

The origins of Canada's first national dietary standard

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Introduction and summary:

Dietary standards were, at least until the late 1940s, developed by governments in response to food shortages because of war, agricultural failures, or distribution problems arising from economic and political crises (1). In 1862, the British government, in response to an agricultural crisis and related civil unrest, developed the world's first dietary standard (2). A second dietary standard was developed towards the end of World War One, by the British government in response to the potential for wartime food shortages (3).

The economic depression of the 1930s spurred the next round of dietary standard setting. In 1993, a committee of the British Medical Association established a dietary standard designed to maintain the working capacity of the population and, in the same year an American researcher, Hazel Stiebeling, established a standard to maintain optimal health (4, 5). And, in 1935, the League of Nations developed an international dietary standard to both improve national diets and to re-stimulate agricultural production and international trade (6).

In Canada, in 1933, two years prior to publication of the League's standard, the Ontario Medical Association (OMA) established a dietary standard for families receiving social assistance which was used by some municipal and provincial welfare administrations to determine social assistance rates in the mid-1930s (7). In 1936 the Canadian federal government endorsed the OMA relief standard and, within two years, established both a national nutrition policy making organization, the Canadian Council on Nutrition (CCN) and, a Canadian national dietary standard (8).

Widely publicized vitamin discoveries, new metabolic studies, and dietary survey methods had, during the inter-war years, increased the effectiveness and status of nutrition science in both lay and scientific circles. The 1933 Stiebeling standard established requirements for a number of minerals and vitamins,

representing a major scientific improvement in dietary standards since the first British standard in 1862.

While the new science of nutrition gave governments a rational tool for planning diets for large populations, it was the persistently high levels of unemployment relief payments in Canada during the 1930s, within the context of growing provincial and municipal governments' inability to finance these that shaped the timing and the content of the 1938 national dietary standard. The Canadian standard was also highly influenced by the League of Nations which, throughout the 1930s, took leadership in promoting nutrition research by encouraging members to form national nutrition policy-making institutions and to develop dietary standards.

The purpose of this paper is to describe the political, social, and scientific origin of Canada's first national dietary standard promulgated in 1938. This is an historical case study framed within an ecological model of policy making in which a specific policy issue, in this case the development of a national dietary standard during the decade of the 1930s, attracts the attention of groups within and outside government who view a policy change as important within a social climate that either enables or restricts policy adoption and forward momentum (9). The three pillars in this ecological model are first, the identification and characterization of the main elements in the social environment shaping policy, second, the identification and characterization of the main stakeholder organizations guiding and shaping policy, both domestically and internationally, and finally, a determination of the way in which science was used in the policy process (9).

The official adoption of national dietary standards by governments was an early example of the conscious use of a newly emerging health science by policy makers and serves as an interesting historical example both of the ways in which scientific uncertainties were negotiated within the field of nutrition science as well as the ways in which the new science was utilized by policy makers. As Smith has noted, in discussing the evolution of food policy in the 1930s in Britain, "the links between science and food policy can rarely be straightforward. Policy making and implementation involve processes of negotiation between, among others, scientists, administrators, politicians, and industrial interests" (10).

This paper is divided into four sections. In the first section, the problem of unemployment in the 1930s in Canada is introduced as this was the single most important political influence on dietary standard setting. Second, domestic and international policy developments in relation to unemployment and dietary standards are outlined and main stakeholders identified. Third, policy developments leading to the formation of the Canadian Council on Nutrition and the first dietary standard in Canada are outlined. In the final section, the way in

which Canadian nutrition scientists negotiated with peers and policy makers to develop Canada's first dietary standard is described.

Unemployment and dietary standards

The Wall Street crash in October 1929 triggered an international economic depression that, in Canada, reached its nadir in 1933 and lasted until 1939. The impact of the Depression was disproportionately borne by the agricultural sector. Between 1929 and 1933 agriculture's share of national income fell from 23 to 12 percent while the proportions earned from the manufacturing and service sectors, remained stable (11).

The crisis in agriculture was felt throughout the world as tariff walls were erected and trade ground to a halt. The common problem faced by almost all nations in the early 1930s, with the collapse in international trade was, on the one hand, unemployment, low incomes and the specter of nutritional insufficiency or malnutrition, and, on the other hand, "often massive food surpluses as crops and foodstuffs were being deliberately destroyed in a bid to stabilize prices" (12).

In Canada, in response to these difficult conditions, increasing social unrest, and the growth of left-wing opposition parties, private charities and municipal and provincial governments, initiated a patchwork of largely uncoordinated and inadequate relief efforts consisting of a combination of direct distribution of food and financial assistance. By 1933 the mushrooming cost of relief payments left many municipalities and provincial governments near bankruptcy forcing a reluctant federal government to provide grants and loans to deal with growing insolvency among these lower levels of government (14, 15). This situation became increasingly untenable because the federal government had no constitutional authority over the administration of unemployment relief programs and therefore no control over costs but, by the mid-1930s, it was footing most of the national unemployment relief bill.

In an attempt to rationalize the patchwork relief system across Canada, the federal government imposed standards for relief administration as a condition for cash grants and loans to the provinces (14). As the unemployment crisis deepened in 1937, the National Employment Commission advised the federal government that in order to improve national labour mobility and productivity as well as the efficiency of relief spending, it should develop a nationally integrated system of employment training, placement, and unemployment insurance (16).

Federal policy discussions of the issue focused on labour and fiscal efficiency although there was limited recognition that the impact of long

term unemployment, through sustained insufficient food intakes, could compromise health as well as labour productivity. For example, according a 1938 Royal Commission on Federal-Provincial relations, “the deficiency of relief food allowances in body building proteins and protective foods is bound to have bad effects on families who must live on them for long periods of time. Undermining of physique and destruction of morale are then inevitable. The state must later pay the permanent costs of unemployment, illness, crime, and immorality. The lack of standards in relief administration has injured the taxpayer and continues to do so” (17).

As the depression deepened pressure from left-wing political groups and organizations of unemployed workers grew for expanded and more generous relief programs from municipal and provincial governments. Because of the high proportion of relief incomes spent on food, debates about the adequacy of relief rates centered increasingly on the quality and quantity of food required to sustain the health of families receiving cash assistance¹. At the same time, on the international stage, the League of Nations was making the “business case” to its member nations, for similarly making nutrition and health in general, and dietary standards in particular, central to any international solution to the crisis of unemployment. It is to a description of these growing domestic and international pressures and emerging stakeholders that we turn in the next section.

Domestic and international stakeholders

Domestic stakeholders and Canadian nutrition science

Pressure to establish a nutrition policy making capability at the Canadian federal level and a dietary standard came from both domestic and international sources. The Canadian and Ontario Medical Associations and various women’s and children’s organizations formed nutrition committees that worked closely with community groups concerned with the health status of the unemployed (19).

In Ontario, early in the Depression, when under the pressure of growing unemployment relief payments, the provincial government moved to standardize the administration of relief, debate centered on the proportion of the relief allowance to be spent on food (20). These were debates about money, which focused on arguments about government’s ability to pay, as there was little scientific information available on the quality or quantity of

¹ In September 1936 the proportion of relief allowances spent for food ranged from a low of 44% in Hull Quebec to a high of 77% in Victoria, British Columbia (18)

food required to maintain health, particularly among low income and unemployed families.

This changed in 1933 when the Ontario Medical Association (OMA) published its dietary standard largely based on Stiebeling's American standard (21). The OMA applied their dietary standard to typical Toronto family diets and then costed these demonstrating that the cost of feeding a family of five was approximately 30 percent higher than the relief food allowance established by the Ontario and various municipal welfare administrations (22). This information was used by public health and welfare officials, community groups, trade unions, and groups of unemployed workers to pressure government to increase social assistance rates (23).

At this time, in Canada, unlike in the United States and Britain, very few dietary surveys had been conducted so that scientific information about diet and health, particularly in low income and unemployed populations was limited. The earliest dietary surveys in Canada, undertaken in 1931 and 1935, were marketing investigations conducted by the Department of Agriculture on the relationship between family income and milk and meat purchases (24, 25). While these surveys demonstrated that families with higher income purchased more of the "protective" foods, (i.e. higher quantities of vitamin-rich dairy products and meat) they said little about the nutritional status of low income families included in the surveys.

The first comprehensive dietary surveys in Canada undertaken with a specific health focus, among low income populations were conducted in Edmonton, (27), Halifax (28), Quebec City, and Toronto (29, 30,31) and published between 1934 and 1941, that is about the same time or after the promulgation of the Canadian national dietary standard in June 1938. Thus, other than the dietary standard created by the OMA and a few economically motivated dietary surveys conducted by the Canadian Department of Agriculture, scientific information on the dietary and health status of the Canadian population was limited and not widely available to community and other opposition groups agitating locally (i.e., at the municipal and provincial levels) for increases in assistance rates.

However, several nutrition scientists were engaged in the late 1930s conducting dietary surveys, mainly among low income urban populations. Most of these studies compared dietary intakes in these families with the Canadian dietary standard and found that intakes were largely inadequate, for energy as well as for many minerals and vitamins, compared to the standard. And, in the conclusions to most of this research, it was usually noted that a combination of poverty and lack of proper nutritional knowledge contributed to inadequacy of diet among these low income populations (27, 32).

In one of these earliest dietary surveys, E.W McHenry demonstrated that among 100 Toronto low income families protein, calcium, and iron consumption was less than in middle income Toronto families (31). In discussing the results of this survey, McHenry stated that “we are forced to the conclusion that an appreciable number of our urban people are not properly fed. So far, data regarding rural conditions have not been secured. With regard to urban diets we can make a prediction with some certainty: that the average picture among those families with the lowest incomes is one of under-nutrition” (31).

McHenry, in discussing these and other results from dietary surveys emerging at this time suggested that “these results also point to the need for educational work giving information about nutritive values in relation to food cost. Especially great is this need among families with low purchasing power. An increasing amount of evidence shows clearly that many families are spending sufficient money to secure an adequate diet but are failing to do so because of a lack of knowledge regarding economical purchasing” (32 p.258). Other leading nutrition researchers at the time also shared the view that the problem was not so much lack of money for food but more, a lack of education, among the poor, on how to efficiently buy the best diets with the income they had (27). These attitudes were also common among American nutritionists at the time (33).

When McHenry’s and other dietary surveys became available to the public after 1939 they were seized upon by Toronto area activists to pressure the Ontario government for increased relief rates. However, as war began in 1939 relief rolls across Canada dropped dramatically so that the cost to governments of increasing relief rates was drastically reduced. For example, between 1939 and 1941 the proportion of Ontario’s population receiving social assistance decreased from 9.8 to 1.9 percent of the population (22). Ironically it was only towards the end of the war, in 1944, with increasing wartime prosperity when relief rolls had virtually been eliminated in a full-employment economy that the Ontario government accepted the use of the new Canadian national dietary standard in establishing food allowance relief payments for those on assistance (22).

Although dietary standards established by the OMA were available in Canada as early as 1933 and although these were used by opposition groups to agitate for increases in relief rates this process was largely unsuccessful prior to the war, at the municipal and provincial level as governments held the line on increased relief spending. While these domestic pressures to incorporate scientific dietary standards into municipal and provincial relief administration largely failed to produce results in Canada, international ef-

forts to further scientific nutrition policy making found an increasingly receptive federal government as it began, after 1937, to develop a national program of unemployment insurance.

International stakeholders

Efforts spearheaded by the League of Nations, and based largely on research conducted by John Boyd Orr in the early 1930s in Britain, were brought to bear on many national governments by the mid-1930s. Using Stiebeling's dietary standard, Body Orr demonstrated widespread deficiencies in the British national diet that increased with decreasing income. Because his research demonstrated severe nutritional inadequacies, among the poor, it was used, by trade unions, and unemployed and anti-poverty organizations to pressure the government to increase relief rates (34).

At a time of mass unemployment, plummeting wages, and fiscal retrenchment, British government ministers "were desperately concerned to disprove links between malnutrition, ill-health and low income" and the Ministry of Health moved quickly to block publication of his research (35). In spite of Ministry efforts, the report was published and widely read by the lay public and in medical and nutrition circles internationally and in Canada.

His work was championed by the Mixed Committee of the League of Nations which reported in 1936 "there are good reasons for believing that the trend of dietary habits, particularly in countries with a Western civilization, towards a larger consumption of protective foods would coincide with a parallel evolution of agricultural production, which would in all probability benefit the rural populations of the various countries, and might also greatly contribute to a resumption of normal economic relations between the nations" (36).

This vision rested on the implicit assumption that governments would increase relief payments putting cash in the hands of the needy to provide the economic stimulus. This Keynesian idea of using scientifically determined dietary standards to forge a "marriage between nutrition and agriculture" would never be entirely embraced, at least in the late 1930s, by a Canadian federal government which was determined to hold the line on relief spending rather than increase it as the League was urging (17).

The Mixed Committee's also urged national governments to form national nutrition councils by collecting "the opinions of technical experts concerned with the various aspects of nutrition" specifically to develop national dietary standards (37).

The Canadian government was receptive to establishing a dietary standard as part of its program to rationalize a new labour strategy linked with

an unemployment program but was not interested in the standard being used as the League had intended. The Canadian government desired to take control of the patchwork relief system to rationalize and constrict existing levels of expenditure not expand them (38).

As early as 1933, on the urging of the League of Nations, Canada had established a high level committee (with the unwieldy name of the Canadian Preparatory Committee of the British Commonwealth Scientific Conference) which included the Deputy Ministers of Agriculture and Pensions and National Health, the Director of the National Research Council and representatives from the Dominion Bureau of Statistics, and External Affairs. They established a nutrition sub-committee charged with the task of developing a national nutrition council and a dietary standard (39).

The Canadian Preparatory Committee's Sub-Committee on Nutrition was the key federal stakeholder responsible for introducing the new international nutrition thinking and research into Canada and its high profile membership and mentorship by the League gave it prominence and credibility. It is to the work of this committee that we turn as it shaped nascent federal nutrition policy from 1935 until the formation of the CCN in 1938.

The Origins of the Canadian Council on Nutrition (CCN)

The Canadian Preparatory Sub-Committee on Nutrition report was tabled in the summer of 1936. In the report, Dr. F. Tisdall, chairman of the OMA Sub-committee on Nutrition and lead author of the OMA dietary standard, justified the OMA dietary standard in the context of both John Boyd Orr's research in Britain and the League of Nations, recently published dietary standard.

While dismissing the applicability of Boyd-Orr's research to the Canadian situation, Tisdall, stated that Boyd Orr's work "is from such a different angle than the material presented in our OMA report so that very little comparison can be made" (40). He went on to outline the scientific basis of the OMA standard stating that it "is essentially the same as Stiebeling's standard, however, being lower than usual, due to the fact that this is a relief standard where the head of the family is not working" (41). Further Tisdall said that "a study of our standard from the economic standpoint shows that it is less than the recent standard issued by the League of Nations".

Having positioned his standard in this way, Tisdall noted that if Canada used the OMA relief standard as the basis for calculating unemployment relief rates rather than the League's standard cost savings would result (42). The report showed detailed calculations that with the OMA

standard, food allowance costs in Toronto would be 28 percent higher than the then current food allowance in the city but that use of the League's standard would increase these costs a further 30 percent indicating that adoption of the League's standard would raise Toronto's current food allowance by 58 percent.

The adoption of the OMA standard did not apply as much upward pressure on relief rates as would have adoption of the League of Nations standard. This was essentially a compromise in which a lower Canadian standard was adopted because it met the criteria of scientific acceptability by the scientific and political establishment and, very importantly, it minimized the impact of relief rates. While adoption of this standard by an inter-disciplinary multi-ministerial committee was an important first step, the authority of such a committee was limited both within the federal government, and in relation to its ability to influence relief administrations given the peculiar constitutional situation in Canada at the time which gave the federal government no authority in social assistance policy and therefore, in this context nutrition policy. Therefore, on February 19th 1938, at a special meeting chaired by the Deputy Minister of Pensions and National Health, the Canadian Council on Nutrition was formed and the decision made that Canada should establish its own national dietary standard. In the next section we will turn to the scientific negotiations underway during this 18 month period which finally led to the Canadian dietary standard.

The 1938 Canadian Dietary Standard

Because dietary survey data were almost entirely lacking in Canada, in 1938 Hazel Stiebeling, who as the world's pre-eminent expert in this area was in contact with the Canadian government, advised the Canadian Preparatory Committee to wait until they had more scientific data before setting a national standard (43) The committee ignored Stiebeling's advice and instead decided to proceed. This was likely because of the unique Canadian situation in which the federal government was moving quickly to develop a national employment program which needed a dietary standard (43).

The key figure in drafting the new Canadian standard was Dr. E. W. McHenry, who was appointed as a CCN scientist in February, 1938. CCN meeting minutes indicate that he drafted the standards and coordinated subsequent negotiations with peers and policy makers over its final content and form throughout the year 1938 (44). The bulk of this correspondence is with the leading nutrition scientists in Canada as well as more limited direct correspondence with Hazel Stiebeling in the United States.

In an early draft of the Canadian standard McHenry states that, “in relief work the lack of a suitable standard has caused a great deal of controversy. Whether a diet is considered adequate or not depends on the standard of comparison. The statement has been frequently made that a family cannot be considered properly fed unless a diet equal to the League standard is provided. Such a diet for a family of five in Toronto would cost approximately twelve dollars a week, an amount greatly in excess of that provided by relief authorities. Obviously it is of importance to determine whether this standard should be followed or whether alterations in accord with Canadian customs should be made.” (45)

McHenry offers the following rationale to use in altering the League’s standard “in accord with Canadian customs”. “Measurements of food consumption of healthy persons of sedentary occupations in Toronto have shown that men actually consume about 2,500 calories per day and women about 2,000. The Leagues allowances for men agree very well with these actual records of consumption and with averages of physiological measurements of energy requirements. The discrepancy in the case of women is obvious and is explicable in several ways. Many European women must work, of necessity, in the fields and must spend as much energy as men. This is not the case in British or American communities. Hence, in men-value scales customarily employed in Great Britain, the caloric allowances for a woman is generally given (as in the Cathcart scale) as 83% of the value for a man, since the basal metabolism and body-area of women is lower than those of men. If we accept the basal standard for a man as 2,400 Calories and employ the Cathcart coefficient, the standard for women should be approximately 2,000 Calories. This agrees with the consumption figures quoted above and may be regarded as a modification in the League standard suitable for Canadian conditions”. (46)

In his draft, McHenry goes on to explain that using the League’s standard a married couple on relief in Toronto would require 5,400 Calories versus the proposed Canadian standard in which the couple would require 4,800 calories per day. He also noted that the 1935 League standard, like the 1933 OMA standard, did not have separate consumption figures for boys and girls. But, because American data showed that girls ate less than boys and because in Britain, women’s consumption was reduced in relation to men this provided scientific justification for altering the League’s standard according to “Canadian customs”.

The use of this rationalization is ironic as McHenry, in commenting on his own dietary survey results in Toronto, observed at this time that women in low income households tended, in the face of food shortages, to stint on

their own consumption to ensure that their husbands and children received adequate nutrition (22). The CCN's method of adapting the League's standard, using a British rationalization and American data on children's nutrition, to reduce women's requirements is difficult to understand given the limited, but fairly compelling, Canadian evidence derived from a scientifically designed dietary survey that poor women's low caloric intakes might reflect personal sacrifice in the face of scarcity rather than "real" caloric consumption.

As well, the final Canadian national dietary standard agreed upon in June 1938 was likely even lower than the OMA standard due to the reduced standard for women and the separation of requirements for boys and girls and reduction in these for girls in the national standard.² Although CCN correspondence between McHenry and a number of nutrition scientists in Canada in early 1938 indicates that many disagreed with his rationale for downgrading the standard for women, this standard was finally adopted in the spring of 1938.

Conclusions

This historical case study demonstrates that while an international body did initiate new institutional developments and stimulate new nutrition research in Canada the federal government used this external stimuli to manage its own domestic policy agenda, particularly in relation to the national unemployment program.

As well, the study shows how lack of basic information on nutrition and health hampered public and local community groups in their efforts to influence the content and shape of the national dietary survey. In the five years leading up to promulgation of the standard, information on nutrition standards among the poor was available in some academic journals but, other than the OMA's standard and related background information, the community had very little information with which to mobilize public opinion. And, the scientific establishment, while in possession of fairly strong evidence that the poor were not well fed, posited that this was due in some measure to their lack of education rather than their lack of income providing policy makers with some comfort that the leading nutrition scientists of the day were not likely to use the emerging data from dietary surveys to pressure for increased relief rates.

² It is difficult to directly compare the OMA and the national standard because the OMA standard did not separate requirements for boys and girls and because the age ranges used in the OMA standard for children were different than those used in the national standard.

In the period leading up to establishment of the Canadian dietary standard, while the moral and scientific pressure and prestige of the League's standard was ever present, the lack of national dietary survey information and the consequent lack of information to mobilize the public, left its final negotiation and formulation entirely up to a scientific elite with a firm eye and strong understanding of the need to reduce the League's standard in order to satisfy the federal government's need to keep relief rates low.

The lack of information not only reduced public involvement but it also increased the level of scientific uncertainty which accorded a larger role for scientists as adjudicators in this situation. The final stage in the development of the standard, largely overseen by E. W McHenry, indicates it was weakly rationalized using current social prejudice rather than science, and, in fact at odds with McHenry's own results indicating that poor women's caloric intake as measured in dietary surveys would be low because many were restricting intake in order to better feed their families. These judgments resulted in a much lower standard than advocated by the League and somewhat lower than the OMA standard, but one that was in accord with the domestic policy agenda insofar as related to the new national unemployment plan.

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