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September 1, 2015

CHAIR ANDRÉ KNOESEN
Academic Senate

RE: Request for Comments on the Program in International and Community Nutrition (PICN) 5-Year Review

Dear Chair Knoesen:

An *ad hoc* review committee has completed an in-depth five-year review of the Organized Research Unit (ORU) Program in International and Community Nutrition (PICN), following UC Administrative Policies and Procedures concerning ORUs. Enclosed is a copy of the *ad hoc* review committee's report for your review and comments.

Comments on the committee's report are also provided by the Dean and the Director for your consideration.

I request formal Academic Senate review of these documents. Furthermore, I respectfully request that, if possible, the Academic Senate review be completed as soon as the committees reconvene in the fall.

Thank you in advance for your cooperation.

Sincerely,

A handwritten signature in black ink, appearing to read "Harris A. Lewin".

Harris A. Lewin, Ph.D.
Vice Chancellor for Research

Attachments:

- PICN 5-Year *ad hoc* Review Committee Report
- Dean Dillard's Comments
- Director Kathryn Dewey's Comments

/cep

- c: Associate Vice Chancellor Paul Dodd
- Executive Director Nancy Bulger
- Research Program Coordinator Christine Parks



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April 14, 2015

HARRIS A LEWIN

Vice Chancellor for Research

SUBJECT: Comments on the PICN 15-Year Review Report

Dear Harris,

In response to your request, the CA&ES dean's office has reviewed the recent 15-year report on the Program in International and Community Nutrition (PICN). We thank the review committee for conducting a thorough and fair review. As we stated in earlier letters submitted as part of the program review (dated 2-20-15), we are proud of the exemplary achievements of this program and its director. Continuing support of PICN is certainly justified given the international prominence of the program, its demonstrated policy and program impacts, and the high return on campus investment. We look forward to partnering in this effort.

Among the recommendations of the review committee's report, the most important concerns the need to rebuild the faculty base for the program which has been in decline due to retirements. They recommend four new positions as a minimum needed. We are pleased to report that our recently submitted recommendations to the Provost for new faculty positions include three new positions for the nutrition department. Each of these positions corresponds to an area of needed expertise called out in the report, and included is one position for which we expect to seek a senior level scholar who can take on major leadership responsibilities for PICN. These expected hires, along with those which may follow over the next few years, should provide strong momentum toward addressing the key issues identified by the review.

The report mentions the possibility of taking steps to better integrate nutrition and agriculture within PICN, building on two core areas of strength in our college. We support this idea and would add the possibility of expanding on it to include better integration of social science faculty into the program. As the report mentions, new faculty affiliates were recently added to broaden the types of disciplinary expertise available within the program. We look forward to exploring how to further these efforts as our college engages in academic planning over the next year. In our view, this kind of collaborative opportunity is among the many reasons it continues to make sense to house this ORU within our college, with our long history of emphasizing interdisciplinary scholarship.

We look forward to working with PICN leadership to insure that this important campus program continues to thrive.

Sincerely,

A handwritten signature in blue ink, appearing to read "Helene Dillard".

Helene Dillard
Dean

Program in International & Community Nutrition

15-Year Organized Research Unit Review

Purpose & Responsibility of the Review Committees

The quality of organized research units (ORUs) of the University of California is assessed at five-year intervals through objective and thorough appraisal of the program and directorship of the unit. Responsibility for this appraisal falls largely upon the members of the ad hoc review committees nominated by the Davis Division of the Academic Senate and appointed by the Vice Chancellor--Research, who serves as the designated representative of the Chancellor. It is the duty of these committees to ascertain the extent to which each unit has succeeded in achieving its goals and the general goals of the University with regard to its original purpose, present functioning, future plans, and continuing development to meet the needs of the field. Implied in the committee's responsibility is recognition and encouragement of achievement and/or recommendation for change or disestablishment.

Scope & Criteria for Review of the Program

- A. **Scope of Reviews.** The ad hoc review committee shall judge the unit according to the criteria set forth in paragraph 1 of these guidelines with respect to its purpose, program, and success, considering its record of performance in (a) research, (b) teaching, (c) impact on the campus, and (d) public service. In evaluating the unit's effectiveness in these areas, the review committee shall exercise reasonable flexibility, recognizing that each unit presents problems and issues unique to the unit under review.
- B. **Criteria of Reviews.** The criteria set forth below are intended to serve as a guide in judging the unit, not to set boundaries to the elements of performance that may be considered.

Research

1. Quality of research accomplished and in progress.
2. Accomplishment of objectives as stated in the research mission of the ORU, evaluation of changes in direction of research and their impact, impact of research accomplished on the campus and community.
3. Benefit to research programs or departments of instruction and research, including faculty and student personnel engaged in research within the ORU.
4. Quality of professional staff as evidenced by such things as awards, honors, presentations at national and international scholarly conferences.
5. Comparison with other similar units at other campuses and/or institutions.
6. Publications issued by the ORU, including reports and reprints in its own covers as well as material published in refereed journals--both by faculty and by students. Publications in progress and in the developmental stages should be included, as well as doctoral dissertations by graduate students.
7. Interdisciplinary nature of the unit's research efforts, if appropriate.

Teaching

1. Administrative support to graduate education, pre- and postdoctoral.
2. Degree to which graduate and postdoctoral students participate through assistantships, fellowships, or traineeships or otherwise are involved in ORU work, including paid employment and graduate student research.
3. Sponsorship of internships with or without credit for graduate and undergraduate research.

4. Direct or indirect contributions of ORU to graduate and undergraduate teaching programs of academic departments.
5. Staffing of unit, including number of full-time academic staff with fractional appointments in academic departments, faculty with part-time appointments in the ORU, and degree to which each category participates in teaching programs of academic departments. This would include participation in regular courses and seminars of academic departments, supervision of independent research and group study, etc.
6. Student and faculty participation from other campuses in regard to all of the above points.
7. What types of students are attached to the unit? What projects do they work on? What published work and/or success at grantsmanship results from their scientific activities?
8. Do students gain unique training that enhance their opportunities in the job market and/or facilitates their research and professional development [e.g., TAs, RAs, informal teaching and/or technological expertise]?
9. Does the unit provide unique access to colloquia, equipment, facilities, and/or professional networks for both faculty and students?
10. What are the direct or indirect contributions of the unit to graduate and undergraduate teaching programs?
11. What are the current professional status of the unit's graduate over the past five years; location and title?
12. What role did the unit play in post-graduate placement and what aspect, if any, of the unit training program was important in placement?

Impact on Campus

1. Evidence that existence of the ORU was a factor in attracting faculty or students to the campus.
2. Effect of the program of the unit on campus programs, including statements as to why the goals and objectives could not be accomplished within the existing departmental structure.
3. Assessment of the uses of all resources available to the unit and evaluation of the unit's internal and external sources of support in relation to its mission.
4. Advantages and disadvantages to the campus that might reasonably be expected to occur in the future if the unit is continued.
5. Possible effect on the campus from disestablishment of the unit.

Public Service

1. Contributions in the form of lectures, tours, visiting groups, conferences, etc., within the community, state, and nation, as well as services to the campus community.
2. Interaction with other similar units or research in other places. Other services to the community, state, and nation, such as distribution of research information, recognition by non-University groups or governmental agencies.
3. Other evidence of the direct, tangible impact of the activities of the ORU on the public at large.

Executive Summary

The fifteen-year review of the UC-Davis ORU (Organized Research Unit) Program in International and Community Nutrition (PICN) was conducted February 11-13 in Davis by 3 external and one internal committee members. The 3 external members, from 3 top-tier nutrition programs, have substantial leadership and research experience within international and community nutrition. The internal member is Professor of Public Health Sciences and Associate Vice Provost of Outreach and Engagement at UC-Davis. Prior to convening in Davis, several documents were reviewed that explained the intent and objectives of ORUs at the university and the process of the review and deliverables. The team also carefully reviewed the five year report of the PICN prepared by the Director. During the site visit, meetings were held with high-level administrators who oversee the interdisciplinary ORUs, two Associate Deans of the College of Agriculture, the Chair of the Nutrition department, where the ORU is housed, and with faculty and students who are active in the PICN. A meeting and tour by the Director of the USDA Agricultural Research Station, Center for Human Nutrition, whose researchers work closely with the PICN was also done.

The review committee is unanimous in recommending that the PICN remain and be strengthened as an ORU. Nutrition plays a key role in addressing the health and productivity of the human population. Nutrition is at the center of the policy agenda for achieving the United Nation's Sustainable Development Goals (SDGs). The PICN at UC-Davis has an international reputation as one of the most stellar research and training programs for addressing global and local problems of malnutrition. Moreover, it is the only one of its kind in the western United States. Since its inception, the PICN has trained more than 80 doctoral students, many of whom are foreign nationals who have returned to their home countries in leadership roles or have assumed positions of international prominence. There is a critical need to train the next generation of researchers and program/policy leaders in nutrition and the PICN must continue and be strengthened to meet the demand. However, the program is greatly at risk as the leading senior scientists, including the Director, have left, retired, or will retire in the next few years. This has already affected the enrollment, support and confidence of students. The review committee believes that immediate action by the administration can avert the dissolution of the program and all that it has achieved in over 15 years as an Organized Research Unit.

There are many reasons that UC Davis should take action now. First, the PICN aligns strongly with the vision of the UC-Davis 2020 strategic plan. The new World Food Center has nutrition and food security at the heart of its objectives and it needs the engagement of faculty and students at the PICN to help guide its strategy and achieve its goals. UC-Davis is one of the top agricultural universities in the world and the loss of the PICN will diminish its ability to address global hunger and sustainable development during an era when the linkage between agriculture and nutrition has never been more recognized at a global level. The top-ranked School of Veterinary Medicine, which is a key program for the OneHealth initiative (medicine, public health, and veterinary medicine)) provides a unique opportunity for growth of the PICN. The School of Medicine and the planned School of Population/Public Health also offer important areas for leveraging this interdisciplinary program and this should be a goal for the future. The role of the humanities and social sciences, also strong at Davis and within the community, provide further opportunities. In addition, strengthening ties with the USDA Agricultural Research Station (ARS) offers UC Davis an additional, entirely unique capability to extend PICN domestic research to improve the nutritional well-being of Californians and, more broadly, address broad American nutritional concerns. We

believe that the PICN can become much more interdisciplinary and the addition of 11 new members from across campus is an excellent direction for growth.

The leadership of the past and current director of the PICN has been a great part of its success and reputation. The seamless transition of directorship a decade ago, and the expanded research portfolio Dr. Dewey brought to the PICN, was viewed as a success story internationally and symbolic of the strong reputation UC Davis enjoys as a highly collaborative institution. New leadership of an individual with similar stature and vision will be needed in the very near future to allow for a similarly necessary and successful period of transition. A target of excellence hire should be seriously considered.

Notwithstanding, needs exist that the University has to address to sustain the PICN's global standing. With the anticipated retirement of several, stellar senior faculty in the coming few years, and an equally obvious lack of senate-appointed mid-career faculty, there will be, shortly, an irrecoverable void in academic, research and technical leadership in global nutrition. This is the direst need in the PICN, which was highlighted in the 15-year report, shared by faculty and feared by students during interviews, and unanimously perceived by the Committee. For these reasons, the Committee strongly recommends that, beyond the director, an additional three senate faculty be recruited for the survival of this important program. The Committee suggests the university meet with the PICN current and previous director to discuss, but fields to consider from which to recruit faculty include micronutrient metabolism, deficiencies and prevention; maternal, infant and child feeding; the design and conduct of intervention trials in low-middle income countries; and dietary and nutrition problems of obesity and chronic disease in disadvantaged population settings at home and abroad. Because of the time constraints facing successful renewal of the ORU, the Committee recommends UC Davis considers cluster hires to provide the infusion of faculty needed to maintain research, student enrollment and academic excellence. Further, it would be important that such faculty hires be outside pre-established, current quota for the ORU.

Several issues related to student support, including logistics prior to arriving on campus, adequate financial support, lack of opportunities for laboratory skill-building, and advising for coursework were highlighted by the students themselves. Senior faculty who currently lead core courses are in the pipeline for retirement or have recently retired or left the university. Student enrollment has drastically dropped as many senate faculty are not accepting new students.

The Committee was impressed with, and supports, the PICN's five year vision and plan for expanded engagement across the university. The potential for expanded collaboration with entities within the university by the PICN to achieve its goals is enormous. As many noted during our visit and endorsed by the Committee members who reflect the broader global nutrition and public health science community, the PICN is a 'jewel in the crown' of the University.

Committee Comments on Research

One of the objectives of the PICN is “to conduct basic and applied multidisciplinary research on issues of human nutrition relevant to low-income and disadvantaged populations in the U.S. and abroad.” The committee is unanimous in characterizing PICN contributions to research as excellent, impactful and extensive. However, the committee is concerned that without critical new appointments, the sustainability of the program is threatened.

The stated areas of research include maternal and child nutrition; micronutrients; determinants of food intake; nutrition and infection; and food, nutrition programs and policy. Of note is the near absence in the research carried out abroad of studies on non-communicable diseases of dietary origin, now an epidemic even in the poorest of countries and among their rural poor; this exclusion may have been a strategic decision by PICN in order to focus on under-nutrition but future faculty hires should consider candidates interested in the full range of nutrition problems afflicting poor people. Also largely absent is research on nutrition and agriculture, surprising given the resources and setting at UC Davis. The founding of the World Food Center is an opportunity to develop and grow integrated research around nutrition, food and agriculture. While most research is grounded in the nutrition department, there is on-going multidisciplinary research, such as that involving Dr. Vosti, which brings in economics to nutrition intervention and evaluation research; however more is needed and for this to happen faculty must be recruited to PICN from across the university. The recent effort that added 11 new faculty members is a very positive step; six of these are from outside nutrition but their CVs show little involvement to date in multidisciplinary nutrition research. Plans by PICN to engage new members, such as the formation of teams with the requisite expertise to develop, implement and evaluate interventions that combine multiple strategies (nutrition specific and sensitive) to combat malnutrition, should be supported. Finally, research contributions are dominated by studies abroad but there is significant domestic research ongoing on child feeding practices and risk of childhood obesity.

Some 450 publications have been authored by 18 PICN faculty in the last 5 years in nutrition, pediatric and basic science journals, among others. This indicates substantial productivity. We do not have the information to make a full analysis of the sources of funding that supported this research. Major projects described include substantial funding from the Bill and Melinda Gates Foundation, with PICN either as a prime or a subcontractor. The largest among these is the \$21 million International Lipid-Based Nutrient Supplements project, due to end December 2015. Other major funders of PICN include USAID and the Thrasher Research Fund. There is no current funding coming from NIH; past NIH awards include a Fogarty training grant on chronic diseases that expired last February and an NIDDK grant on child overfeeding that ended in 2012. Kay Dewey is the only senior faculty with current funding; Drs. Hess and Stewart are the only junior faculty with active grants (PICN Five Year Report, Appendix 7).

The research carried out by PICN, in particular by its senior members (Allen, Brown, Dewey, King, Lonnerdal) is highly regarded worldwide. The senior faculty have received many of the most prestigious awards in nutrition and as noted elsewhere (see section on public service), their work has impacted policies and programs in nutrition. PICN faculty are recognized authorities in their respective fields and are often speakers at international and national scientific meetings and have served or serve as leaders of scientific societies and are engaged as advisors to UN agencies, foundations, the Institute of Medicine and many other groups.

PICN runs a weekly seminar for faculty and students. The topics covered are a mixture of current or potential research by PICN faculty and presentations by visitors. PICN also provides services to faculty intending to do research in low income countries, such as proposal review and logistic support. This ability, central to attracting faculty, is being undermined by turnovers and vacancies in its administrative staff. Efforts to reclassify the positions to match actual duties and responsibilities appear to be stalled in Human Resources. Another serious problem is the impending retirement of the statistician, who offers consulting services to PICN faculty. A search for a replacement in 2014 was unsuccessful and a revised search strategy has been developed. Developing a stable and appropriate administrative and core staff is a critical need.

Plans for the next five years were discussed in PICN's report. These include, among others, to expand cross-disciplinary research, to deepen connections to the World Food Center as well as to strengthen nutritional "diagnostics" (incorporating new biomarkers into nutrition assessment). With the retirement or impending retirement of all senior PICN faculty, urgent attention should be given to refining the vision for PICN; identifying the number of needed tenure-track FTEs, their profiles and a recruitment timetable; and securing the support of departments, schools and the university. What is now a premier program in global nutrition research could disappear in the near future without a faculty renewal plan. With implementation of a well-designed renewal plan, PICN has the potential to exceed its prestigious past.

Committee Comments on the Impact on Campus

The committee felt that the PICN had an overall positive impact on campus, but that there were some major gaps in that impact. At the same time, there is enormous potential for increased campus impact. The research, publication and outreach accomplishments of PICN receive deserved recognition in the Office of Research, the Office of Global Affairs (formerly University Outreach and International Programs), in the College of Agriculture and Environmental Science and in the various nutrition programs. For example, PICN is highlighted in the Office of Global Affairs as a positive benefit of their seed grant program. A modest seed grant award to Kay Dewey is credited with providing critical support for the ultimate success in getting significant funding from the Gates Foundation.

There is less recognition of PICN in other colleges and Centers, even those with which PICN has substantial overlap and potential. Foremost among these is the new World Food Center. The potential for engagement with the WFC was discussed several times, but to date the PICN seems to have little recognition from the WFC. This is not to say where the fault lies for this situation, but rather to say that PICN could, and should, have more substantial impact on WFC and other agriculture programs on campus. Similarly, there is little apparent impact of PICN on relevant programs in the Schools of Medicine and Veterinary Medicine. These two schools would seem to have significant potential for recognition and collaboration with PICN investigators, but as noted elsewhere in this report, most PICN faculty are located in the Department of Nutrition in CAES.

It is possible that expanding beyond nutritional sciences will be enhanced by an academic home outside the Department of Nutrition. For example, administering the program in a School of Public and/or Global Health would be a natural consideration because of the normal multidisciplinary approaches to health within a public health school. However, engagement and greater impact of PICN need not wait for the possible creation of a public health school at Davis at some unknown time in the future.

In summary, the major impact on campus of PICN has been in their strong academic research and teaching success in core programs most recognized by nutritional researchers on campus. However, there is enormous unmet potential at UC Davis for greater collaboration and engagement, and impact beyond nutritional sciences. First and foremost is the engagement between agriculture and nutrition, two disciplines with a natural linkage and for which UC Davis has a premier and well-deserved international recognition and ranking.

Committee Comments on Public Service

The review committee felt that the public service record, or academic outreach and engagement of PICN is outstanding. Specifically, it was evident from comments by the current and former director as well as current faculty that a major activity of PICN was to advise and assist international organizations and others in recommending and implementing policies to improve nutrition. Dr. Ken Brown, the former director of PICN (and now at the Bill and Melinda Gates Foundation), received the UC Davis Academic Senate Distinguished Public Service Award, an honor recognizing his outstanding achievements in public service while he was at UC Davis and directing PICN.

In meeting with the students in the program this belief in public service was evident, although more difficult to document. Specifically, many of the students are from foreign countries and expressed the intention to return to their home countries to improve nutritional conditions and policies. The faculty also noted that the ORU's efforts to develop and influence international policies in nutrition have a positive impact on the recruitment and training of their students.

A few examples of effective outreach efforts will be mentioned to give the flavor of this effort by PICN faculty. PICN faculty members were leaders in developing scientific and technical documents on infant and young child feeding, which were the basis for "guiding principles" issued by WHO.

Additional work by PICN faculty led to survey indicators used by WHO and UNICEF on progress in infant and young child feeding. PICN faculty, led by Dr. Lindsay Allen, contributed significantly to the development of guidelines for food fortification, published by WHO. Dr. Brown was Chair of the Steering Committee for the International Zinc Nutrition Consultative Group efforts regarding zinc nutrition. In summary, many PICN faculty have developed evidence and provided guidance to international organizations, funders and national organizations regarding nutritional policies to reduce malnutrition.

This record of public service is in the top tier for UC Davis programs. It certainly reflects core beliefs and principles of the leadership. While public service is a core requirement of all academic units at UC Davis, it is perhaps the case that being an ORU separately organized from an academic department allows and nurtures this excellence in outreach and engagement.

Committee Comments on Justification for Continuance

Preventing the many facets of malnutrition, from under nutrition and micronutrient deficiencies to obesity, in diverse contexts of agrarian, urban and migrating societies will require extraordinary vision, transdisciplinary science and public health achievement. The need has never been greater to strengthen and leverage America's most capable academic institutions to understand and address the complex pathways of malnutrition. Nor have the opportunities to ameliorate the global nutritional burden been greater with interest and resources increasingly directed toward finding agricultural solutions. The PICN is especially capable of meeting such a challenge by integrating complementary and relevant areas of expertise within the UC Davis system to evaluate and improve food systems and dietary practices, while probing and understanding biological mechanisms. Rather than contemplating a 15 year ORU sunset, the Committee envisions a sunrise opportunity for the PICN within UC Davis, to strengthen its capability, extend its legacy and substantially broaden its contributions to meet improve nutritional well-being in society. Since its inception the PICN has earned a reputation for achievement in public health nutrition research and practice, thought leadership and translation of science into policies and programs. Its accomplishments are illustrated in the Program's several hundred peer-reviewed scientific papers in the past five years alone, an outstanding professional service portfolio, alumni contributing globally to science, public health and policy and a history of international recognition that set the PICN apart from similar academic centers.

The PICN has operational momentum and a five-year plan that reveals a unit expecting to thrive far into the future, exemplified by determined, capable and interdisciplinary faculty committed to continue the unit's legacy of research, training and advocacy and open to exploring new frontiers; a commitment and access to populations in which to demonstrate improvement in nutrition and health in underserved societies, including reducing obesity in California; and an expansive external network of supportive foundations, UN organizations and governmental and non-governmental agencies to provide currency and conduits, respectively, for its global reach and work. Beyond scientific and academic acumen, the PICN has, over the past five years, generated an excellent return on indirect cost investment, with ~\$8000 earned through grants and contracts per IDC dollar invested, representing a self-sufficient unit that further renders its continuance economically rational.

Within the university the ORU has detailed plans to expand crosstalk, idea exchange and collaboration to enhance development and deployment of new assessment technologies and multipronged dietary, WASH (water, sanitation and hygiene), social/behavioral and agricultural strategies for raising food security and nutritional well-being. These bold new strategies will require wide ranging expertise. Several entities within UC Davis provide prescient opportunity to forge such cutting edge intramural partnerships for the PICN:

- The Department of Nutrition, as its departmental home, and the PICN share scientific consonance and a long history of administrative co-existence. The biology of nutrition, from molecular mechanisms to clinical function and health, is foundational and inseparable from the PICN's mandate to train, conduct research and guide evidenced policy to combat malnutrition. An area of potential growth would be to extend the department's dietetics training to meet a growing international market

for Registered Dietitians. Less harmonious has been, from the committee's view, the administrative support to the PICN from the Department. This may reflect differences in mandate of both entities, with PICN contributions recognized to extend beyond nutrition departmental bounds.

- The Department of Public Health Sciences offers foundational epidemiological, biostatistics, chronic/infectious disease prevention expertise on which to draw to expand PICN faculty interactions and graduate training. This linkage should strengthen the Department of Nutrition in its health pursuits and the PICN in addressing nutrition-induced disease, both internationally and among migrant and other vulnerable populations in California. An alternative is to reposition the PICN within this public health department, to enhance the ORU's broader mandate to engage and collaborate across centers of the university to achieve its integrative, multi-disciplinary cell-to-society goals.
- The World Food Center has incorporated nutrition as a foundational mandate, offering unmatched opportunity for synergies within a renowned UC Davis network of intramural collaboration. Strong WFC-PICN integration stands to define inherently obvious but, to date illusive, agriculture to nutrition linkages in research, practice and training.
- The School of Veterinary Medicine's One Health Institute provides a compelling conduit for linking animal husbandry, food, zoonotic disease prevention, water and the environment to public health nutrition through stronger PICN interactions.
- The Department of Agricultural and Resource Economics and PICN have already established strong collaborative ties in its research, teaching and advising. Continued reinforcement of this linkage will serve the university well in enabling the PICN to further strengthen its integration of agricultural economy into its public health nutrition mandate and framework.
- The UC California Institute for Water Resources was not formally interviewed but strikes the committee as another potential resource for PICN interaction as it pursues a correct course to integrate WASH (water, sanitation and hygiene) interventions into a comprehensive community nutrition agenda.

Committee Comments on Problems & Needs

Notwithstanding its achievements, needs exist within the PICN that have to be addressed to sustain this ORU's global stature in international and domestic nutrition, and promote its emerging leadership in evaluating and advancing interventions that define roles of agriculture, food systems and dietary practices in improving nutrition and health of vulnerable populations. Actions are needed to be taken that attract a new generation of capable faculty and efficiently train the brightest students and future leaders in community nutrition from around the world. In short, the Committee advises that UC Davis take actions needed to build on and extend the Program's already stellar track record and enable its global potential to be realized.

Faculty: With three emeritus professors currently on faculty and the anticipated retirement of another 2 senior faculty in the coming few years, coupled with a striking absence of mid-career senate faculty at present, there will, very shortly, be an irrecoverable lack of academic, research and technical sustainability and leadership in the Program. This is the direst need facing the PICN, as highlighted in the 5-year report, shared by faculty and feared by students during interviews, and unanimously perceived by the committee. Recent appointments of eleven new faculty to the PICN with primary appointments in Nutrition, Veterinary Medicine, Human Ecology, Agricultural and Resource Economics, Environmental Science and Policy and the WHNRC reflect needed diversity for building transdisciplinary collaboration within the ORU; however, they have yet to be adequately engaged in the PICN academic program and cannot be the Program's backbone, as such faculty cannot assume leadership in the PICN, teach DE courses, run grants through the PICN, or advise international students who seek graduate training in international and community nutrition at UC Davis. Even then, while representing impressive breadth, missing in this present lineup is a biostatistician who can fill the large shoes of a very able and committed biostatistician (Jan Peerson) who has served the UC Davis international nutrition community of faculty and students for a quarter of a century and plans to retire within a few years. While this position could be based in a department other than Nutrition, a solid 50% level of effort will be required to provide support for grants, analysis, publications and student mentoring.

Paramount to providing tomorrow's solution for today will be a commitment by the University to build a new program backbone by recruiting a new professorial program director and hiring several new senate faculty, at the assistant or associate professor levels, within the PICN. New faculty must possess the capability to maintain and then accelerate the cadence of their predecessors to define and advance new international nutrition frontiers, supported by funding from major donors such as the Bill and Melinda Gates Foundation, USAID, the National Institutes of Health and other major foundations, and attract and shape careers of the brightest prospective, international and American students. This is the current PICN faculty's legacy, which has established for UC Davis a global reputation of excellence in shaping through research, and advocating through policy, the public health nutrition agenda in low-middle income countries. A core of three new senate faculty at assistant or associate professor levels, in addition to a new professorial director, can provide the required critical mass to fill currently inevitable gaps in research, teaching and mentoring of students, and generate opportunities for collaborative growth across the university. These new positions should be crafted with consultation of the previous and current directors, but could, for example, bring state-of-art competencies in:

1. micronutrient metabolism, deficiencies and prevention, representing an expanding global need and existing area of excellence
2. maternal, infant and child feeding
3. the design and conduct of intervention trials in low-middle income countries, fulfilling a need to test agriculture (nutrition-sensitive) through direct nutrition interventions for efficacy, effectiveness to implementation performance and
4. addressing dietary and nutrition problems that give rise to obesity and chronic disease in underserved populations of California and broader American settings.

Each of these areas represent moorings in population and community nutrition science to into which the breadth of broader cross-department PICN faculty, and UC Davis collaborative centers, can foster new collaborations. The new PICN director could emerge from any of these domains, but should possess, in addition to a strong funding track record, a vision for the PICN in the coming decade. The committee recommends the university consider adopting a target of excellence search for the directorship and a clustered hire approach to resolutely fill this critical faculty void, via procedures that do not count against the program's, department's or college's quota.

Staff: The PICN lacks adequate administrative staff to support its \$6-10 million annual budget, the development and submission of new grants and contracts, and its teaching program to include administrative expertise to orient and guide its diverse student body. The problem seems fixable, involving a renewed effort to reclassify staff position titles and salary grades that correspond to the complex demands of the Program, enabling the hiring and retention of staff with appropriate skills and competencies.

Students: Sensitivities, perceptions and experiences of hardship by students portend program failure without corrective actions. Students are noticing the shrinking PICN faculty base, lack of new courses offered in the curriculum, dwindling enrolment in the PICN in the face of still high numbers of applications (although these too can be expected to decrease), and a lack of administrative support while struggling with uncertain financial aid beyond their first year. Noticed by all is the fact that the program is not currently accepting doctoral students in the coming year because of a realized shortage and inability of existing faculty to provide the mentorship for the expected duration required to achieve their degree. Students often seek teaching assistantships in their first year, while early in their studies, to make ends meet. Foreign students especially feel inadequately prepared for TA roles. While some students learn to manage to make the system work, others feel dismayed at not having had sufficient laboratory exposure, opportunities to master new technologies or having opportunities to adequately develop writing skills to publish a paper(s) before graduation. Allowed to worsen, these joint conditions and perceptions will likely reduce doctoral applications, both in number and quality. The committee could see many of these problems relating back to the basic problem of too few faculty and administrative staff to teach, mentor and support students registered in the PICN.

Collaborative Centers: Centers and programs in UC Davis that are capable of forming strong linkages and synergizing with the PICN have yet to materialize, reflecting a limitation to the current program but also presenting enormous opportunity and untapped future potential. The World Food Center (WFC) is rapidly gaining its footing and, while the director of the PICN is on its advisory team, the PICN and WFC have yet to converge with respect to their transdisciplinary mandate in

nutrition. Similarly, opportunities missed await further engagement between the PICN and Schools of Veterinary Medicine (One Health) and Medicine (Department of Public Health Sciences), the Department of Agricultural and Resource Economics and possibly other units, such as the Institute of Water Resources, to forge interdisciplinary linkages that can expand academic, research and training frontiers for each unit. These opportunities for synergy cannot be realized, however, with continued attrition of PICN faculty.

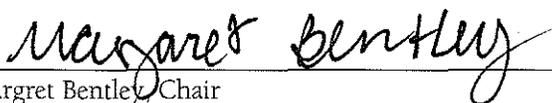
The PICN as a Development Priority: The committee views UC Davis as a still young campus that is yet far from realizing its full potential for mature, transdisciplinary engagement given its continued growth in new and expanding entities. The need to grow and establish reputation and financial self-sufficiency can lead faculty in new centers to work within silos, by necessity. University vision, leadership and commitment to resource new opportunities for linkages would likely provide good return on its investment in terms of bridging function and fostering collaboration. Nowhere do obvious linkage opportunities for the PICN appear weakest than, surprisingly, with agriculture. The world is ready to accept a strong role for agriculture in preventing malnutrition; yet the causal pathways linking agriculture to adequacy of diet and nutritional status in vulnerable societies is woefully lacking. The lack of evidence presents a huge global leadership opportunity for UC Davis that may require only modest investment of development resources to assure engagement and collaboration between agricultural entities and the PICN within the university.

The Department of Nutrition as Home to the PICN: The Committee believes the departmental home for the ORU merits reconsideration. With full understanding of the fundamental linkages shared and that must be supported between both entities, it is possible that the broader global and domestic community mandate of the PICN would find the Department of Public Health Sciences, or a future School of Public Health, a more supportive and natural home for the ORU.

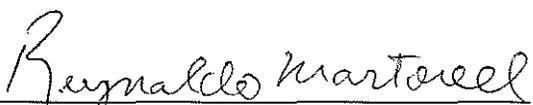
Overall Recommendations

As noted in the Executive Summary and throughout the report, the review committee is unanimous in its recommendation that the PICN continue as an ORU. This will require institutional support at the highest level so that the program may be replenished, strengthened, and have the necessary faculty, administrative staff, leadership and resources to maintain its impact on campus and globally.

Report respectfully submitted by:


Margret Bentley, Chair

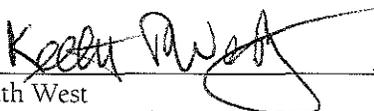
3/9/2015
Date


Reynaldo Martorell

2/13/2015
Date


Marc Schenker

2/13/2015
Date


Keith West

2/13/2015
Date