

## Support the transfer evaluation and impact of permanent education on primary health care\*

### Avaliação de suporte à transferência e impacto da educação permanente na atenção primária à saúde

### Evaluación del soporte a la transferencia y del impacto de la educación permanente en la atención primaria a la salud

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This research aims to evaluate the impact of a permanent education activity at work, as well as the support for the transfer of the information learned in a training course into the practice of primary care professionals. The methodological strategy used was the action-research, to identify needs and implement a training course. This paper presents the second stage of evaluation, performed 120 days after the activity, which ended in early 2015. For data collection, scales were used to evaluate the impact of the training on the practice at work and on the support offered to the transfer of the knowledge to that end. The scales were answered by 86 participants of the course. The impact of the course was found to be positive, as well as the transfer of what was learned there to the practice of the students. The lack of support from the management of the services is, however, clear, preventing this transfer to improve the practices as well as it could. Permanent education opens the path for the offering of qualified attention to the population, but support from the service managers is essential.

**Descriptors:** Health education; Aged; Professional training; Continuing education; Primary health care.

Esta pesquisa tem como objetivo avaliar o impacto de uma atividade de educação permanente no trabalho e o suporte à transferência de um curso de capacitação realizado com profissionais da atenção primária. Como estratégia metodológica utilizou-se a pesquisa-ação para identificar necessidades e implementar um curso de capacitação. Este artigo apresenta a etapa de avaliação realizada 120 dias após a ação, encerrada no início de 2015. Para a coleta de dados foram utilizadas as escalas de impacto do treinamento no trabalho e suporte à transferência, respondidas por 86 participantes do curso. Observou-se impacto positivo do treinamento e do suporte à transferência pelos egressos do curso, porém é nítida a falta de apoio da direção dos serviços, o que impede uma melhoria plena das práticas. A educação permanente abre caminhos para a atenção qualificada à população, entretanto é necessário apoio por parte dos gerentes de serviço.

**Descritores:** Educação em saúde; Idoso; Capacitação profissional; Educação continuada; Atenção primária à saúde.

Esta investigación tiene como objetivo evaluar el impacto de la actividad de educación permanente en el trabajo y soporte a la transferencia de un curso de capacitación realizado con profesionales de la atención primaria. Como estrategia metodológica se utilizó la investigación-acción para identificar necesidades e implementar un curso de capacitación. Este artículo presenta la etapa de evaluación realizada 120 días después del entrenamiento en el trabajo y soporte a la transferencia, respondidas por 86 participantes del curso. Se observó un impacto positivo del entrenamiento y del soporte a la transferencia por los egresados del curso, sin embargo, es nítida la falta de apoyo de la dirección de los servicios, lo que impide una mejoría plena de las prácticas. La educación permanente abre caminos para la atención calificada a la población, pero es necesario el apoyo por parte de los gerentes de servicio.

**Descriptores:** Educación en salud; Anciano; Capacitación profesional; Educación continua; Atención primaria de salud.

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## INTRODUCTION

Organizations increasingly invest in training, development and educational actions, knowing that as their collaborators develop their knowledge, they can become mediators of new knowledge, motivating abilities and attitudes in the workplace<sup>1</sup>.

In Brazil, the evaluation of actions and educational programs of health workers is still not consolidated as a tradition, and since it is still developing, it uses theoretical references from administration, social and work psychology in the development of researches, adopting the terms, concepts and methodologies from these fields<sup>2,3</sup>.

The 1988 Federal Constitution and the Organic Health Law n. 8,080/1990 understand health as a right of the citizen and a duty of the State, establishing the Unified Health System (SUS) as a guide for the training of professionals in the field<sup>4-6</sup>.

Considering that, educational actions need not only to be carried out, but also evaluated. They are as important as the other stages of the educational process, such as planning and execution, building an articulation between the educational institutions and the public health system<sup>7</sup>.

A pioneer study in this area, from the administration field, was proposed by Kirkpatrick in 1976, presenting four levels of training evaluation: Reaction, Learning, Behavior and Results. This is the most used and practiced model, according to a study by Santos and Mourão<sup>8</sup>. Kirkpatrick's model was complemented by Hamblin in 1978, which divided the "results" level in two, thus proposing five evaluation levels: Reaction, Learning, Behavior when performing the function, Organizational Change and Final Value. Both models were primordial, but only analyzed variables connected to the results of a training process, overlooking the analysis of individual, instructional and contextual components<sup>9</sup>.

In 1982, Borges-Andrade<sup>9</sup> developed the Summative and Integrated Evaluation Model (MAIS) and, in 2006, presented it one more time. The MAIS adds to the classic Kirkpatrick model variables relating to the

individual, the course and the environment in the evaluation of training results. The components of the MAIS model are: input, procedures, processes, results and environment. This model is broader than all the previous ones and has become a reference in the field<sup>9,10</sup>.

The MAIS was the base upon which Abbad<sup>11</sup> developed the Integrated Model of Work Training Impact Evaluation (the IMPACT model). This model proposes the analysis of several evaluation components and was important in the creation and validation of instruments. The IMPACT model components include: perception of organizational support; training characteristics; client characteristics; reaction; learning; transfer support; and training impact at work<sup>8,11</sup>.

Transfer support refers to the support received by the professionals who have been through training to apply their recently acquired abilities at work, whereas the Work Training Impact is defined as the effects of training upon motivation, performance and attitudes after participation in the course<sup>12</sup>.

In Brazil, impact evaluation of permanent education activities is still very seldom conducted, especially concerning the results it has in the organization. Without an impact evaluation it is not possible to know how effective an educational action is being in the development of people, teams and organizations<sup>7</sup>. This study aimed to evaluate the impact of permanent educational activities at work and the transference support of a training course conducted with professionals from the primary health care system.

## METHOD

This research is part of a larger study whose methodological strategy was the action-research<sup>13</sup>. According to the action-research guidance, the following research stages were conducted: investigation with the primary care professionals regarding themes that are relevant for a training course in the context of the creation and management of educational health groups with elders; discussion with a representative of the

Municipal Health Secretary (MHS) of the municipality of Uberaba/MG about the themes that resulted from that survey and the creation of a proposition for implementing such course; course evaluation and support to the professionals for the creation of pilot-groups. The evaluation stage of the course had two stages, one in the last day of training and the other after 120 days. This study discusses the second stage.

The participants of the training course, health professionals and managers, were selected by the MHS of Uberaba/MG, a total of 98 participants separated in three groups per sanitary district. There were 37 professionals in district I, 31 in district II and 30 in district III. For each group, four weekly meetings were conducted, to a total of 16 hours. The course took place in the space of the Federal University of the Triângulo Mineiro (UFTM). The first group went through it in May, the second in July, and the last in August, 2014. In all meetings, a participative and dialectic methodology based on Paulo Freire was used<sup>14</sup>.

Between the months of October 2014 and January 2015, from 120 to 150 days after the end of each course, the professionals who had participated answered a questionnaire that aimed to identify the effects of the permanent education activity on their behavior, as well as the support they received or not to apply the practices resulting from the discussions in the course in their workplace.

For data collection, a sociodemographic categorization instrument was used, as well as impact scores of the training and transference support, developed and validated by Abbad<sup>11</sup> and Abbad and Sallorenzo<sup>15</sup>.

The impact scale for work training courses is composed of 12 items that express the perception of the participant on the effects that the educational action cause on their own work performance and motivation. The items are associated to an agreement Likert five-point scale, in which 1 corresponds to "I disagree completely with the statement"; 2, "I disagree partially from the statement"; 3 "Nor do I disagree, neither

do I agree with the statement"; 4 "I agree with the statement" and 5 "I completely agree with the statement"<sup>12</sup>.

The scale of training transfer support was composed by two factors: psychosocial support to the transfer and material support to the transfer. The factor "psychosocial support to the transfer" assesses management, social and organizational support to the acquisition of new knowledge at work. It is divided in two parts, which are: situational support factors and consequences associated to the application of new abilities at work. The factor "material support to the transfer" evaluated the quality, quantity and availability of material and financial resources, as well as the quality and suitability of the physical environment of the workplace for the transfer of the content learned in training<sup>12</sup>. The scale has 22 items associated to a 5 point scale in which 1 corresponds to "never"; 2 to "rarely"; 3 to "sometimes"; 4 to "frequently" and 5 to "always".

Categorical variables were analyzed according to descriptive statistical techniques, considering absolute and percentile frequencies, whereas numerical variables were evaluated according to central and dispersion measurements.

Scales were used considering the average numbers. As for the standard deviation, results below 0.94 were considered low, as usually happens with this type of instrument<sup>16</sup>. The scales had satisfactory internal consistency, with *Cronbach's Alpha* coefficients of 0.786 and 0.864, respectively, demonstrating that the original structure of the instrument was valid for the population of this study.

To analyze the relationship between the scales of Training Impact and Transfer Support, Spearman's rank correlation coefficient, classified according to Bussab and Morettin<sup>17</sup>.

The project was based in the determinations of Resolution 466/12 from the National Council of Health. The study was approved by the Research Ethics Committee of UFTM (protocol 1658/10) and authorized by the Municipal Health Secretariat of

Uberaba. All participants received explanations regarding the research and signed the Free and Informed Consent Form. The project had the support of the Minas Gerais Foundation of Research Support (FAPEMIG), under protocol APQ-02554-12.

## RESULTS

From the 98 professionals who participated in the training course, only 86 (87.75%) answered the questionnaire. Most participants were female (89.5%), aged from 31 to 50 years of age (54.6%), the second most common age group being from 51 to 60 years of age (22.1%). From these, 29.1% were nurses, followed by community health agents (24.4%), dental surgeons (16.3%), physicians (7.0%), psychologists (5.8%), oral health and dental office auxiliaries (5.8%), social assistants (4.7%), nursing technicians (3.5%), Basic Health Unit (UBS) managers (2.3%) and physiotherapists (1.2%). Most

participants had from 5 to 10 years of formal education (30.9%), followed by those with 20 or more years (22.6%), and those who had between 10 and 20 years (19.0%). Regarding their time working in Primary Health Care (PHC), most had more than 10 years of experience (36%), followed by those who had from one to three years of experience (24.4%). Almost all participants (95.3%) said to be involved in some health education group, and from them 45.1% were the leaders of said groups.

During data analysis, a positive impact of the training was found. In a scale from 1 to 5, the average impact was 3.83 (DP=0.51). Regarding the support to the transfer of training, results (from 2.45 to 3.05) were also positive, but lower when compared to the average of training at work. The lowest result was in the material support, with an average of 2.45 (DP=0.76) and results varying from 1.00 to 4.50, according to data from Table 1.

**Table 1.** Summary-measures of the impact and of the support regarding Permanent Health Education (PHE), after 120 days of the training activity. Uberaba/MG/Brasil, 2015.

Impact/Support	Standard				
	Average	Deviation	Minimum	Median	Maximum
Impact of training on work	3.83	0.51	2.25	3.75	5.00
Situational support factors	2.87	0.57	1.56	2.78	4.22
Consequences associated to the use of new abilities	3.05	0.55	1.57	3.00	4.43
Material Support	2.45	0.76	1.00	2.33	4.50

Regarding the instrument that analyzed the impact of training at work, it can be found that a lot of participants agreed that they have been enjoying all possible opportunities to practice the content taught in the training course (90.7%). It was also discovered that the quality of the work as

improved in the activities directly related to say content (84.9%). The lowest result concerned statement 5, which stated that the execution of the new skills means that the work is done faster. 11.7% of the participants disagreed from this statement, as shown in Table 2.

**Table 2.** Answers to the scale “Impact of Training at Work”, 120 days after the permanent education training activity. Uberaba/MG/Brazil, 2015.

	Totally agree	Agree	Don't agree nor disagree	Partially disagree	Totally disagree
	N (%)	N (%)	N (%)	N (%)	N (%)
1. I frequently use, in my current function at work, what was taught in the training course.	10 (11.6)	53 (61.6)	17 (19.8)	5 (5.8)	1 (1.2)
2. I take advantage of all opportunities I have to put into practice what I learned during training.	22 (25.6)	56 (65.1)	7 (8.1)	1 (1.2)	0 (0.0)
3. The abilities I learned during the training course led me to commit less mistakes in my work in activities related to the content of such courses.	24 (27.9)	47 (54.7)	11 (12.8)	4 (4.7)	0 (0.0)
4. I remember well the content taught at the training course.	19 (22.1)	50 (58.1)	10 (11.6)	7 (8.1)	0 (0.0)
5. When I put I learned in the training course to use, I do my job faster.	16 (18.6)	36 (41.9)	24 (27.9)	9(10.5)	1 (1.2)
6. The quality of my work has been improved in activities which are directly related to the content of the training course.	14 (16.3)	59 (68.6)	11 (12.8)	1 (1.2)	1 (1.2)
7. The quality of my work has been improved even in activities which did not seem related to the content of the training course	11 (12.8)	47 (54.7)	23 (26.7)	4 (4.7)	1 (1.2)
8. My participation in the training course increased my motivation for work.	18 (20.9)	45 (52.3)	21 (24.4)	2 (2.3)	0 (0.0)
9. My participation in this training course increased my self-confidence (Now I have more confidence in my ability to execute my work successfully).	17 (19.8)	38 (44.2)	26 (30.2)	5 (5.8)	0 (0.0)
10. After my participation in the course, I have been suggesting changes in work routines more frequently.	9 (10.5)	40 (46.5)	30 (34.9)	7 (8.1)	0 (0.0)
11. This training has made more receptive to changes at work.	11 (12.8)	42 (48.8)	28 (32.6)	5 (5.8)	0 (0.0)
12. The course has benefited my coworkers, who learn new abilities from me.	11 (12.8)	40 (46.5)	29 (33.7)	5 (5.8)	1 (1.2)

In the items related to situational support factors, it was found that 43% of participants stated that they “always” or “frequently” had opportunities to use what they learned in capacitation at work. On the other hand, the items that had the most

“rarely” or “never happens” result were, in most cases, those regarding the participation of the leaders in work (assertive 6 to 8).

Findings regarding the consequences of the use of the newly acquired abilities show that the suggestions of the

professionals regarding training were taken into account in the work environment. 47.6% stated that this is what happens “always” or “frequently”. It stands out that 41.9% of participants state that the more experienced colleagues “always” or “frequently” support

their attempts to use what they learned at the training courses at work. On the other hand, 80.2% affirm that they are “rarely” or “never” warned about mistakes committed regarding these new skills, as shown in table 3.

**Table 3.** Answers to the “Psychosocial Support” section, 120 days after the permanent education training activity. Uberaba/MG/Brazil, 2015.

	Always happens	Frequently	Sometimes	Rarely	Never happens
	N(%)	N(%)	N(%)	N(%)	N(%)
1. I have been having opportunities to use, at work, the abilities I learned in the training course.	8 (9.3)	29 (33.7)	41 (47.7)	7 (8.1)	1 (1.2)
2. I do not have time to apply, at work, what I learned in the training course.	2 (2.3)	16(18.6)	49 (57.0)	14 (16.3)	5 (5.8)
3. My work goals, as established by my boss, encourage me to apply what I learned at the training course.	4 (4.7)	17 (19.8)	41 (47.7)	21 (24.4)	3 (3.5)
4. My work goals schedule make it impossible for me to use the abilities I learned at the training course.	1 (1.2)	21 (24.4)	42 (48.8)	16 (18.6)	6 (7.0)
5. I have been having opportunities to practice important abilities (recently acquired in the training course), but, mostly, they have few uses at work.	2 (2.3)	13 (15.1)	49 (57.0)	17 (19.8)	5 (5.8)
6. The obstacles and difficulties associated to the application of the new abilities that I acquired in the training course are identified and removed by my boss.	4 (4.7)	9 (10.5)	25 (29.1)	33 (38.4)	15 (17.4)
7. My immediate superiors have been encouraging me to use, at work, what I learned in the training course.	4 (4.7)	17 (19.8)	20 (23.3)	34 (39.5)	11 (12.8)
8. My immediate boss has been creating opportunities to plan with me the use of the new abilities.	6 (7.0)	13 (15.1)	20 (23.3)	34 (39.5)	13 (15.1)
9. I receive all information necessary to correctly apply my new abilities at work.	2 (2.3)	16 (18.6)	33 (38.4)	27 (31.4)	8 (9.3)
10. In my work environment, suggestions I make regarding what was taught in the training course are taken into account.	10 (11.6)	31 (36.0)	34 (39.5)	9 (10.5)	2 (2.3)
11. More experienced colleagues support my attempts to use, at work, what I learned in the training course.	9 (10.5)	27 (31.4)	36 (41.9)	10 (11.6)	4 (4.7)
12. At work, my attempts to use the abilities I learned in the training course go unnoticed.	1 (1.2)	12 (14.0)	32 (37.2)	24 (27.9)	17 (19.8)
13. My organization (workplace) highlights more the negative aspects (ex.: slowness, doubts) than the positive ones of the use of my new abilities.	2 (2.3)	6 (7.0)	27 (31.4)	36 (41.9)	15 (17.4)
14. I have been receiving compliments when I successfully use, at work, the abilities I learned in the training course.	7 (8.1)	15 (17.4)	34 (39.5)	19 (22.1)	11 (12.8)
15. When I find it difficult to use efficiently my new abilities, I receive guidance about the correct way to perform them.	2 (2.3)	17 (19.8)	29 (33.7)	28 (32.6)	10 (11.6)
16. I am warned when I make mistakes while using a skill I learned in the training course.	1 (1.2)	7 (8.1)	9 (10.5)	30 (34.9)	39 (45.3)

Regarding the material support received by the professionals, 65.2% stated that the organization “rarely” or “never” offered the necessary material resources to properly use the abilities learned during the training course. 75.6% answered that the organization “rarely” or “never” provides the

extra financial support needed for the use of the abilities recently acquired in the training process. It must, however, be highlighted that 27.9% of participants responded that the materials used are “always” or “frequently” in good conditions, according to Table 4.

**Table 4.** Answers to the “Material Support” section, 120 days after the permanent education training activity. Uberaba/MG/Brazil, 2015.

	<b>Always happens</b>	<b>Frequently</b>	<b>Sometimes</b>	<b>Rarely</b>	<b>Never happens</b>
	<b>N(%)</b>	<b>N(%)</b>	<b>N(%)</b>	<b>N(%)</b>	<b>N(%)</b>
1. My organization (workplace) has been providing me with the material resources (equipments, materials, furniture and others) necessary for the proper use, at work, of the abilities I learned in the training course.	5 (5.8)	12 (14.0)	13 (15.1)	36 (41.9)	20 (23.3)
2. The furniture, materials, equipment and others have been available in sufficient amounts for the application of what I learned in the training course.	3 (3.5)	12 (14.0)	16 (18.6)	34 (39.5)	21 (24.4)
3. The materials I use are in good conditions.	3 (3.5)	21 (24.4)	34 (39.5)	23 (26.7)	5 (5.8)
4. My work tools (computers, machines and others) are compatible with the use of my new abilities.	1 (1.2)	14 (16.3)	28 (32.6)	32 (37.2)	11 (12.8)
5. My workplace is adequate for the proper use of the abilities I learned at the training course, when it comes to space, furniture, lighting, ventilation and/or noise levels.	2 (2.3)	19 (22.1)	27 (31.4)	26 (30.2)	12 (14.0)
6. My organization (workplace) has been offering extra financial support (Ex.: long-distance phone calls, trips or others) needed for the use of the new abilities I learned at the training course.	0 (0.0)	5 (5.8)	16 (18.6)	19 (22.1)	46 (53.5)

The analysis of the relationship between the impact of training at work and the support to the transference of practices has shown that there is a positive and significant correlation between them, albeit a

week one: (r=0,321) and (p=0,003). It was found that, once the factors of the support scale are separated, the material support had the highest correlation to the impact. Data presented in table 5.

**Table 5.** Correlation between the impact scales of the training, regarding work and support to the transference of practices. Uberaba/MG/Brazil, 2015.

Impact	Correlation coefficient	Psychosocial Support		Material Support	Support to training transference
		Situational factors	Consequences associated to the use of new abilities		
Impact of training on work		0.203	0.143	0.426*	0.321*
	P-value	0.060	0.188	0.000	0.003

\* p&lt;0.01.

## DISCUSSION

It can be said that educational actions exist due to their impact on the work practice. A systematic acquisition of knowledge is not enough; it needs to be capable of provoking a change in the actions of the individuals and in the results acquired by their organizations<sup>18</sup>. The practice of evaluations, beyond those of satisfaction and learning, means an important advance in the methodology of evaluations and educational actions<sup>19</sup>.

The results of the evaluation conducted after the implemented action point to a positive self-evaluation of the participants that finished the training educational course offered to improve performances and their use at work. Specifically, the average of the impact of the training resulted in a 3.83, with a low standard deviation (SD=0.51), indicating a great homogeneity in the answers of the participants.

The average impact of the training was superior to that presented by Alvarce<sup>20</sup> in a research conducted with higher education primary and secondary health care professionals from the city of São Paulo, after an online course focused on elder's health. On the other hand, other two studies, both with only one professional category each, presented averages that are superior to those of the study presented here<sup>21,22</sup>.

It should be highlighted that the fact that the individual cannot apply at work what they learned during an educational action does not indicate, necessarily, a failure of the action. It is possible that other contextual variables, such as support, influence the transference of the content from training into practice<sup>12</sup>. The results found by this research

indicate the existence of a meaningful and positive correlation between the impact of the training and the support to the transference, a connection already pointed out in other researches, as an analysis conducted by Zerbini and Abbad<sup>23</sup> reveals.

Regarding the analysis of the statements about the impact of the training in the work of the participants, the items 8 and 9 should be highlighted. According to them, 72.3% of people agreed that participation in the training increased their motivation to work, while 64% said the same about their self-confidence at work.

Similarly to the course conducted by Alvarce<sup>20</sup>, bringing into practice what was discussed in the developed educational activity is something intimately connected to the way in which professionals see the elder and their needs. Thus, it needs intern availability and the desire to adequately care for this population.

Among the statements in the section "psychosocial support", those referring to the "bosses" (6,7,8 and 16) stand out, due to their very frequent "rarely" and "never" responses, indicating that, in the perception of the participants, their superiors do not participate in the educational activities frequently. That may lead to insecurity in the implementation of such actions. The infrequent participation and turn out of managers in the activities the course proposes is related to that. Silva<sup>24</sup> identified that managers give better support to the transference of the knowledge acquired in a training course when they believe that the themes discussed are relevant to their organizational objectives.

One of the greatest difficulties in the execution of such educational group activities results from a perception that they are not as valuable as others, such as individual, assistance focused and bureaucratic actions. That reinforces the already established logic of a system tied to curative practices, and to biomedical defined attention, that does not consider each individual<sup>25</sup>.

The evaluation of the participants regarding the material support needed to use, at work, the content that had been discussed in the PHE action, was the one with the lowest result, with an average of 2.45 (SD=0.76) from a scale from 1 to 5. The result corroborates that found by Alavarce<sup>20</sup>, but differs from the results found by Bastos<sup>21</sup>.

Corroborating the results of this research, other studies that analyzed the educational health practices in primary health care also found that one of the difficulties pointed out by professionals for the execution of this actions was the lack of managerial support and adequate material resources<sup>26,27</sup>.

It should be highlighted that, although material resources are necessary, the lack thereof is not a justification for not conducting health education groups. As it was discussed in the action implemented, sometimes simple types of material, such as paper and pen, are enough to conduct certain activities.

## CONCLUSION

The impact evaluation from the professionals regarding the PHE course effects, 120 days after its conclusion, was positive. Their evaluation concerning the support to the transfer of the content of the course into work, albeit with lower average results, also was positive.

The participants agreed that their participation in the PHE activity increased their motivation and self-confidence at work, giving opportunities to put into practice the content learned during the course, and the quality of their work got better in the activities directly related to the content studied.

The research has shown that permanent education opens new paradigms to the building of a different level of attention to the elders, based on respect and on the trust that an educational work focused on health promotion is possible. However, some obstacles need to be addressed, so that central and local manager are more compromised with the qualification of the professionals through permanent education, aiming as such to stimulate, update and offer a type of assistance that is compromised with excellence in primary health care.

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## CONTRIBUTIONS

**Paulo Sérgio Ferreira** and **Francielle Toniollo Nicodemos Furtado de Mendonça** took part in data collection, in the analysis of data and in the final writing of the article. **Delvane José de Souza** contributed to data

analysis. **Paulo Sérgio Ferreira**, **Vânia Del'Arco Paschoal** and **Umberto Gazi Lippi** took part in the data analysis and in the critical review. **Álvaro da Silva Santos** coordinated the research and conducted a critical review of the article.

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