

WORKPACKAGE 2

DIETETIC CARE PROCESS

FINAL REPORT, AUGUST 2018

Strategic Partnership IMPECD -Improvement of Education and Competences in Dieteticswww.impecd.eu

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Work package 2- Dietetic Care Process

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Objectives

One of the primary goals of the project IMPECD was the creation and the implementation of a unified framework DCP based on common terms and definitions used. In this intellectual output, the dietetic care practices in the participating countries and HEIs were assessed based on a literature review. Additionally, the key competencies of dietitians, based on the results of the EU funded Thematic Network DIETS 1 and DIETS 2 were defined to agree on benchmarks for the final evaluation of the learning outcomes concerning work package O2 (WP O2). The result of this work package was a unified framework of the DCP.

Description of work (broken down into activities)

- O2/A1 Analysis of the different frameworks¹
- O2/A2 Evaluation of strengths and weakness of framework DCP
- O2/A3 Define quality criteria for each step of the framework DCP
- O2/A4 Create a unified consolidated version of the framework DCP
- O2/A5 Implementing the framework DCP in the curriculum and the MOOC
- O2/A6 Re-Evaluation of the unified framework DCP

Milestones: are displayed with planned date (application) and end date/ status

Milestones are displayed with the planned date (application) and status finished (figure 1): The order of the milestones is connected to the content of the work package. The initially planned launch of unified framework DCP (milestone 3) changed into a launch of a working-model DCP. The further need for adapting the DCP-model is described below (milestone 2e/2f). The benefit of this process change was that the different DCP-versions were tested during the ISP 1 and 2 in detail and directly influenced the further development of the DCP-models. The result was an evaluated DCP-model for the IMPECD-MOOC.

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¹ During the work on this project, the term "framework" was changed into "models". These two terms are used interchangeable.





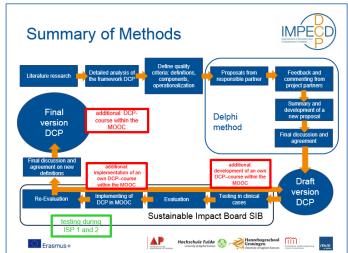
No.	Milestone	planned	finished
2a	Comprehensive description of the four frameworks DCP	11/2015	01/2016
2b	Results of strengths and weaknesses available	01/2016	05/2016
2c	Process steps of the unified IMPECD DCP available	01/2016	05/2016
2d	Final quality criteria available	02/2016	08/2016
3	Launch unified framework DCP: (working-model DCP)	03/2016	09/2016
2e	Framework DCP successfully implemented in the curriculum and MOOC (September 2016, initially planned March 2016) Implementation of first draft in June 2017 Implementation of second draft in February 2018 and implementation of final version in July 2018	06/2017	07/2018
2f	Results of evaluation available	05/2017	06/2018

Table 1/WP02: Overview of Milestones and intermediate steps in Work package 2.

All initially planned deliverables and milestones for the time of reporting have been reached.

Description of Methods

This work package has accomplished all set activities with only minor delays. Figure 1/WP02 shows a summary of methodology and methods in WP 02. This overview illustrates the process of finding solutions for decision making and developing the draft versions and the final version of the DCP-model



. Figure 1/WP02 : Summary of methodology and methods in WP 02





Results of Milestones

O2/ 2a Comprehensive description of different frameworks for dietetic care

A comprehensive analysis of the existing frameworks for dietetic care in AT, BE, DE and NL (figure 2/WPO2) was finished in January 2016. However, the results of this analysis seemed not sufficient and the analysis was extended with frameworks used in the USA and the UK. This additional work was finished in September 2016. The results show some differences but also some similarities between the DCP/NCP models. The title of the process is specific for each nation or more general like in Germany (e.g. G-NCP = German Nutrition Care Process), or related to the profession like in Austria (e.g. "Diätologischer Prozess" and "Diätologin/e"). For model illustrations flow charts or cycles are used. All countries qualify on bachelor level but in Germany the vocational training ("Diätassistent") is still mandatory to work as a Dietitian. The specific legal requirements are depending on each country. All models divide the DCP/NCP into two to eight steps, but could also be summarized in four main topics with similar names and basic descriptions. Different standardized languages are used in Europe, either the ICF-Dietetics (like in the Netherlands) or the NCPT (e.g. Sweden). The language used already influences the way dietitians do their Nutritional Assessment e.g. when applying the ICF-Dietetics. This was feed backed by SIB-members from the Netherlands (Claudia Bolleurs and Wineke Remijnse from the National Dietetic Association NVD) during a virtual meeting on May 24th 2016.

	Netherlands	Germany	Austria Verbandswebsite	Austria mod.n.ÖBIG 2003 FH St.P.	Belgium	uk	US
Structure	flow diagram	cycle	flow diagram	flow diagram	flow diagram	cycle	cycle
Nr. of steps	8	5	7	8	2	5	4
1			Proces	s steps		-11	
Assessment	Adherence		Arztliche Verordnung			I	
	Preparation		Ernährungsvisite	Erhebung Ernährungsstatus			
	Assessment	Nutrition Assessment		Emährungsanamnese	Dietetic Evaluation	Identification and Assessment of Nutritional Need	Nutrition Assessment & Re-assessment
Diagnosis	Dietetic Diagnosis	Nutrition Diagnosis	Diatologische Befundung	Diatologische Befundung & Beurteilung		Identification of nutritional diagnosis	Nutrition Diagnosis
Intervention	Planning Dietetic Intervention	Planning of Nutrition Intervention	Definition des Behandlungsziels	Planung des diätologischen Therapiekonzepts	Dietetic Intervention	Formulate and plan nutritional intervention	Nutrition Intervention
	Implementing Dietetic Intervention	Implementation of Nutrition Intervention	Diatologische Intervention	Umsetzung des diätologischen Therapiekonzepts inkl. Beratung		Implement nutritional intervention	
Monitoring Evaluation	Evaluation of Outcomes	Evaluation	Evaluierung / Adaptierung	Evaluation / Adaption		Monitoring and Evaluation	Nutrition Monitoring & Evaluation
	Discharge / Completion		Dokumentation	Therapieabschluss			
				Reflexion			

Figure 2/WP02: Overview of different process models, milestone 2a





O2/ 2bEvaluation of strengths and weaknesses

The process to evaluate strengths and weaknesses of the existing models was difficult, since not all countries have implemented their process models for dietetic care in daily dietetic practice. Therefore, the results were slightly delayed and finished in May 2016. The results of the evaluation of strengths and weaknesses of the framework DCP show that the status of use and implementation of DCP in the four countries differs from each other. All DCPs have their strengths but also weaknesses. This was considered while developing the framework for the DCP-model for IMPECD.

O2/2c: Definition of the process steps for the unified IMPECD DCP-model

For the definition of the unified process steps as part of the DCP-model the consortium agreed on a working model with five steps during the 2nd transnational team meeting in Fulda, Germany from the 29th of February to the 1st of March 2016. This milestone was finished in May 2016. The consortium agreed on a definition of a working model with five steps:

"The Dietetic Care Process is a systematic approach to provide high quality dietetic care. The DCP consists of five distinct, interrelated steps: Dietetic Assessment, Dietetic Diagnosis, Planning Dietetic Intervention, Implementing Dietetic Intervention, Dietetic Monitoring and Evaluation."

Experiences from Germany and Austria led to the decision of using five steps rather than four.

Furthermore, the consortium agreed on working definitions for the terms "Dietetics" and "Nutrition", which was based on a collection of different definitions and relevant terms e.g. nutrition, dietetics, nutrition care process via searching the literature, internet and selected professional associations: Agreement on "working-definition/Vision of Dietetics":

"Dietetics is the (applied) science and practice to integrate, apply and communicate of the principles derived from food, nutrition, social, business and basic/fundamental science. Dietetic research leads to Dietetic science."

Agreement on "working-definition Nutrition":

"Nutrition is the science of all aspects of the interaction between food and nutrients, life, health and disease, and the processes by which the organism ingests, absorbs, transports, utilizes and excretes food substances." (Cederholm et al. 2016)²

Milestone 2d: Definition of quality criteria for each step of the DCP

The milestone was finalized during the 3rd transnational team meeting from 5th-6th of September 2016, Granada (ES). The quality criteria were also presented and discussed with international Dietetic experts in a round table session during the 17th International Congress of Dietetics (ICD) in Granada on the next day, 7th of September 2016 (figure 3/WP02).

2

² (related to Cederholm T, et al. (2016). ESPEN guidelines on definitions and terminology of clinical nutrition, Clinical Nutrition. http://dx.doi.org/10.1016/j.clnu.2016.09.004)







Figure 3/WP02: First presentation of the methods to create the IMPECD DCP-model by Kathrin Kohlenberg-Müller during the 17th International Congress Dietetics (ICD) in Granada (Spain), 7th of September 2016

Milestone 3: The unified consolidated version of the framework DCP

Based on the agreements of the 3rd transnational team meeting in Granada the "working-model" of the unified DCP was presented and after including additional comments and changes a first consolidated DCP for IMPECD was finished at the end of September 2016. This consolidated version is the first draft and the template for the DCP in the clinical cases.

Additionally, a visualization (figure 4/WPO2) of the DCP via a DCP-model was created and discussed in Granada from 5th-6th of September 2016 and via the following virtual meeting in November 2016. The consortium agreed on a cyclic visualization of a DCP-model during the 4th transnational team meeting in St. Pölten in February 2017.



Figure 5: First IMPECD DCP-model, to be evaluated during the first ISP in Antwerp, May 2017





O2/ 2e: Implementing the framework DCP in the MOOC and evaluation of the unified framework DCP and further developments

There was a need for an additional development, which was not initially planned in the application – an own training part of the DCP within the MOOC (DCP-MOOC), to ensure understanding of the process of dietetic care in general.

The first draft version of this DCP-part was implemented in the MOOC during January 2017. All project partners gave feedback on strengths and weaknesses. These comments were discussed during the 4th transnational team meeting in St. Pölten in February 2017.

The DCP-MOOC has been tested online by students as an assignment in preparation of the Intensive Study Program in Antwerp from 12th April until 17th May 2017. The online-testing ended with an evaluation form (questionnaire) linked at the end of the DCP-MOOC (Re-Evaluation of DCP, connection to milestone 2f).

29 questionnaires were completed. The results of the questionnaire showed a huge need for improvement of the DCP and definitions of steps (for details see milestone 2f) especially for the step "Dietetic Monitoring and Evaluation". Therefore, a new matrix for the definitions was developed, discussed and agreed within the consortium meeting in Rotterdam on 15th Sep 2017 (figure 5/WP02). For example, the step "Dietetic Monitoring and Evaluation" was changed in "Dietetic Outcome Evaluation" as shown in figure 6/WP02. Consequently, the visualization of the DCP-model was also adapted (figure 6/WP02).

2. New definitions for the DCP-steps (27.09.2017)

Structure	DCP steps						
Dedication	Dietetic Assessment is the first step of the DCP.	Dietetic Diagnosis is the second step of the DCP.	Planning Dietetic Intervention is the third step of the DCP.	Implementing Dietetic Intervention is the fourth step of the DCP.	Dietetic Outcome Evaluation is the fift and last step of the DCP and can be linked to a further assessment and/or the other steps of the DCP.		
Central statement	It is a systematic process to gather dietetically adequate and relevant information about the client by using state of the art methods.	It is a description of existing dietetic problems or risk for developing them.	It is the development of a dietetic intervention plan by setting goals and determining the strategy to solve the dietetic problems.	It is a client-centred approach to support and monitor the intervention and adherence of the client.	It is the predefined systematic and structured approach to analyse the outcome of the implemented dietetic intervention at a defined point of time.		
Aim and principles	The aim is to identify nature and cause of dietetic related problems of the client.	The aim is to express dietetic related problems by formulating statements about Problem P, Aetiology A, Signs/Symptoms S and Resources R.	The aim is to develop an intervention by changing identifiable outcomes in collaboration with the client and other health professionals. All activities are planned with respect of resources.	The aim is to solve the identified dietetic related problems by implementing the intervention plan, monitoring of the intervention progress and modifying the intervention if necessary.	The aim is to evaluate the success of the planned and implemented dietetic intervention and to which extend the dietetic related problem is solved.		
Operationali- zation	The gathered information are documented in types of categories (client history, diet history, behavioural-environmental, clinical status) or following the ICF-model.	The PASR-statements are phrased in the following way: specific dietetic problem RELATED TO aetiology AS EVIDENCED BY sighs (objective) and symptoms (subjective). For treatment usages, the resources can be used.	The dietetic intervention plan consists of defined and agreed treatment goals, type of intervention, process and outcome indicators and limitations.	The client is supported to implement the specific arrangements according to the dietetic intervention plan. The client's progress and the adherence are monitored.	The predefined outcome indicators an assessed. The outcome will be evaluated by comparison with corresponding assessment informatio and reference standards.		

Figure 5/WP02:New matrix of DCP-definitions, agreed within the consortium meeting on 15th Sep 2017 Rotterdam





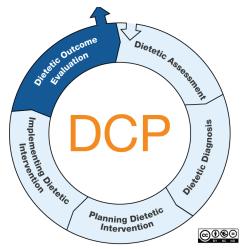


Figure 6/WP02: Second draft and final IMPECD DCP-model, agreed within the consortium in Sep 2017

The own training part DCP in the MOOC was adapted with the support of two ISP students from team Fulda. New learning outcomes were created. New developed videos about PASR-statements and ICF from team Groningen were integrated to meet the results of the ISP 1 in Antwerp. These videos provide a short overview about the different methods that can be used to set a diagnosis taking into account all kinds of characteristics of the patient. As part of the preparation of the videos several experts within and outside the consortium were questioned. The changes were implemented in the DCP-MOOC in Feb 2018 in preparation for the 2nd ISP in Neubrandenburg at the end of May 2018.

The results of the 2nd ISP (see milestone 2f) were considered to develop and implement the final IMPECD DCP-model and DCP-MOOC. The visualization didn't need further improvement. The final implementation was initially planned for June 2017. Due to the increased work load in WP O2 and the need of a continuous improvement process the implementation was completed in July 2018. The continuous improvement is a result of the students' feedback during the ISP 1 and 2.

In addition to the ISP in Antwerp in May 2017 and to improve the clinical case "unspecific gastrointestinal symptoms" a dietetic student from HEI Fulda (Natascha Neu) produced audio files. Her bachelor thesis based on the support of the pedagogical approach within an online course and after evaluation the audio files were integrated into the MOOC.

O2/ 2f: Specific results of evaluation of the unified framework DCP

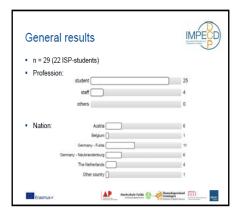
In preparation of, as well as during the 1st ISP the DCP-model and MOOC were re-evaluated using several methods. The results of the evaluation form (questionnaire) linked at the end of the DCP-MOOC were available in May 2017 and presented during the ISP "Re-evaluation DCP part 1" on 29th June 2017 in Antwerp as initially planned (figure 7/WP02). Additionally, a world café method was done to evaluate the different steps with students on the one hand and the consortium on the other hand (figure 8/ WP02).

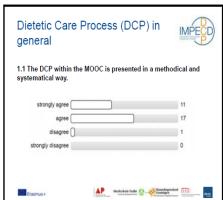
For "Re-Evaluation DCP part 2" student's feedback via 5 finger method was gathered on 1st June 2017 (figure 9a/WP02 and figure 9b/WP02 and). All results of the ISP 1 concerning the DCP were considered and a synopsis about results from re-evaluation DCP during the ISP 1 with focus on parts that need further improvement was developed. All kinds of feedback were included (figure 10/ WP02).

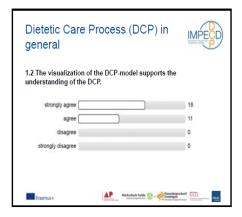


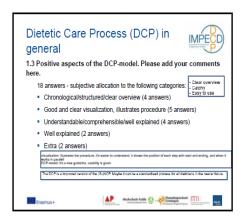












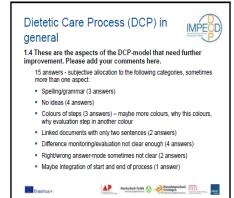


Figure 7/ WP02: Re-evaluation part 1: chosen results of questionnaire presented on 1st ISP in Antwerp





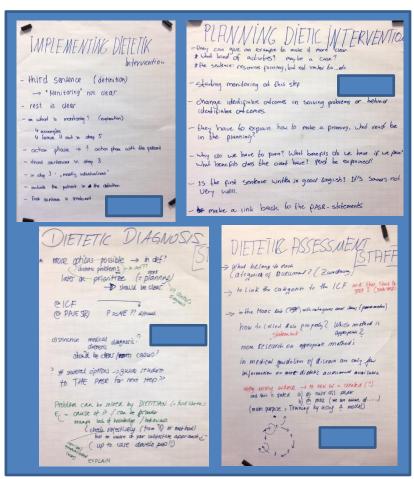


Figure 8/WP02: Re-evaluation part 1: chosen results of world café method on 1st ISP in Antwerp



Figure 9a/WP02: Re-evaluation part 2: chosen results of 5 finger method on 1st ISP in Antwerp











Figure 9b/WP02: Re-evaluation part 2: chosen results of 5 finger method on 1st ISP in Antwerp









Synopsis

About results from re-evaluation DCP during ISP Antwerp (perspective from students and staff) with focus on parts that need further improvement. Also other type of feedback during the last months is included.

1. Definition of Dietetic Care Process (DCP) for IMPECD

The DCP is a systematic documented approach to provide high quality dietetic care. The DCP consists of five distinct, interrelated steps:

- Dietetic Assessment
- Dietetic Diagnosis
- Planning Dietetic Intervention
- Implementing Dietetic Intervention
- Dietetic Monitoring and Evaluation

The DCP within IMPECD project is applied to individual patients, Dietetic therapy and clinical cases in different settings.

Feedback on DCP-definition and general feedback	Who and when?	
Examples in the MOOC not in the DCP?	Re-evaluation part 2: students	
Examples are too specific for "general" DCP?	suggestion, June 1st 2017	
To make is more understandable examples are needed?		
Make clear where the DCP stands for → little introduction how/when it should be used, why it is important	Re-evaluation part 2: feedback	
Some sentences are difficult written → shorter sentences would be better and sometimes easier words	students on 5-finger method	
(different countries should understand); when to start and when to finish or start over	June 1st 2017 - focus on parts	
The text could me more precise.	that need further improvement	
Explanation of the models		
Clearer definitions, especially for monitoring and evaluation, more examples and explanations and integration		
of ICF, better examples for PASR, examples how to monitor		
How to deal with external factors?		

Figure 10/ WP02: Re-evaluation DCP: synopsis about results during ISP Antwerp (page 1 of 13)

Challenges in WP O2

For the IMPECD consortium it was a challenge to create a unified framework of the DCP due to different understanding of process models. Only a few publications about national process models for dietetic therapy were available in English. Therefore, it was difficult to consider the differences and similarities of the process models of the participating countries. The results on this were not sufficient in the opinion of the IMPECD consortium. There was a need for a wider analysis, especially for the models used in USA and UK. Due to this in-depth search, the results of this work package were delayed as indicated above but finished successfully.

Additionally, there were unexpected differences among countries in basic approaches and terminology in dietetics (Dietetics, Nutrition, Nutrition Assessment etc.). Dealing with those unforeseeable gaps between countries and finding common solutions/definitions as indicated above, is meanwhile regarded as one of the core achievements of the project. It will greatly serve/assist international communication in dietetics in the future, underlined by the implementation guidelines (WP O7) "Dietetic Assessment" and "Different process models in Dietetic Care".





Our work revealed a need to develop, test and continuously improve an own training part of the DCP within the MOOC. This additional work package was a challenge due to limited time and work resources. But it was necessary to ensure understanding of the process of dietetic care in general. To work on the clinical cases a common understanding about a process model within the IMPECD project is mandatory. Results of the evaluation and re-evaluation after testing the DCP-MOOC and the clinical cases verified this.

The delays due to additional work also influenced the progress of work package 1, 3 and 7. Overall, the work package 2 so far was over performed in many aspects, foremost in providing sustainable solutions for the future of Dietetics and developing an adequate MOOC for improvement of education and competencies in Dietetics.

Conclusion

The benefits of this project are not only to develop a unified consolidated version of the framework DCP but also to have the opportunity to test the different DCP-versions during the Intensive Study Program (ISP) 1 and 2 in detail with altogether 50 students from five universities in four different European countries. The output directly influenced the further development of the DCP-models. In summary, the specific value of IMPECD is a with participation of dietetic students (the target group of the project) developed and evaluated DCP-model. This is of great importance for further developments in the field of dietetics.

References WP O2

American Dietetic Association. International Dietetics and Nutrition Terminology (IDNT) Reference Manual, Standardized Language for the Nutrition Care Process. 3rd ed. American Dietetic Association, Chicago, IL; 2011

Academy of Nutrition and Dietetics. International Dietetics & Nutrition Terminology (IDNT) Reference Manual, Fourth Edition. Copyright 2013

Becker, P.J., Lusk, B., Walker, F. & Wills – Gallagher, J. (2009). The Design and Implementation of an Electronic Medical Record Template Using Standardized Language and the Nutrition Care Process. Journal of the American Dietetic Association, 18, 9.

Bowen, J. L. (2006). Educational Strategies to Promote Clinical Diagnostic Reasoning. The New England Journal of Medicine, 355, 2217-2225.

Buchholz, D., Erickson, N., Meteling-Eeken, M. & Ohlrich, S. (2012). Der Nutrition Care Process und eine standardisierte Sprache in der Diätetik. Status Quo, Implikationen & Perspektiven. Ernährungs Umschau, 10, 586-593.





Bueche, J., Charney, P., Pavlinac, J., Skipper, A., Thompson, E. & Myers, E. (2008). Nutrition Care Process and Model Part I: The 2008 Update. Journal of the American Dietetic Association, 108(7), 1113-1117. doi:10.1016/j.jada.2008.04.027

Bueche, J., Charney, P., Pavlinac, J., Skipper, A., Thompson, E. & Myers, E. (2008). Nutrition Care Process and Model Part II: Using the International Dietetics and Nutrition Terminology to Document the Nutrition Care Process. Journal of the American Dietetic Association, 108(8), 1287-1293. doi:10.1016/j.jada.2008.06.368 Cederholm, T.; Barazzoni, R.; Austin, P.; Ballmer, P.; Biolo, G.; Bischoff, S. C (2017) ESPEN guidelines on definitions and terminology of clinical nutrition. Clinical Nutrition 36 (1) 49-64

Davidson, P., Dunn, A. V., Hand, R. K., Lewis, N., Murphy, W. J., Rising, C., Swan, W. I. & Thompson, K. L. (2015). Nutrition Care Process Chains: The "Missing Link" between Research and Evidence-Based Practice. Journal of the Academy of Nutrition and Dietetics, 115(9), 1491-1498. doi: 10.1016/j.jand.2015.04.014

European Federation of Associations of Dietitians (EFAD). (2010). European Practice Placement Standards for Dietetics. Placement Standards, 6, 1-23.

European Federation of the Associations of Dietitians (EFAD) & Thematic Network Dietitians Improving Education and Training Standards in Europe (DIETS). (2009). European Dietetic Competences and their Performance Indicators attained at the point of qualification and entry to the profession of Dietetics. 2

Hammond, M. I, Myers, E. F. & Trostler, N. (2014). Nutrition Care Process and Model: An Academic and Practice Odyssey. Journal of the Academy of Nutrition and Dietetics, 114(12), 1879-1894. doi:10.1016/j.jand.2014.07.032

ICH Harmonised Guideline. (2015, June). Integrated Addendum to ICH E6(R1): clinical practice E6(R2).

International Confederation of Dietetic Associations (ICDA) & European Federation of the Associations of Dietitians (EFAD). (2008, September). International Code of Ethics and Code of Good Practice.

International Confederation of Dietetic Associations. (2010). Evidence-based dietetics practice.

Lacey, K. (2006). Teaching ADA's Nutrition Care Process and Nutrition Diagnoses. One Educator's Story of a Work in Progress. Topics in clinical nutrition, 21(3), 169–175.

Mueller C.; Compher, C; Ellen, D.M.; the American Society for Parenteral; Enteral Nutrition. (2011). A.S.P.E.N. Clinical Guidelines. Nutrition Screening, Assessment, and Intervention in Adults. Journal of Parenteral and Enteral Nutrition 35 (1) 16-24

Rosen, K. (2012, May). Nutrition Care Process: Evaluation of the implementation of nutrition diagnoses, etiology and signs and symptoms in the medical nutritional documentations by dietitians

The Association of UK Dietitians. (2016). Model and Process for Nutrition and Dietetic Practice.

The British Dietetic Association. (2012). Nutrition and Dietetic Care process. www.rgu.ac.uk/979ED290-7EB7-11E3-8B2A0050, accessed 07.01.2016

The Dietitians of Canada. (2010). Canadian perspectives on the nutrition care process ans international dietetics and nutrition terminology.

The Dutch Dietetic Association (NVD). (2013). Dutch Classification and code lists, including ICF- Dietetics.





Verband der Diätassistenten – Deutscher Bundesverband e.V.(VDD) 2015. Manual für den German-Nutrition Care Process (G-NCP). VDD-Leitlinie für die Ernährungstherapie und das prozessgeleitete Handeln in der Diätetik. Band 1. Pabst Science Publishers, D-49525 Lengerich

What is Critical Thinking? A Definition. (n. d.). Retrieved February 5, 2017, from Youtube website, https://www.youtube.com/watch?v=ZLyUHbexz04

World Medical Association. (2013). WMA Declaration of Helsinki - Ethical Principles for Medical Research Involving Human Subjects.

Zelig, R., Touger-Decker, R., Parrott, J. S. & Rigassio-Radler, D. (2011). Impact for Continuing Education Applying the Nutrition Care Process and Model and the International Dietetics and Nutrition Terminology for Dietitians in Long-Term Care. Topics in Clinical Nutrition, 26(3), 268–280. doi:10.1097/TIN.0b013e3182260f0d













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