problems arising from lack of muscle control.

2) **Necessity of a therapeutic diet** - Overall, SRC residents required high fibre, low sodium and weight loss diets most often (Table 4, page 11). However, the range of therapeutic diets provided to these residents was diverse - including diets for vegetarians, for persons with severe allergies, for persons with eating disorders, for persons on tube feed etc...

3) **Irregular bowels requiring drugs and or laxatives to control** - Most often the result of sedentary lifestyle and\or confinement to a wheelchair. Additionally numerous drugs carry this side effect.

4) **Possible food and drug interactions** - Depending on the nature of the handicapping condition (mental or physical). Specialized Residential Care residents may require a number of medications ranging from psychotropics and antipsychotics to antidepressants and analgesics, many of which have side effects and potential for affecting nutritional status.

5) **Weight gain greater than 10% of usual weight** - This risk factor does not refer to excess weight, if the resident has **always** been overweight (such as is the case with a majority of mentally handicapped individuals, a secondary symptom of their condition). Specialized Residential Care clients usually experience weight gain due to excessive consumption of calorie dense foods, sedentary lifestyle, and\or side effects of medications.

6) **Poor or changed appetite** - This may be attributed in part to the adjustment to an environmental change (for example, many SRC residents experienced dramatic environmental change when they were moved from their traditional, stable institutional environment to the group home environment).

TABLE 3. IDENTIFIED NUTRITIONAL RISK FACTORS PER FACILITY TYPE

Nutritional Risk Factor	Number of Residents Having Risk Factor Per Facility Type					
	IC		**PC**		**SRC**	
Weight gain >10% usual weight	123		13	*	15	*
Weight loss >10% usual weight	163	*	15	*	10	
Handicapping conditions interfering with ability to eat/feed	410	*	9		41	*
Poor or changed appetite	182	*	11		12	*
Food allergies	136		8		6	
Inadequate fluid consumption (<3 cups/ day)	77		22	*	3	
Irregular bowels, requiring drugs or laxatives to control	472	*	46	*	16	*
Food and drug interactions	229	*	33	*	13	*
Require a therapeutic diet	640	*	58	*	21	*
** Total number of nutritional risk factors	2432		215		137	
Total number of residents in facility at time of survey	1627		278		209	

Note: * most prevalent identified nutritional risk factors
** residents may have one or more nutritional risk factor

TABLE 4. THERAPEUTIC DIETS PER FACILITY TYPE

Diet	Number of Residents Requiring Therapeutic Diet Per Facility Type					
	IC		PC		SRC	
Diabetic	177	*	29	*	0	
Renal	4		2		0	
Tube Feed	0		0		1	
Antireflux	0		2		0	
Bland	36		9		0	
High Protein	3		0		0	
Weight gain	118	*	14	*	10	
Weight Loss	80		6		21	*
Low Fat	38		3		17	*
Low Cholesterol	0		5		0	
High Fibre	122	*	25	*	41	*
Low Fibre	2		1		0	
Low Sodium	132	*	20	*	22	*
Gluten Free	1		0		1	
Allergy	8		0		5	
Vegetarian	3		0		4	
Dysphasia	3		0		0	
Other weight maintenance diets for residents with eating disorders, Prader Willi Syndrome, etc.	0		0		3	
**Total Number of Therapeutic Diets	727		116		125	
Total Number of Residents in Facility at Time of Survey	1627		278		209	

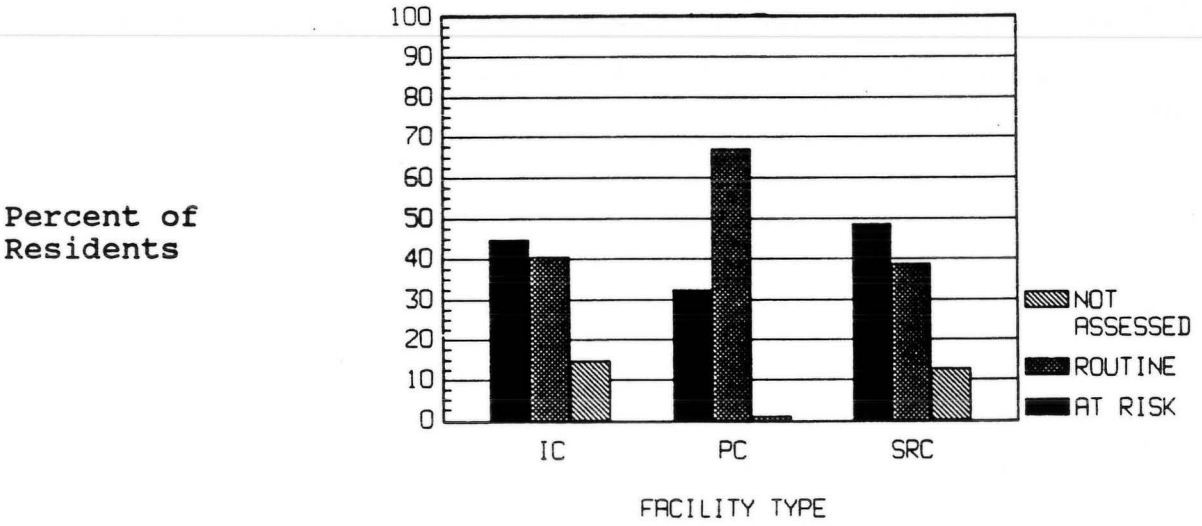
* Most frequent therapeutic diets required
** Residents may require one or more therapeutic diets

TABLE 5. TEXTURE MODIFIED DIETS PER FACILITY TYPE

Diet	Number of Residents Requiring Texture Modified Diet Per Facility Type		
	IC	**PC**	**SRC**
Cut up	31	3	3
Minced	197	6	5
Purees	116	1	2
Total number of Texture Modified diets	344	10	10
Total number of residents in Facility at time of survey	1627	278	209

All residents

Graph 2, below, indicates the nutritional status of residents per facility type included in the survey. A total of 922 residents were identified to be at nutritional risk, representing 43.5% of the total number of residents housed in the facilities at the time of the survey. Specialized Residential Care facilities had the greatest percentage of residents identified to be at nutritional risk (48.6%) followed by IC facilities (44.8%) and lastly, PC facilities (32.3%). Personal Care facilities identified the greatest percentage of residents at routine nutritional care. Actual percentages of residents at nutritional risk may be higher than those reported here as 12.7% of the total population was "not assessed" at the time of the survey.

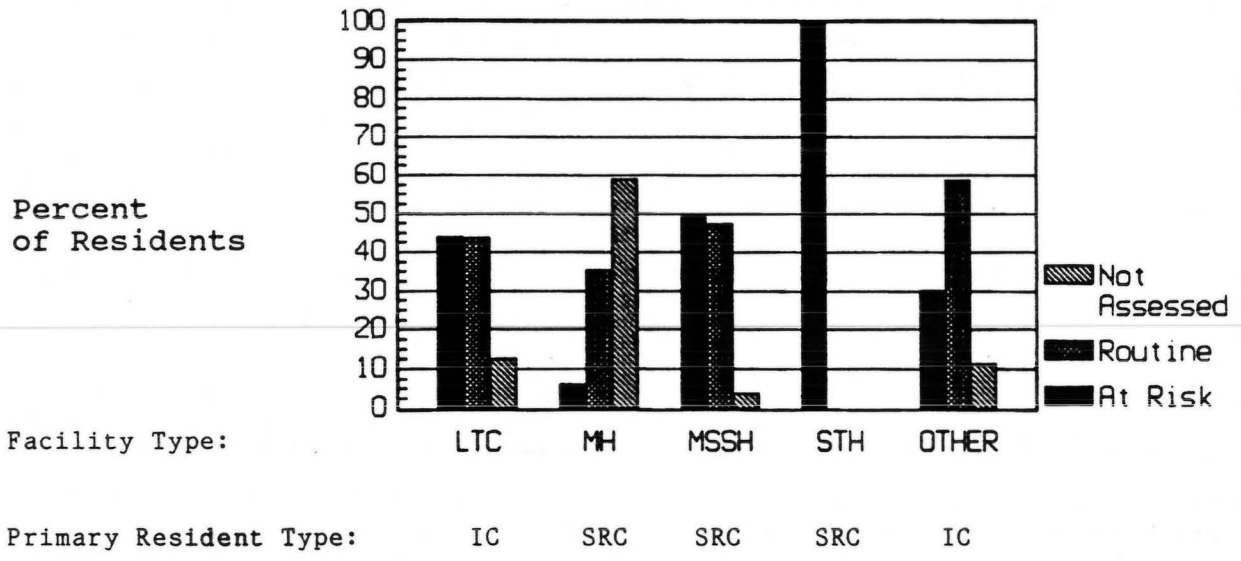


Graph 2. NUTRITIONAL STATUS OF ADULT CARE FACILITY RESIDENTS PER FACILITY TYPE

Nutritional status varied considerably with respect to funding agency. Graph 3, below, indicates that, per funding agency, Services to the Handicapped (STH) housed the greatest percentage of residents of nutritional risk (100%), followed by Ministry of Social Services and Housing (SSH) (49.1%), Long Term Care, (LTC) (43.6%), Other (30.2%) and lastly Mental Health (MH) (6.2%).

The actual percentages of residents at nutritional risk may be higher than those reported here due to the percentage of the total population not assessed. This holds true, particularly for residents housed in SRC facilities funded by Mental Health, as 59% of the total population was not assessed at the time of the survey.

Graph 3, below, also points out the variability in nutritional status of SRC residents. One hundred percent of SRC residents housed in facilities funded by Services to the Handicapped were identified to be at nutritional risk, yet the percentage of SRC residents identified to be at nutritional risk in facilities funded by the Ministry of Social Services and housing and Mental Health were significantly lower.



Graph 3. RESIDENTS AT NUTRITIONAL RISK PER FUNDING AGENCY

*Primary resident type from Table 2, Page 6.

Quality of nutrition and food service.

Food costs.

Table 6 indicates raw food costs ranged from a low of $1.67 per resident per day to a high of $7.50 per resident per day. The median raw food cost per person per day in both IC and PC facilities was below the minimum recommended amount as per Agriculture Canada's Nutritious Food Basket. While SRC Facilities provided a median raw food cost within the Nutritious Food Basket range, the range of raw food costs for this group was the most variable at $2.40 -$7.50 per person per day.

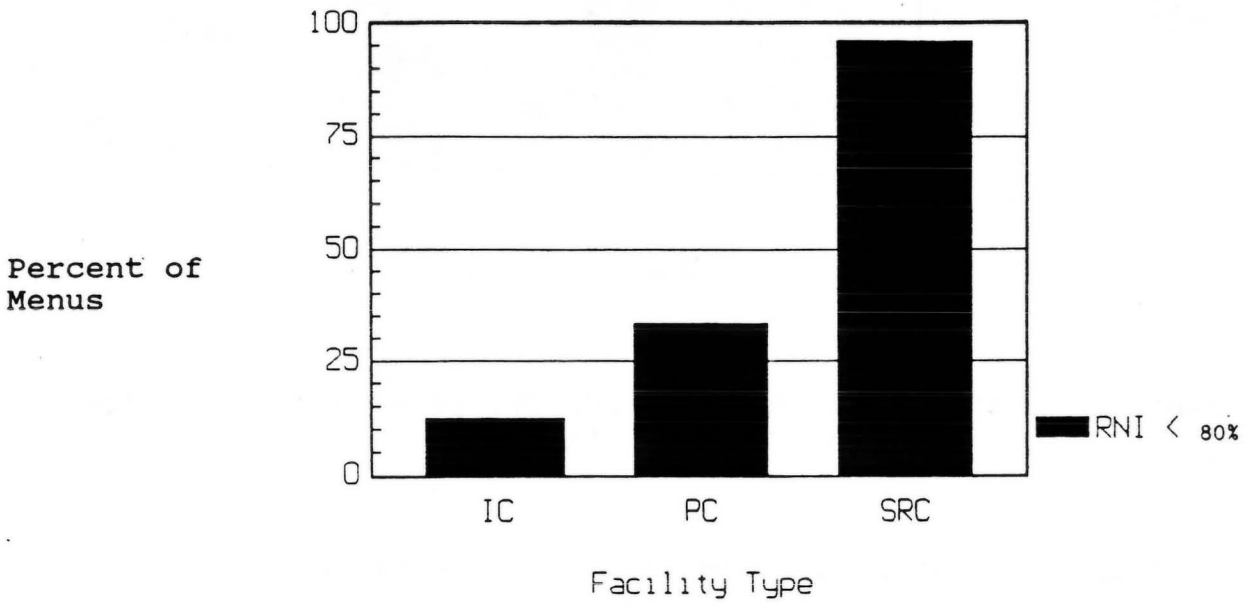
TABLE 6. A COMPARISON OF AVERAGE RAW FOOD COSTS PER FACILITY TYPE WITH AGRICULTURE CANADA'S NUTRITIOUS FOOD BASKET

Facility Type	Raw Food Costs Per Resident Per Day in Dollars			*Nutritious Food Basket Costs Per Person Per Day in Dollars	
	Range Low	- High	Median	Range Low	- High
IC	2.50	5.25	3.36	3.50 (woman 75+)	4.50 (man 50 - 74)
PC	1.67	3.69	3.02	3.50 (woman 75+)	4.50 (man 50 - 74)
SRC	2.40	7.50	5.41	4.36 (woman 25 - 49)	5.58 (man 19 - 24)

*Based on Agriculture Canada's Nutritious Food Basket costs for Residents of Victoria, B.C., September 1990

Nutritional analysis of menus.

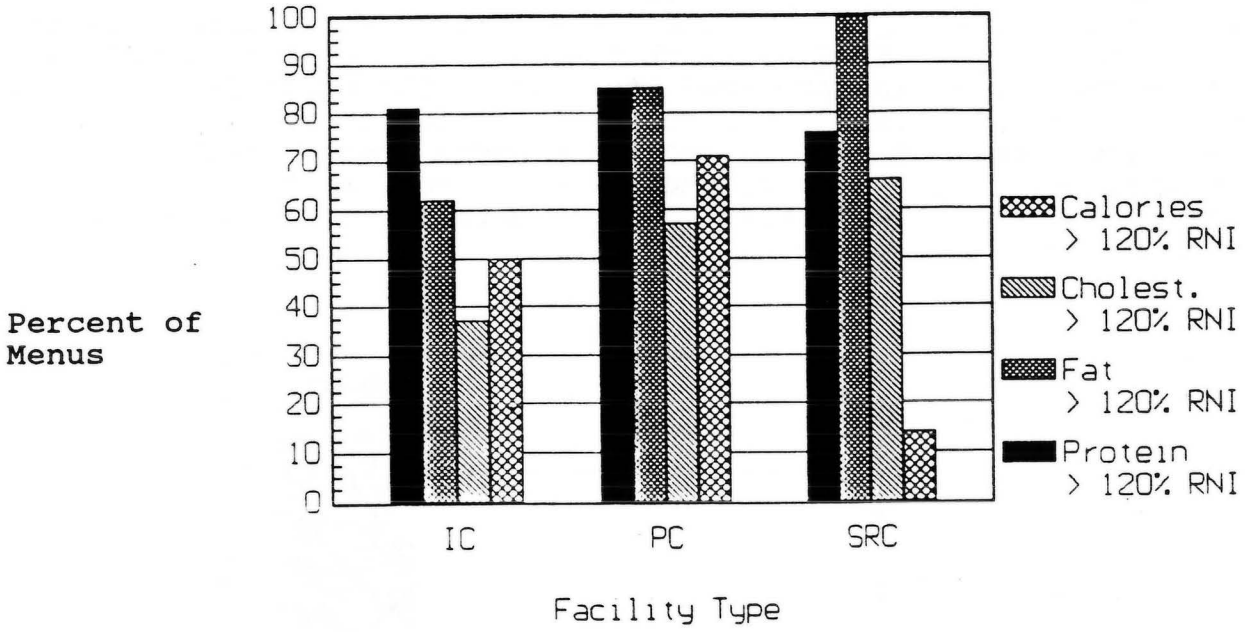
Computerized menu analysis was conducted for 78% of the facilities responding to this survey. Twenty-two percent of surveyed facilities lacked menus and/or provided insufficient food information to conduct analysis. Fifty-nine percent of the menus analyzed failed to meet "current dietary standards" (per Adult Care Regulations, Section 7(1)(a), since they provided <80% of the RNI's for one or more common nutrients for the typical resident. Graph 4, below, indicates that IC facilities provided the greatest number of menus that met current dietary standards, while SRC facilities provided the least. The predominant nutritional problem identified was insufficient **calories** - 42% of SRC menus provided <80% of the recommended energy intake for typical residents. Hence, these results suggest that SRC residents were at a greater risk for nutritional inadequacies than PC or IC residents.



Graph 4. PERCENT OF MENUS PER FACILITY TYPE PROVIDING <80% OF THE *RNI's FOR THE TYPICAL CLIENT

* Recommended Nutrient Intakes were based on typical client profile data obtained for each facility and computer analysis of three menu day food records for that client. Nutrients assessed were calories, protein, fat, carbohydrates, calcium, iron, potassium, sodium, Vitamins A, C, D & E, Thiamin, Riboflavin and Niacin. A sample analysis is included in appendix E.

In terms of excessive nutrients,(>120% of the RNI's), Graph 5 below indicates cholesterol, fat and protein predominated, regardless of facility type. Caloric level, of IC and PC menus were high as well. This may be reflective of trends in North American society eating patterns (1), or indicative of the need for nutritional education.



Graph 5. PERCENT OF MENUS PER FACILITY TYPE PROVIDING >120% OF THE RNI's FOR THE TYPICAL CLIENT

Compliance to nutrition regulations and standards

Tables 7a-b, pages 16 & 17, indicate that overall, most facilities were compliant with many of the Adult Care Regulations pertaining to nutrition. However, in order of prevalence, the provision of nutritionally and calorically adequate menus [Section 7(1)(a)], the employment of an RDN [Section 7(4)(a)], and appropriate storage of foods [Section 7(e)(f)] were Adult Care Regulations most frequently not complied with. Additionally, the use of one or more quality assurance tools and standardized recipes were nutrition standards most frequently not complied with. Most facilities (78%) complied with the CRD Foodsafe policy implemented in 1989. Detailed assessment of compliance to nutrition regulations and standards was dependent on the availability of the Community Care Facilities RDN.

TABLE 7a. A REVIEW OF COMPLIANCE TO NUTRITION REGULATIONS AND STANDARDS

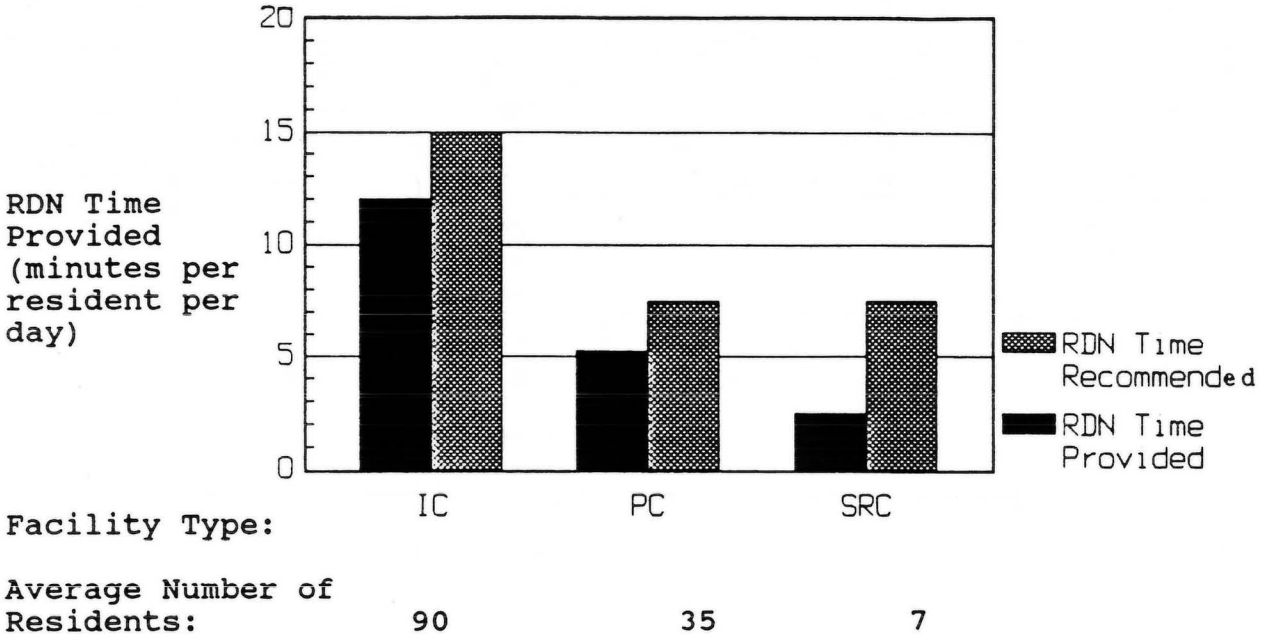
Adult Care Regulations Section 7	Standards Manual Page	Requirement or Standard	% of Compliant Facilities	Comments
1 (a)	33	"provide a variety of meals, which are nutritionally and calorically adequate for age, sex and activity...As recommended in current Canadian Dietary Standard"	41%	22% of the facilities participating in this survey did not receive computerized nutritional assessment of their menus, due to lack of menu and/or insufficient nutrient information to process menus. Details on Graph 7.
1 (b)	74,77	"Record height and weight of each resident upon admission"	92%	Most facilities surveyed were compliant
1 (c)	74, 77	"monitor and record weight of each resident at monthly intervals"	83%	Lack of scales, especially wheelchair scales was a common problem resulting in failure to comply with this Regulation. A weight history is the most valuable tool required in assessing nutritional status.
3 (b)	34	"a cycle menu for a minimum of 4 weeks is used"	84%	Facilities without a menu were less likely to provide nutritionally adequate diets, had monotony of food choices, excessive food costs and leftovers. Menu plans are an essential tool for efficiency of preparation, planning, purchasing, staff communication, budgeting, and teaching residents independent living skills
3 (f)	51-59	"the residents' meals are prepared, cooked, and served... in a way which conserves their nutritive value, flavour, texture and appearance"	90%	29% of facilities surveyed were not assessed for compliance to this regulation due to lack of Community Care Facility Nutritionist hours. Limitations in CCF staffing did not allow for follow-up meal service assessments. Unsanitary food handling practices were problems commonly observed. Poor quality of food service and inadequate food sanitation and safety procedures potentiate increased risk to the nutritional health, safety and well being of the residents
3 (f)	13, 60-61	"the residents' meals are stored... in a way which conserves their nutritive value, flavour, texture and appearance"	79%	3% of facilities surveyed were not assessed for compliance to this regulation due to limitations in C.C.F. Nutritionist hours. Common problems observed with food storage included inappropriate and unclean storage areas; foods on the floor and/or in appropriate food containers. Poor food storage practices potentiate increased risk of nutritional health and safety issues

TABLE 7b. A REVIEW OF COMPLIANCE TO NUTRITION REGULATIONS AND STANDARDS

Adult Care Regulations Section 7	Standards Manual Page	Requirement or Standard	% of Compliant Facilities	Comments
4(a)		"shall employ a dietitian who shall be on duty in the facility not less than the following time equivalents based on number of residents 150 or more residents - one fulltime 50-149 residents - one half time 25-49 residents - one quarter time	76%	See Table 6. For the most part this regulation was met, although there was staunch resistance in many cases regarding the employment of an RDN. Common reported and/or observed reasons resulting in failure to comply with this regulation were: 1. Lack of perception or identification of the nutritional needs of residents. 2. Lack of or insufficient funding. 3. Misperception of RDN role/ responsibilities. 4. Lack of enforcement of this regulation. 5. Lack of available community RDNs. 6. Inappropriate RDN staffing guidelines in regulations.
4(b)		"shall employ a Food Service Supervisor, under the direction of the Dietitian, where 100 or more persons are in residence"	98%	Most facilities were compliant with this regulation.
	50-61	"Standardized recipes are available for all foods purchased"	47%	Standardized recipes are an essential management tool to ensure uniform quality and quantity of foods prepared. Their benefits are similar to those of a 4 week menu cycle.
	15,19 13-19 26-19 CRD Policy	"The facility has incorporated a food/nutrition quality assurance Program to include... Food safety Q.A. Audits Time-Temp. Q.A. Audits Meal Service Q.A. Audits Staff have taken "Foodsafe"	 47% 47% 47% 47%	Quality assurance audits are essential management tools to monitor and ensure food quality , sanitation and safety and to ensure residents' nutritional needs are being met. Although the precise use of Q.A. Audit tools may vary dependent on efficiency of use per facility, a minimum use of one Q.A. tool plus staff enrolment in a foodsafe course was recommended in all cases. Most facilities ensured that a minimum of one staff person had taken Foodsafe.

Provision of a RDN

A total of 359.5 RDN hours per week was provided to the 2117 residents represented by this survey. Graph 6, below, indicates that most facilities did not provide the *recommended RDN time per resident. There was a significant variance in the amount of RDN time provided to residents, depending on facility type. Specialized Residential Care residents received the least amount of RDN services (2.5 minutes per resident daily), PC residents received slightly more (5.1 minutes per resident daily) and IC residents received the most (12.0 minutes per resident daily). Registered Dietitian Nutritionist hours provided increased proportionately to the average number of residents per facility type (facility size).



Graph 6. A COMPARISON OF AVERAGE RDN TIME PROVIDED PER FACILITY TYPE WITH RECOMMENDED RDN STAFFING GUIDELINES *

*RDN staffing guidelines based on Metro Provincial Nutritionists' recommendations in appendix F.

Thirty-seven out of the 58 facilities surveyed had a bed capacity of <25. These facilities are not required to provide the services of an RDN. **Adult Care Regulation, Section 7(4)(a) does not address the need for an RDN in facilities with a bed capacity of <25, nor the proportionate increased need for an RDN in facilities having a bed capacity significantly >150.** Table 8, below, indicates that most facilities, when grouped by bed capacity, provided a median amount of RDN hours per week to meet the Adult Care Regulations. However, only 7 out of 21 facilities having a legislated requirement employ the services of an RDN were compliant. There was considerable variation in the range of RDN hours provided per grouping by bed capacity. RDN hours provided appeared to be dependent on regulations and bed capacity rather than care level or nutritional need.

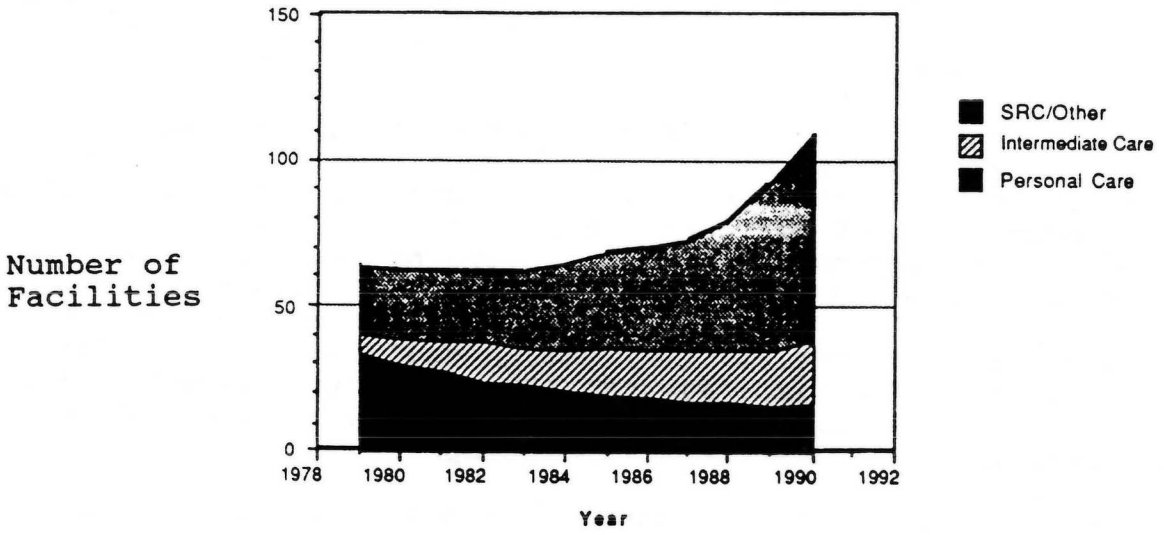
TABLE 8. A COMPARISON OF AVERAGE RDN HOURS PROVIDED PER FACILITY BED NUMBER WITH RDN TIME REQUIRED PER ADULT CARE REGULATIONS - Section 7(4)(a)

Number of Beds	Range of RDN Hours Provided Per Week	Median RDN Hours Provided Per Week	Required RDN Hours Per Week	Number of Facilities Meeting Regulations	Number of Facilities Surveyed
<25 beds	0 - 5	0.2	no requirement	n/a	37
25 - 49	2.5 - 10.0	4.7	8.75 - 10.0 "one quarter time"	0	6
50 - 149	60 - 40	18.3	17.5 - 20 "one half time"	4	11
150 or more beds	40	40	35 -40 "one full time"	3	4
				Total 7	58

DISCUSSION

Demographic Changes in Licensed Adult Care Facilities

Graph 7, below, indicates the total number of licensed adult care facilities within the CRD has increased by approximately 82% since 1979.



Graph 7. ADULT CARE FACILITIES 1979-1990

Demographic changes in licensed adult care facilities are primarily the result of recent changes in British Columbia's health care system. Deinstitutionalization of the mentally and\or physically handicapped has resulted in an exponential increase (79%) in the number of SRC facilities since 1987. Intermediate Care facilities have stabilized in number over the past decade. However, the trend to limit the admissions to extended care units and to decrease the length of stay at hospitals has resulted in an increase in the number and complexity of care requirements for IC residents. The number of PC facilities, housing seniors with relatively low care needs, has decreased over the past decade. These facilities are gradually being phased out with initiatives to enable seniors to remain at home longer. However, this creates a situation where seniors admitted to IC-level facilities will have greater and more complex care needs.

Impact on The Nutritional Status of The Residents.

Although there are few statistics available regarding the nutritional status of this group prior to the above changes in health care, it is reasonable to assume that an increase in number of facilities has been accompanied by a proportionate increase in numbers of residents at nutritional risk.

Additionally, the exponential growth of SRC facilities, housing residents with quite varied care levels, has undoubtedly changed the pattern of nutritional status for the total population. Where at one time, the degree of nutritional risk may have been proportionate to facility type and/or bed size, such is not the case today. For example, the large IC facilities housing residents with more complex nutritional needs once predominated the adult care facility population, followed in numbers by the smaller PC facilities housing residents with less complex nutritional care needs.

Identified nutritional risk factors of residents housed in facilities surveyed were numerous, complex and diverse (table 3). Residents in SRC facilities had nutritional risk factors that met or exceeded those of residents in IC and PC facilities. Residents having perhaps the most severe nutritional risk factors including a tube fed client, a client with esophageal stricture, and clients with eating disorders were housed in SRC facilities. The nutritional status, of residents housed in licensed adult care facilities, particularly the SRC population, were not dependent upon facility type, nor funding agency, nor bed number, but appeared to be client specific (Graphs 3 & 4).

Nine hundred and twenty-two persons were identified to be at nutritional risk. This represents 43.5% of the total number of residents housed in the facilities at the time of the survey. In terms of facility type, SRC facilities housed the greatest percentage of residents identified to be at nutritional risk (48.6%) compared to 44.8% in IC facilities and 32.3% in PC facilities. The actual total number of residents at nutritional risk was in all probability higher since 12.7% of the total number of residents housed in participating facilities were not assessed.

In terms of funding agency, the greatest percentage of residents identified to be at nutritional risk were SRC residents housed in facilities funded by Services to the Handicapped (100%) compared to 49.1% in facilities funded by MSSH, 44.0% in facilities funded by LTC and 6.2% in facilities funded by MH. Again, the actual percentage of residents at nutritional risk per funding agency is, in all probability, higher due to the numbers not assessed. This holds particularly true for those residents in MH facilities, as 59% were not assessed at the time of the survey.

The nutritional status of clients living in licensed Adult Care facilities is difficult to determine **quantitatively**, because it requires a knowledge and familiarity with the terms "Nutritional Risk" and "Routine Nutritional care". It also requires some degree of nutritional expertise on the respondents part in order to identify nutritional risk factors, especially factors that exist outside the realm of those listed in Table 1. This would explain differences in the number of residents "perceived" to be at nutritional risk and the "actual" number of residents at nutritional risk. This would also account for the percentage of residents whose nutritional status was not assessed.

The health care professional having appropriate nutrition education, experience and expertise and therefore most qualified to identify nutritional risk factors and to assess nutritional status is the Registered Dietitian Nutritionist (RDN). Facilities providing the most RDN time per resident were IC followed by PC and lastly SRC. The greatest number of clients surveyed were those housed in IC (1627), followed by PC (278), and then SRC (209). Hence, the nutritional status data for IC facilities is likely the most accurate followed by PC then SRC. This is not to negate the nutritional data reported for the PC and SRC population, rather to point out that there is potential for some variability in the statistics.

Consequently, this survey did not **quantitatively** identify the **precise** nutritional status of residents housed in licensed Adult Care facilities throughout the CRD. It did, however, indicate that, of the residents assessed, there were a **minimum** of 922 persons identified to be at nutritional risk. This survey also has indicated that there is a need for qualified nutritional health care professionals, accessible to all residents, regardless of facility size or type, who could perform functions such as the assessment and monitoring of nutritional status and the implementation of nutritional care plans.

Impact on the Quality of Nutrition and Food Service.

A high quality of food service is becoming an increasingly important factor in the maintenance and/or improvement of the nutritional status of residents housed in licensed adult care facilities. Increased diversity and complexity of resident nutritional status has placed great demands on food service staff. A minimum level of nutritional education, expertise and skills is required to perform functions such as "the provision of nutritionally and calorically adequate foods" and development of a "4 week menu cycle" as required in Section 7 of the Adult Care Regulations.

In terms of the development of a 4 week menu cycle, 16% of those facilities surveyed lacked menus. Facilities without menus were less likely to provide nutritionally adequate diets, had monotony of food choices, excessive food costs and excessive food waste.

In terms of the provision of nutritionally and calorically adequate foods, 59% of the menus assessed, failed to provide >80% of the recommended nutrient intakes for typical residents. Forty-two percent of SRC facilities provided menus that failed to provide the recommended energy requirement for the average client. Insufficient calories may result in breakdown of protein for energy, undesirable weight loss stress on the immune system and later costly complications.

Conversely, excessive and undesirable amounts of certain nutrients were found to be as prevalent a problem as nutrient deficiencies. Regardless of facility type, a large percentage of the menus assessed provided >120% of the RNI, for fat, cholesterol and protein (based on average client requirements). Excessive consumption of fat and cholesterol are of particular concern to seniors and mentally or physically handicapped individuals as it is associated with increased risk of cardiovascular disease, undesirable weight gain and some types of cancer - disease/conditions many of these residents are predisposed towards. Unlike SRC facilities, a large percentage of the menus for IC and PC facilities provided excessive amounts of calories.

The median raw food costs per person per day in both IC and PC facilities, did not meet minimal nutritional requirements as reported in Agriculture Canada's Nutritious Food Basket figures (for Victoria area, September 1990). Food costs ranged from an $1.67 per person per day to $7.50 per person per day compared to the Nutritious Food Basket minimum ranges of $3.50 to $5.58 per person per day. Specialized Residential Care facilities reported the most variable food costs at $2.40 - 7.50 per day.

Agriculture Canada's Nutritious Food Basket figures represent a **minimum** food cost requirement. Nutrition skills in food budgeting, menu planning, food preparation, food service and storage are essential to provide a nutritious menu that is within Agriculture Canada's Nutritious Food Basket cost range. Actual food expenditures of the average facility, particularly SRC facilities, may be 10 - 20% higher for the following reasons:

1) To make allowances for seasonal food availability.
2) To reflect diseconomies resulting from different sizes of families.
3) To allow for holiday or special occasion meals.
4) To allow for variety.
5) To account for foods eaten outside the home.

One factor that may have significantly influenced variability in the range of raw food costs was staff food costs. Eighty percent of the facilities surveyed provided meals for one or more staff, which were included in reported monthly raw food costs. Funding agencies, and owners/operators of facilities must come to consensus on staff food costs. If monies provided for resident meals are used for staff meals the result may be nutritionally and calorically inadequate menus.

Results of both menu analysis and reported food costs indicate that there is a need for nutrition education for staff involved in menu planning and budgeting. Additionally inadequate food costs may be reflective of insufficient funding and/or inappropriate distribution of funds. There is a need to ensure sufficient funding to all facilities and that facility owners/operators are knowledgeable about access to funding.

While there was identified need for the services of an RDN, 37 of the 58 facilities surveyed did not provide those services. An additional 14 out of the 58 facilities surveyed provided less than the minimum legislated RDN staffing requirements as stipulated in Adult Care Regulations Section 7(4)(a). Observed and reported reasons for lack of RDN services were:

1) Lack of perception or identification of nutritional needs specific for each facility, staff and residents therein.

2) Reported insufficient funding for the services of an RDN.

3) Lack of understanding of RDN role and functions.

4) Lack of enforcement of current legislated RDN staffing guidelines.

5) Limitations in current numbers of community RDN's.

6) Inappropriate RDN staffing guidelines in current Adult Care Regulations.

These issues may be addressed by:

1) **Ensuring** that each facility is monitored by the **Community Care Facilities Nutritionist** a minimum of twice annually to identify non-compliance to nutrition regulations and standards. When the need for the services of an RDN is identified, all facilities must have accessability and funding for those services.

2) Ensuring that all facilities have access to funding for RDN services, regardless of facility size. Ensuring that all funding agencies have policies and procedures in place that reflect and support minimum nutrition regulations and standards.

3) Providing nutrition education about the role/function of the consultant RDN in licensed adult care facilities.

4) Ensuring that each facility is monitored by a Community Care Facility Nutritionist a minimum of twice annually to facilitate compliance with RDN staffing regulations.

5) Developing a community network of supportive nutrition services to improve the accessability of community RDNs.

6) Review and revise Section 7(4)(a) of the Adult Care Regulations to adequately reflect the needs for the services of an RDN for all persons housed in licensed adult care facilities, regardless of bed capacity.

Present and Future Community Nutrition Services

Community RDN Services

There appears to be increased need for qualified nutrition health care professionals in the community, to address the diverse and complex nutritional needs of residents in adult care facilities. However, Table 9 on page 27, indicates current access to consultant community RDNs for facility staff and residents in the Victoria area is extremely limited.

TABLE 9. ACCESSIBILITY OF COMMUNITY-BASED RDNS IN VICTORIA (1990) (TO RESIDENTS OF LICENSED ADULT CARE FACILITIES)

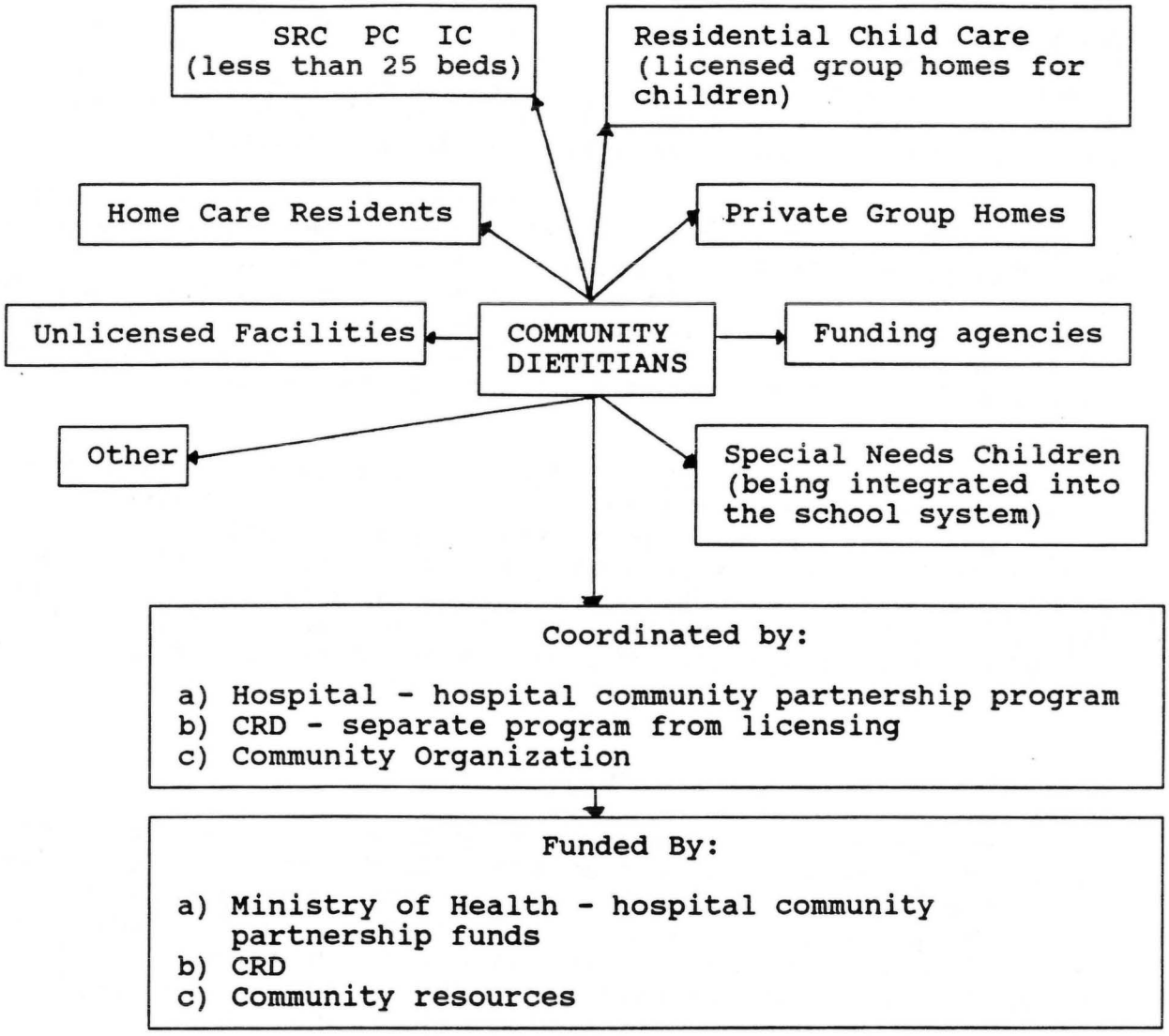
Type of RDN	Role/Limitations for Adult Care Facilities	Benefits for Adult Care Facilities
Consultant RDNs in private practice	- currently limited in number; (14 in Victoria area servicing 20 facilities) - reduced amount of hours required, travel time and expenses, plus disparities in wages may decrease availability.	- will provide regular "on-site" consultant nutrition services to groups or individuals in facilities, home etc... - will provide regular"on-site" educational nutritional programs specific for these clients and staff - can regularly monitor and offer expertise on quality of nutrition services - experienced with needs of adult care facility residents, and staff - can provide services necessary to meet adult care regulations RDN staffing requirements.
Outpatient RDNs in hospital	- currently limited in number - provide primarily individual therapeutic diet counselling in hospital - vulnerable patients who are immobile and/or frail may not access - does not provide on-site consultant nutrition services on a regular basis - 2-6 week waiting list and first visit requires physician's referral - services not suitable for meeting adult care regulations - RDN staffing requirements	- cost covered by B.C. Medical - beneficial to provide emergency individual consultant advice on therapeutic diets for mobile clients
Community RDN in CRD Care Program	- currently limited in number (1 full-time position in Victoria) - develops and provides preventive nutrition education programs for seniors in the community - provides consultant services to care program (LTC, HNC, Rehab. Program) patients - does not provide on-site consultant nutrition services to licensed adult care facilities - services not suitable for meeting Adult Care Regulations - RDN staffing requirements	
Community RDN in CRD Community Care Facilities Program	- currently limited in number (one half-time position in Victoria) - provides primarily inspection, regulatory, and advisatory work to Adult Care facilities - provides some consultant services to residents of licensed Adult Care facilities - provides some nutrition education services to residents of licensed Adult Care facilities - unable to work "on-site" for any Adult Care facilities on an ongoing basis - services not suitable to meet Adult Care Regulations - RDN staffing requirements	- expertise in Adult Care Regulations and nutrition standards
Community RDN in CRD Health promotion program	- currently limited number (2 full-time positions in Victoria) - provides primarily Nutrition Education and Health Promotion programs - do not provide consultant services to residents/staff etc.. of licensed Adult Care facilities - do not provide nutrition eduction programs to residents/staff etc... of licensed Adult Care facilities - services not suitable to meet Adult Care Regulations - RDN staffing requirements	

The community based consultant RDN who can most adequately provide services to meet Adult Care Regulation RDN staffing guidelines are the consultant RDNs who have a private practice. Availability of this community consultant RDN is significantly decreased with the smaller facilities because of the usual lesser amount of hours required, increased travel expenses and disparities in wages (2). Residents who are mobile and willing have limited access to therapeutic diet counselling by an outpatient RDN in local hospitals, but vulnerable residents who are frail, immobile and/or otherwise unwilling, may not access such an RDN (or any RDN outside of the facility).

Residents in adult care facilities are only one of several groups of vulnerable individuals having nutritional needs and lacking accessibility to the regular services of an "on site", "community-based" RDN. Residential Child Care facilities, unlicensed group homes, private group homes, and increasing number of home care clients (approximately 6,000), residents of private hospitals, and caregivers of special needs children are just a small example of other groups lacking accessibility to community-based RDNs.

The communities of Nelson and Revelstoke, B.C. have developed a "Community Dietitian" Program to meet the needs of clients who may be "falling through the cracks" with their current system of community-based consultant RDN services (information on these programs may be found in appendix G). Modelled similarly to the CRD Rehabilitation Program, and funded as a hospital - community partnership project and/or through the Community Health Department - these programs are successful and meeting the needs of residents in licensed adult care facilities and the community as a whole. Diagram 1, page 29, represents a model Community Dietitian program that is recommended for the CRD area.

Diagram 1. The CRD Community Dietitian Model



Community Nutritional Education Programs

This survey suggests that owners, operators, staff and residents in licensed adult care facilities would benefit from nutrition education programs. Topics such as nutrition basics, therapeutic and texture modified diets, menu planning, food budgeting, the nutritional needs of the physically and/or mentally handicapped, the nutritional needs of seniors and the role/responsibility of an RDN, would undoubtedly enhance nutrition expertise and facilitate the resolution of many outstanding issues uncovered by this survey.

However, there are currently few such adult nutrition education programs available in the Victoria area. Additionally, post secondary certificate, diploma and degree nutrition education programs are offered exclusively in Vancouver (for example, the Dietary Aide Program, the Long Term Aide Program, the Food Service Supervisors Program and the Dietetics and Nutrition Program). Thus, staffing of licensed adult care facilities with personnel trained in these areas may be a difficult task.

Foodsafe is the only applicable program offered through Camosun College and/or independent organizations. The recent inclusion of a CRD policy (1989) stipulating that "at least one staff person (in a licensed food service) must complete the Foodsafe Program", plus enforcement by the CRD Community Care Facility staff, has resulted in 78% compliance of facilities surveyed. Hence, policies and program availability facilitated participation.

The development of nutrition education programs, courses and/or materials specific to the needs of licensed adult care facility staff and residents therein is strongly recommended. Additionally, policies regarding minimum nutrition education requirements for facility staff should be uniformly developed and implemented by all agencies, organizations and or pertinent individuals involved with the provision of nutrition and nutrition services in licensed adult care facilities.

Community Care Facilities Program.

The confidence of the general public in adult community care is enhanced by the knowledge that the B.C. Ministry of Health has regulations and standards that are monitored regularly by qualified personnel. Vulnerable residents housed in adult care facilities are dependent on the licensing functions of the Community Care Facility team. Monitoring facilities a minimum of twice annually is necessary to facilitate compliance with nutrition regulations and standards.

The 82% increase in number of licensed adult care facilities has not been met with concurrent, proportionate growth in staffing levels of the CRD Community Care Facility Program. Consequently, this situation has resulted in increased workload and unrealistic job expectations for staff involved in conducting annual and follow-up inspections, plus complaint and abuse investigations for the current number of licensed adult care facilities. Based on recent workload statistics, current staffing levels will only permit an annual inspection by the, sole full-time, adult care facilities Licensing Officer once every one to two years and annual nutrition and food service inspections by the half-time Community Care Facility Nutritionist once every two to three years.

The present limitations in Community Care Facility staff may compromise the health and safety of resident housed in adult care facilities. There is potential for decrease in the quality of care and increased risk for injury and illness.

The one half time (0.5 FTE) CRD Community Care Facility Nutritionist is only able to monitor approximately 50% of the current number of licensed adult care facilities on an annual basis. Additionally the half time CRD Community Care Facility Nutritionist is currently unable to perform more than a reactive role to the numerous issues outlined in this paper. A 0.5 increase in current CRD Community Care Facility Nutritionist hours will facilitate monitoring 100% of the current number of licensed adult care facilities annually. A 1.0 FTE increase in current CRD community Care Facility Nutritionist hours will facilitate monitoring 100% of the current number of licensed adult care facilities twice annually and will permit the nutritionist to perform a proactive role to outstanding issues identified in this report. Thus, an increase in CRD Community Care Facility Nutritionist hours from the present 0.5 FTEs to 1.5 FTEs is strongly recommended.

Adult Care Regulations

Section 7 of the Adult Care Regulations (3) specifies the legislated requirements regarding the delivery of nutritional care in licensed adult care facilities. "The Nutrition and Food Services Manual For Adult Care Facilities" (4) specifies provincial standards regarding the delivery of nutritional care. Nutrition regulations and standards are absolutely necessary to ensure the residents' right to adequate, appropriate and accessible nutrition and nutrition services. Compliance to nutrition standards and recommendations are facilitated by the regulations.

This study has indicated that there is a need for the services of a RDN - particularly in facilities housing less than 25 residents. These group homes (primarily SRC's) had the greatest percentage of residents identified to be at nutritional risk, yet, provided the least amount of RDN time when compared to other facility types. Specialized Residential Care facilities provided the greatest percentage of menus that failed to meet current Canadian Dietary standards as per Adult Care Regulations 7(1)(b). Substandard menus placed residents in SRCs at a greater risk for nutritional inadequacies than PC and IC residents. Reported SRC food costs were the most variable, ranging from $2.40 - $7.50 per person per day. However, there are no legislated requirements for the services of an RDN in SRCs since the average bed capacity is less than 25. Therefore, the potential for health and safety hazards associated with nutritional care in SRC facilities continues to exist.

Adult Care Regulation Section 7(4)(a), regarding the requirement for RDN staffing does not address the need for RDN services in facilities with a bed capacity of less than 25, nor the proportionate increase in need for RDN services in facilities housing significantly more than 150 residents. In fact, current RDN staffing guidelines, based solely on bed capacity, do not allow for adequate RDN services to most facilities included in this survey since 37 of the 58 facilities surveyed had a bed capacity of less that 25. Thus, revision of this section of the regulations is strongly recommended.

The Metro Provincial Nutritionist Group have provided recommendations to the Community Care Facility Licensing Branch regarding changes to the Adult Care Regulations (see appendix F). Those recommendations were appropriate and supported by this author to address identified nutrition issues and concerns outlined in this paper.

Specifically, revision of Adult Care Regulations regarding RDN staffing to read "all licensed adult care facilities must provide the services of an on-site consultant RDN", is strongly recommended. Additionally, a guideline for RDN hours must be included to ensure needs are met. This report has shown that the provision of RDN time was based, primarily, on the regulations regardless of identified need. Numerous RDNs in the smaller SRC facilities are being released from their duties, due to lack of regulations for RDN staffing, and subsequent lack of funding for RDN time (see RDN letters appendix H). Although various formulas have been offered (appendices F and I), consensus on the most efficient, effective formula has not been achieved. Further research in this area is recommended. Furthermore, as RDN staffing requirements may vary given occasional atypical circumstances, it is recommended that the Medical Health Officer is given the authority to increase or decrease RDN time on a facility-specific basis upon request by the licensee, and provided that the health and safety of the residents are not jeopardized.

CONCLUSION

The nutritional status of residents living in adult care facilities and the quality of food service provided therein was assessed by a three methods: (1) a nutrition survey, (2) computerized menu analysis for each facility surveyed and (3) inspection of the nutrition and food service component of each facility surveyed. Of the 65 nutrition surveys mailed to licensed adult care facilities, 58 were returned. Of the 58 surveys returned, 45 provided menus that were suitable for computer analysis. All 65 facilities surveyed were inspected by a Community Care Facility Nutritionist to assess degree of compliance to nutrition regulations and nutrition standards.

This study examined the nutritional status of residents housed in licensed adult care facilities using the following indicators:

- Reported nutritional risk factors.
- Reported therapeutic diets provided.
- Reported texture modified diets provided.
- Identified number of residents at "nutritional risk" and identified number of residents at "routine nutritional care".

This study also examined the quality of nutrition and foods served to residents housed in licensed adult care facilities using the following indicators:

- Computerized nutritional analysis of facility menus and comparison to the Recommended Nutrient Intakes for typical residents.
- Reported raw food costs and comparison with Agriculture Canada's Nutritious Food Basket guidelines.
- Observed compliance to provincial nutrition regulations and standards.

Additionally, this study examined nutrition issues arising from recent demographic changes in licensed adult care facilities since these issues impacted on the nutritional status and the quality of nutrition and foods provided to residents.

In terms of the nutritional status, the following results were found:

- A total of 922 residents were identified to be at nutritional risk, representing 43.5% of the total population surveyed. With respect to facility type, the smaller SRC facilities housed the greatest percentage of residents identified to be at nutritional risk (48.6%). Actual percentage of residents at nutritional risk may be higher than reported here since 12.7% of the population surveyed was not assessed at the time of the survey.

- Nutritional risk factors per facility type were quite variable, reflecting the differences in resident profile, care levels and nutritional needs. Specialized residential care (SRC) residents were not a homogeneous group as were the IC and PC residents. The care level and nutritional needs of SRC clients were diverse, ranging from minimal to complex.

In terms of the quality of nutrition and foods served the following results were found:

- Fifty-nine percent of the menus that received computer analysis failed to meet "current Canadian Dietary Standards" as required per Adult Care Regulations Section 7(1)(a). These menus failed to provide >80% of the Recommended Nutrient Intakes (RNI), for one or more common nutrients, based on typical resident profile data. This means that 732 residents were housed in facilities providing nutritionally substandard menus. Residents housed in facilities with menus that failed to provide >80% of their RNI,s were at a greater risk of nutritional inadequacies than residents housed in facilities with menus that met their RNI's.

- The predominant nutritional issue identified by computer analysis was that 42% of SRC menus failed to provide sufficient calories to meet the recommended energy intake of the average client.

- The median reported raw food cost for both IC and PC facilities was below the minimum recommended amount indicated in Agriculture Canada's Nutritious Food Basket figures. Raw food costs ranged from $1.67 to $7.50 per person per day. Specialized Residential Care facilities reported the most variable food costs ranging from $2.40 to $7.50 per person per day.

- Sixty -four percent (37) of the facilities responding to the survey housed < 25 residents and, therefore, were not required by legislation to employ the services of an RDN. Section 7(4)(a) of the provincial Adult Care Regulations does not address the need for RDN services in facilities housing less than 25 residents, nor does it address the proportionate increased need for RDN services in facilities housing significantly more than 150 residents.

- The need for an RDN appeared to be the most significant in SRC facilities, yet SRC residents received the least amount of RDN time (2.5 min./resident/day) compared to PC (5.1 min./resident/day) and IC (12.0 min./resident/day). Additionally, most SRC facilities were not provided funding for the services of a RDN.

In terms of the impact of recent demographic changes to licensed adult care facilities, the following issues were presented:

- The number of licensed adult care facilities throughout the CRD has increased by approximately 82% over the past decade. This increase has been primarily SRC facilities. This increase has not been met with concurrent proportionate growth in community nutrition support services over the same time period.

- Facility staff require a minimum level of nutrition expertise in order to meet identified nutritional needs of these residents. However, there are no minimum nutrition education requirements for facility staff. Additionally, there is a negligible amount of nutrition education programs in the Victoria area specific to address the needs of the population studied.

- Staff and residents, particularly in the smaller SRC facilities, have limited accessability to community based RDNs who can provide regular, on-site consultant nutrition services specific to meet their needs.

- Current staffing levels of the CRD, Community Care Facility Program are insufficient to allow qualified personnel to regularly monitor the nutrition and food services of these facilities. At present, the Licensing Officer is only able to inspect a facility once every 1-2 years and the Community Care Facility Nutritionist is only able to inspect a facility once every 2-3 years. Thus, compliance to regulations and standards may become lax.

Consequently, this study has shown that many individuals housed in licensed adult care facilities do not have adequate, appropriate and accessible nutrition and/or nutrition services. There was identified need for the development of a network of community nutrition support services including nutrition education programs, and community consultant RDN services. Additionally, adequate funding, appropriate regulations and sufficient licensing services must be available to ensure residents receive a high quality of nutrition and food services. While the staff of each facility have been informed about the findings of this study, limitations in community nutrition support services may impede resolution of many identified issues. If this situation continues on it's current course and remains unaddressed, the potential for increased incidence of nutrition health and safety issues will escalate.

RECOMMENDATIONS

1. That the report "Issues in Licensed Adult Care Facilities in the Capital Regional District" be forwarded by the Capital Regional District Board for information and action to the Minister of Health, the Provincial Adult Care Licensing Board and all adult care funding agencies (Ministry of Social Services and Housing, Ministry of Health, Mental Health Services, Services to the Handicapped and Long Term Care).

2. **The Capital Regional District Health Committee:**

   - Support the development of a network of community consultant Registered Dietitian Nutritionists in order to provide contracted nutrition services to facilities and/or agencies otherwise unable to obtain those services. The Community Dietitian Model similar to that in Nelson and Revelstoke is recommended.

   - Support the development of nutrition education programs in the community, specific to meet the needs of residents, and staff of adult care facilities.

   - Approve the addition of one Community Care Facility Registered Dietitian Nutritionist position (1 FTE) in the 1992 budget submission.

3. **The Capital Regional District Board recommend the British Columbia Ministry of Health, Community Care Facilities Licensing Branch:**

   - That they amend the nutrition component of the Adult Care Regulations to include minimum Registered Dietitian Nutritionist staffing guidelines for <u>all</u> licensed adult care facilities, regardless of capacity, in order to ensure that resident nutrition health and safety issues are addressed by a qualified Nutritionist.

4. **That the Capital Regional District Board recommend to all Adult Care Funding agencies:**

   - That they contract the services of Registered Dietitian Nutritionist(s) in order to provide consultant nutrition expertise and nutrition educational programs to facilities where these services are currently lacking. Alternatively, to ensure adequate commitment of financial resources to facilities so that they may independently contract the services of a Registered Dietitian Nutritionist.

   - That they ensure adequate commitment of financial resources to facilities in order to enable those facilities to comply with <u>all</u> provincial nutrition regulations and standards.

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