Ministry for Primary Industries
Manatū Ahu Matua

Analysis of Submissions:

Discussion Paper: Review of the Poultry NMD Programme's *Campylobacter* Performance Target (CPT) Limits(s)

Date: 22 June 2015

MPI received three submissions on the proposal document within the defined consultation period. These submissions have been analysed in the following table. A further two submissions were received up to two weeks after the closing date and whilst not included in the table the details have been summarised at the end of this document, together with other comments that were out of scope of the current Review of the Poultry National Microbiological Database (NMD) programme's *Campylobacter* Performance Target (CPT) Limits(s). As a result of the consultation process, and where appropriate based on the analysis below, amendments will be made to the outcome of the options paper. MPI would like to thank those parties who have taken the opportunity to comment on the proposal.

Submission Analysis

Submitter Ref	Section	Title	Submission comment(s)	MPI Response
2	1	Consultation process	MPI should have been in contact with the public a lot earlier in the process, rather than collaborate with the poultry industry association to control decision making to address the industry's concerns and priorities.	MPI maintains a dialogue with the sector affected by the consultation as it is important to ensure that any options proposed are practical.
1	3.4.2	Evaluation of the Detection Limit for *Campylobacter* and variation between premises	It is stated that there were 130 occasions where a premises did not meet Detection or Enumeration Limits. These figures do not align with industry data. It may be that industry data does not cover all processing plants. However it does indicate that data sharing between the industry and MPI needs to be enhanced.	The data represented in the consultation document is the data reported to MPI under the poultry NMD programme. The poultry NMD programme applies to all primary premises of meat chickens.

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2	4	Alternative options	**1. Establish an MPI 'Poultry Plant Supervision Service' within the 'Meat Supervision Service'** (a) Place two fulltime supervisors, one a veterinarian, in standard throughput plants and have fulltime supervisors cover several very low throughput plants. Supervisors to be given poultry growing and process training prior to deployment. All product to be certified by plant veterinarians as wholesome and safe for domestic and export markets (including those now inaccessible) and as suitable for other purposes. Provide fulltime technical and administrative support for all supervisors operating at plant and head office levels. Fund the Service on the user pays basis as for export red meat plants. The important advantage of this on-plant supervision system used in most countries with high performing poultry industries, is that the use of public servants as inspectors with their comprehensive codes of ethical and professional behaviour, are judged by consumers to be more trustworthy than company or other forms of market driven inspection.	a) There has never been a requirement in New Zealand for the presence of a full time official veterinarian at a primary poultry processor as this is not a cost effective use of veterinary resource. MPI's approach in line with the intent of the Animal Products Act 1999 is to encourage companies to take responsibility for their process including the management of *Campylobacter*. This permits individual flexibility in terms of any interventions necessary to achieve the required target. There also are provisions within the NMD to increase MPI Verification Services supervision and oversight in the event of poor performance. Internationally, regulators are following this direction as well, including for other animal species.

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			2. NMD *Campylobacter* (a) Introduce a statistically robust, Real Time Quantitative Polymerase Chain Reaction microbial test system, to make the improvements in human campylobacteriosis control that MPI considered, but did not pursue at this stage "due to the complexity it presented". Take routine samples from carcasses from each grower daily and carcass parts from each grower weekly. Sample all product affected by biosecurity and slaughter chain control breakdowns, when these occur, to facilitate product dispositions (chilled parts, freezing, cooking, pet food, condemnation). (b) Use daily routine samples to base further processing and disposition decisions on suitable pre-set targeted bacterial control levels on carcasses, at the end of primary processing. Sample product affected by biosecurity and slaughter chain control breakdowns, when these occur, to facilitate product dispositions (chilled parts, freezing, cooking, pet food, condemnation).	a) As part of this review MPI considered whether a *Campylobacter* rt-qPCR method could be applied with the poultry NMD programme. However, at this stage there is insufficient information available to pursue this option. Currently *Campylobacter* management best occurs at primary processing until such time as commercially viable interventions are available for use at the broiler growing stage. The primary processors need to manage the variable levels of *Campylobacter* on the incoming flocks (barn and free range) through appropriate interventions during processing. b) The NMD poultry programme was established to provide a monitoring tool for the hygienic processing of broiler chicken flocks and not to aid decisions for further processing and product disposition. However the scheduling of broiler chicken flocks based on *Campylobacter* testing on farm has previously been considered by MPI. At secondary processing, carcasses may be selected for different processes based on attributes other than which farm and

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			(c) Establish the detection limit of the new test, expected to be much lower than 2.30 $\log_{10}$ now achieved (e.g. Ivanova *et al*. 2014) and initially keep the 'Detection Limit' at 2.3 $\log_{10}$, but rename it the 'Pass Limit' so that it cannot be confused with the real detection limit. Make all higher results failures, as the intuitive logic of a pass or failure system demands. The "Enumeration Limit" should be withdrawn. It is just another glaring failure.	shed they originated from, therefore traceability becomes more difficult. c) The detection and enumeration limits provide the industry with regulated targets against which they can measure their performance and make improvements. The introduction of the enumeration limit has helped to reduce the levels of *Campylobacter* on whole broiler carcasses. The enumeration limit provides for an indicator of *Campylobacter* levels of concern and assists new processors. The detection limit was introduced in 2013 to provide a tighter limit to encourage further improvement. Any future introduction of an alternative analytical method would require reassessment of the value of the limits.

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			3. Current Required NMD Responses by number of consecutive non-compliant windows. Redraft the Current Required NMD Responses to incorporate the rapid disposition capabilities and the routine sampling procedures. The logical consequences of a pass or fail inspection system based on a real time quantitative PCR test system, is the elimination of all levels of failure, now rated as passes, that invariably lead to the prolonged high levels of food borne campylobacteriosis in the population that concern the MPI (Discussion Paper p.13). For routine samples there is only one numerical test for Colony Forming Units of the appropriate strains of campylobacter and the answer is pass or failure by supplier (grower) and by day. The daily numerical result mean is used to decide further processing options. Additional tests to be made in response to hygiene break-downs anywhere from growers to the end of primary processing by supplier, day and hour. The disposition of carcasses judged to have been affected by the break-down will be decided separately from the daily total, by supervising inspectors. Compliance would be assessed by MPI Supervisors on a daily basis and all NMD records would be held on plant and by MPI's NMD controller. Differentiation between the plant and its suppliers including transport levels may be useful on weekly basis to give an assessment of the compliance status of both entities. The current weekly and 3 week assessment periods encompassed by "moving windows" would be no longer needed or desirable given real time results.	Noted. The NMD poultry programme is not a pass or fail system. The *Campylobacter* Performance Target is a process control tool and is intended to assist the operator optimise their system based on the results over a 45 sample moving window. The current system has achieved a reduction in the levels of *Campylobacter* on whole chicken carcasses and this has resulted in a decrease in cases of human campylobacteriosis. A full review of the overall system for the NMD poultry programme including the NMD responses was not part of this consultation.

Analysis of Submissions:
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1	4.1	Option 1: Maintain Status Quo for the Limits	We agree with this option as a possible outcome, although our preferred option is Option 3. The current Detection Limits introduced in January 2013 are credible and very challenging, but they can be met and they are achieving desired outcomes. The Detection Limits are important in terms of the challenge they provide to the industry while also enabling compliance to be achieved. Most importantly, they are achieving outcomes as noted in 3.4.1 and 3.4.2, and Figures 2 & 3. The paper suggests that maintenance of the status quo may mean that premises are not driven to look for improvements in their processes. We strongly disagrees with this argument. The evidence is clear from the work of industry, from the human *Campylobacter* figures and from *Campylobacter* sources, that the industry has continually looked to improve outcomes through the development of a range of projects, the evaluation of new options and the operation of an industry-initiated and -funded support team that works with any plant having problems. The processing premises are not sitting in non-compliance for long periods of time and the NMD specifications are driving compliance.	Noted. Noted. The status quo has resulted in improvement in the reducing the high counts of *Campylobacter* and as a consequence, the foodborne cases of human campylobacteriosis have reduced. MPI notes that improvement has been made and will continue to drive continued improvement across the food chain.
2	4.1	Option 1: Maintain Status Quo for the Limits	Not acceptable	Noted.
3	4.1	Option 1: Maintain Status Quo for the Limits	We are opposed to the status quo option on the basis that it does not promote further improvement of infection rates. Non-complying premises are currently not sufficiently incentivised to make improvements to their practises.	Noted. MPI will continue to monitor which ever option is chosen to ensure continuous improvement in industry performance.
1	4.2	Option 2: Require Tighter Enumeration and/or Detection Limits	We do not support the tightening of limits for a range of reasons. The current limits already serve as an incentive for premises to improve their procedures. Limits must also be able to be met and outcomes be achieved. Tighter limits do not guarantee a changed outcome.	Noted.

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			Furthermore, the paper notes, the proposed limit does not guarantee a decrease in human campylobacteriosis. Such a decrease has and will come from the work the industry is doing in evaluating new options and from the work of its industry response team in sharing improvement knowledge throughout the industry.	MPI welcomes further and continuous improvement in reducing the prevalence and levels of *Campylobacter* and looks forward to industry sharing new data.
2	4.2	Option 2: Require Tighter Enumeration and/or Detection Limits	'Detection Limit' should be tightened and renamed. The current 'Enumeration Limit' would be withdrawn.	Noted in relation to the detection limit. High counts of *Campylobacter* on whole carcasses are more likely to result in human cases of illness. The enumeration limit has helped to drive the reduction of the levels of *Campylobacte*r on whole broiler chicken carcasses and consequentially, reduced the number of human campylobacteriosis cases.
3	4.2	Option 2: Require Tighter Enumeration and/or Detection Limits	We support the introduction of tighter enumeration and detection limits to reduce the rates of contamination and incidence of disease. We support this on the basis that tightening the enumeration limits may encourage industry to develop strategies that will promote improvements. We support MPI taking a proactive role in working with industry to meet their target goal besides testing flock. We also seek clarification on whether this would also include environmental sampling.	Noted. Noted.
1	4.3	Option 3: Require poor performers to take additional measures	This is our preferred option. We disagree with the first proposed definition of poor performer as set out in the first bullet point in paragraph 2. We do not agree that reaching response 4 indicates that any corrective action taken after the first failure has not been successful. The process structure and the timing of results can mean a response 4 can be triggered even where the corrective action has been successful.	Noted. Noted. Corrective action should be initiated as soon as response 1 occurs. By the time the processor gets to response 4 they would have had 3 or more consecutive non-compliant moving windows and time to consider and take action.

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			We however strongly support the definition in the second bullet point, i.e. repeated non-compliance against the target within a specified time period such as three or more individual responses in a rolling six-month time period.	Noted.
1	4.3	Option 3: Require poor performers to take additional measures	**Additional reporting and verification:** We support good internal communication between MPI verifiers and its national verification team as an aid to effective assistance to industry. While the industry could be involved in the line of communication, it would seem more cost-effective for operators' reports to be passed from the MPI verifier to the national team. **Appropriate corrective actions:** The timing of appropriate corrective actions should be agreed by the verifier under the current response system. If there are examples where this is not occurring we support timing being included as part of the corrective action. **Seek Independent advice:** The proposal in the paper reflects existing practice. PIANZ members may seek assistance from a PIANZ industry task force. This team has industry expertise, includes personnel independent of the processing site and company and has free access to all areas of operations that may be part of the problem. The resources of this task force are also offered to non-PIANZ member processors in this event, PIANZ should be made aware of the non-compliance by either the operator concerned, or by MPI. A report of the task force's proposals and follow-up action should be provided to the company, and from them to the MPI verifier.	Noted. It is normal practice for MPI verifiers to notify the MPI Verification Service (VS) head office team when assistance or clarification is required by the local verifier. MPI VS head office team also has access to all verification reports. Noted. Noted. MPI acknowledges that PIANZ makes available an industry task force for the use of the whole poultry industry. MPI holds the results from individual premises in confidence. Individual premises data will only be available to the operator who provided it, and the MPI LAS approved laboratory supplying data on behalf of the operator. MPI can encourage individual companies to seek advice to improve the operation of their

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				premises from the industry body PIANZ and/or from an independent consultant.
			Determine pre-processing *Campylobacter* loading: We do not support the assessment of *Campylobacter* loading on incoming chickens. Given that the loading for some producers can be near to 100% at certain seasonal times, particularly for free-range birds, the issue would be how the processor deals with the loading. The preferred approach is current practice, i.e. treat all birds as being of the highest risk and operate slaughter and dressing processes accordingly. This means consistency of operating practices and procedures which are critically important in plant operations, e.g. with work shifts and changes in staff. We see the proposed method of data collection as expensive and of little value to the control of *Campylobacter*.	Noted.
			Process biomapping: Process biomapping would only be of use if a plant had a baseline indicating the loadings at different stages when there was no alert level. Plants however are too different to enable a generic baseline to be applied. There are also practical difficulties that work against successful measurement by process biomapping, including: • Placement of a new or modified or adjusted machine in the process line would require retesting of the line every time. • Data collection on particular plant machinery on particular days would deliver wide variations in performance. • The number of samples required to obtain meaningful data would make the cost of process biomapping prohibitive, particularly for smaller operators.	Noted. MPI already requires primary processors to identify and manage food safety hazards such as *Campylobacter* as part of their Hazard Analysis and Critical Control Point (HACCP) application within the processor's Risk Management Programme. Control measures should have been assessed for effectiveness against *Campylobacter* at each process step leading to delivery of an acceptable level of this hazard at the end of primary processing (aligned to the required limits associated with the CPT). Periodic revalidation or re-evaluation of the process and control measures is expected to be made by the operator to

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			Process biomapping does not justify the time, effort and expense that it would require. The better and more useful option, in our view, is to have optimal operating standards in place and every endeavour made to ensure that they are met. **Management of contaminated product to minimise risk to consumers:** We object strongly to the proposal that the development of a product disposition plan occurs at response 4 and is potentially mandated at response 6. In our view this is completely impractical. It means that after a laboratory-confirmed measure of non-compliance there would be less than one week for action to be taken. This does not give adequate time to make any significant changes. We suggest that it remains more appropriate to implement a product disposition plan at week 6 for the following reasons: • In the event that a problem is identified in e.g. week 1: If an external laboratory is used it can be 72 hours (3 days) before results are known. • Two weeks should be allowed to investigate and correct the issue. • Three weeks should be allowed for the moving window that ends in week 6. A response initiated in week 4 may only provide as little as 2 days in which to find a resolution. A further consideration that mitigates against implementation at response 4 occurs at retail level. Most product is now sold on contract to major retailers or foodservice organisations. Any changes made to delivery patterns would require extensive renegotiation, and significant penalties for inability to meet contracts could be incurred.	ensure that the process is functioning as expected. Re-evaluation may also play a role in monitoring the effectiveness of the processing equipment over time and its ability to manage food safety hazards. Noted. See previous comment about timing of corrective actions with respect to reaching response 4. MPI wants processors to proactively minimise the amount of contaminated product reaching the market and consumer, and expects all companies to have contingency plans for this. Clauses 7 and 8 of the Animal Products (Risk Management Programme Specifications) Notice 2008 state that a risk management programme must specify any relevant regulatory limits and any operator-defined limits and specify the actions that will be taken when these limits are not met, i.e. restoration of control, product disposition and preventative action. MPI is aware of the dynamics involved in planning to meet customer orders and will consider this further. MPI welcomes any examples of operating practices that can be considered for possible inclusion into the Poultry Code of Practice.

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			A response 4 measure would also be very disruptive where large customers are involved, and it is unlikely that other suppliers would be able to switch on extra capacity (it takes 10 weeks from the moment it is decided to hatch more eggs until the birds are fully grown). We would like to meet with MPI to ensure that it is clear to both parties as to what the industry can achieve under commercial market conditions	The development of a disposition plan is a current requirement at response 6. The intent is to work with processors who reach response 4 on a number of occasions within a set period; this would indicate that operator has lost control of the process. Investigating and putting in place actions to correct the issue is already part of the response plan. The proposed amendment does not change the intent. Noted. MPI has regular meetings and dialogue with the poultry industry
2	4.3	Option 3: Require poor performers to take additional measures	This option is supported and in part extended. Use the alternatives suggested instead of seeking "....independent advice through competent persons" from the poultry industry or consultants.	Noted.
3	4.3	Option 3: Require poor performers to take additional measures	While we advocate for improvements from all suppliers, we support a risk-based approach that requires poor performers to take additional measures.	Noted.
1	4.4	Option 4: Require Additional Measures for Start-up Premises	We agree with the proposed measures for start-up premises.	Noted.
2	4.4	Option 4: Require Additional Measures for Start-up Premises	Yes, compliance standards should be uniform across all plants irrespective of their through-put and age. Start-up plants should have a good understanding of good hygiene practice for primary processing before MPI's registration of their RMPs, rather than after this event. If new plants produce noncompliant product this would be addressed by real time dispositions to protect consumers. MPI should not compromise its later compliance control by giving advice to start-up companies.	MPI provides advice on an ongoing basis to assist operators to produce food that is fit for intended purpose. This includes the use of examples of industry best practice and assistance with interpretation of the Poultry Code of Practice.

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3	4.4	Option 4: Require Additional Measures for Start-up Premises	We support this measure as a means of reducing overall rates of infection from *Campylobacter*. We support consistent food safety and personal hygiene control measures at a national level that will minimise the bacterial load.	Noted. Noted.
1	5	Recommendations for further science	We would like to suggest the following for consideration for further science: • Understanding the association of [*Campylobacter jejuni*] ST 45 with the major rise in infections seen each spring and the vectors that cause this peak in both chickens and humans. • Researching more effective interventions, e.g. the [peroxyacetic acid] POAA research that the industry is funding and supporting.	Noted.
2	5	Recommendations for further science	The poultry industry should use MPI's compliance findings to get needed improvements in processing "...dressing equipment and evaluation of factors that affect their performance" not the reverse. Input into comparing overseas and domestic poultry processing standards, however, would be valuable for MPI. Also we need to get processors (and MPI) to use and fund statistical process control approaches. MPI should not grace notions like exploring whether or not further improvements in hygienic processing are feasible given the generally low standard of our poultry processing compared with many other countries. Importantly MPI should not let industry use the need for more research to delay or negate the further need to improve compliance control.	Noted. MPI continually compares New Zealand's situation against overseas countries and shares information as appropriate with international colleagues. New Zealand's processing equipment and hygienic practices are aligned with international norms described in the Codex Alimentarius guidelines for processing of chickens. Industry are responsible for managing their process as per the requirements of the Animal Products Act 1999. This includes ensuring their equipment is fit for purpose and that their people are appropriately trained. MPI VS oversight of poultry primary processors evaluates compliance

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				against these requirements on an ongoing basis. MPI considers and prioritises funding on an annual basis, for new work proposals to further inform the *Campylobacter* Strategy and other initiatives. The primary focus is on foodborne cases of human campylobacteriosis and what we can feasibly do to further reduce numbers.
3	General	Access to data	Would like data on poultry infection and contamination made available for microbiological and statistical public health surveillance, primarily through the Institute of Environmental Science and Research, ESR) in order to improve public health responses.	Noted. Public Health Units are responsible for epidemiological investigations and controlling the spread of infection. MPI actively monitors data on foodborne illnesses and food-related contamination events and has oversight for identifying and mitigating any food safety risks. In this regard MPI, the Ministry of Health and ESR work closely together to maximise the benefit of any information available on human illness that could be food-related, and potential sources and pathways.
3	General	General Principles	We are supportive of the positive reductions in the numbers of *Campylobacter* cases as a result of improved practises. We would, however, like to see the current rates of *Campylobacter* infection further reduced. Contaminated chicken is still one of the major sources of transmission of *Campylobacter* infection.	Noted.
3	General	Overall	We support the overall aim of the review as a means to further reduce *Campylobacter* infection in the community. We support moves to reduce the rates of infection and welcome feedback from MPI on this issue.	Noted.

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2	General	Scope of the review	The first 3 reviews failed to noticeably lower contamination levels [of *Campylobacter* on poultry meat] over 2009-2014.	Previous reviews of the CPT considered different aspects of the regulatory requirements for poultry processors. The reviews either introduced new requirements to assist in bringing about further reduction in *Campylobacter* on poultry meat or, where relevant, removed requirements that were no longer seen to be delivering any benefit.
2	NMD	Current "Required Response" System	The current "Required Response" system places undue emphasis on petty detail and takes too long for action/effective control to occur. The worst feature is that it sanctions the production of unknown amounts of contaminated meat undermining the essence of an effective control system.	The detail in the required responses is necessary to explain how escalation occurs. It is written in a manner that allows flexibility in determining the most appropriate corrective action. Previous versions of the Notice were more prescriptive and it didn't give the processors flexibility to manage their individual situation in the most effective way. The system requires processor action to be taken or MPI will take it.
2	NMD	NMD – sampling and testing protocol	Issues with the **NMD sampling and testing requirements** for carcasses at the end of the slaughter chain. (a) The extremely low sampling intensity that NMD results are based on, viz. 1 in 23,000 birds for ST plants killing 9000 per hr or 72000 per 8 hr day. Samples are taken on a random time basis irrespective of the origin of the birds sampled, preventing identification of under- performing growers. (b) No statistical significance tests supported the conclusions reached, which limits their validity. What is the spread of the raw data and the confidence limits for means?	a) and b) The CPT within the NMD poultry programme is intended as a verification tool to verify the operator's choice of *Campylobacter* control measures. A variety of other tools can be used in addition to microbiological testing, e.g. monitoring pH, temperatures, chemical concentrations, etc. through the application of GHP and HACCP. The sampling plans in the NMD poultry programme are in general independent of the number of birds processed, provided

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			(c) Whilst a reduction in broiler carcass contamination rates could contribute significantly to the stated goal of reducing the human incidence of campylobacteriosis, up to 90% of carcasses are cut into parts before reaching consumers. There is no parts-monitoring programme (such as proposed by the USA Food Safety & Inspection Service, FSIS) mandated in MPI's NMD standard. (d) The importance of earlier 'critical control stages' in the broiler primary production chain; starting with biosecurity control in grower houses and progressing down the slaughter chain, is ignored. Automated gutting has long been a major cause of contamination in standard throughput plants but this not discussed. (e) There are also other poultry materials widely distributed and regularly consumed; viz, broilers from VLT plants, broiler offal (hearts, livers, gizzards and necks) and mechanically separated meat products (chicken nuggets and luncheons), Wong *et al*, 2011. Layer hens and other types of poultry are also being commercially processed by some companies for domestic and overseas consumers. (f) Retail levels of *Campylobacter* contamination in these products are unreported. (g) The NMD method used to measure *Campylobacter* contamination takes 3-4 days to obtain results, which is too late for effective disposition of unsafe product in slaughter plants. (h) While more research is needed we should not delay the effective control of food safety until this is done. MPI is responsible for its	that the number of birds is large in comparison to the sample size. Further information on the development of sampling plans is available from the International Commission in the Microbiological Safety of Food (ICMSF). The development of the *Campylobacter* Performance Target has gained international recognition as an example of a microbiological criterion to the Codex Committee on Food Hygiene's ***Principles and Guidelines on the Establishment and Application of Microbiological Criteria for Food***[1]. c) and e) The NMD programme focusses on the monitoring of the primary processing of poultry and animal species. MPI is aware primary and secondary processed poultry monitoring programme implemented by the USDA FSIS. d) Clause 41 of the Animal Products (Specifications for the Products intended for Human Consumption) Notice 2013 requires all suppliers of farmed poultry to have an effective whole flock health scheme to ensure that only birds that are suitable for processing are supplied to the primary processor.

[1] Lee, J., Castle, M., Duncan, G., Hathaway, S., van der Logt, P., Wagener, S., Lasso-Cruz, A., Gichia, M., Tebwe, T. and Silva, U. 2014. Example of a microbiological criterion (MC) for verifying the performance of a food safety control system: Campylobacter Performance Target at end of processing of broiler chickens. Food Control. Available online 15 July 2014. http://www.sciencedirect.com/science/article/pii/S0956713514003880

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			food safety control costs but the cost of improving the procedures and equipment to achieve this belongs the poultry industry.	e) The NMD poultry programme applies to all chickens kept primarily for meat production. f) Information of the various New Zealand retail surveys of poultry meat were captured in the Risk Profile: *Campylobacter jejuni/coli* in Poultry (whole and pieces)[2] g) The NMD programme is a monitoring programme and is not a pass/fail system. h) Various processing steps contribute to the contamination of the carcasses. This discussion document is not intended to discuss the details of the causes of the problems. Ongoing research gives MPI information on other parts of the poultry food chain from secondary processing to the consumer. In this regard, MPI expects engagement with food sectors to increase as we transition into the Food Act 2014. MPI has as part of its mandate, the long term outcome of protecting New Zealand against biological risk. To support this we are always looking for ways to more effectively implement appropriate food safety controls to any relevant food sector.

[2] Risk Profile: Campylobacter jejuni/coli in Poultry (whole and pieces) http://www.foodsafety.govt.nz/science-risk/risk-assessment/risk-profiles/

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2	Processing	Common intervention steps to control contamination	Common intervention steps to control contamination are well known and are provided in Codex Alimentarius, starting with biosecurity and personnel hygiene measures to eliminate or reduce the risk of birds becoming infected carriers while in growing houses. This can be achieved, but is difficult, especially if cuts are made from growers flocks instead of killing all birds at once. Bird catchers often introduce campylobacter on their equipment, clothing etc. that spreads quickly through flocks. Other steps can include; feed withdrawal before slaughter to help control faecal contamination, hygienic transport, de-feathering, and spin chilling. Plants will know where re-occurring contamination problems occur and will monitor these as will MPI verifiers. A collective will is needed to overcome persistent design and equipment failure and significantly reduce contamination to a level that equates with best international practice. So far both companies and MPI verifiers have collectively failed to control contamination to these levels and it is time for something new.	Noted. MPI and the NZ poultry industry are well aware of the Codex Guidelines for the Control of *Campylobacter* and *Salmonella* in Chicken Meat (2011). NZ co-chaired the international work on these guidelines with Sweden and the poultry industry contributed to the drafting process. On-farm controls continue to be explored both in NZ and internationally, looking for commercially viable controls. The industry is expected to apply a whole flock health scheme. NZ's focus continues to be in the implementation of viable control measures during primary processing. GHP and HACCP applications are used as appropriate to their specific premises risk management programme using the Codex guidelines and other material to assist. This is not a one size fits all approach, as can be shown with the example of not only barn-raised but also free range birds being sent for slaughter. In relation to the *Campylobacter* limits, a number of required actions are taken for non-compliance that is covered in tertiary legislation. Both MPI and the companies know this and ensure resolution.

Late comments submissions and out-of-scope submissions received to the consultation

A further two submissions were received up to two weeks after the closing date and whilst not included in the table the details have been summarised at the end of this document, together with other comments that were out of scope of the current Review of the Poultry National Microbiological Database (NMD) programme's *Campylobacter* Performance Target (CPT) Limits(s).

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1, 2 and 5		The existing programme has improved the overall hygiene of poultry supplied in New Zealand, and in turn, helped to reduce human cases of campylobacteriosis The report did not provide information about the incidence of chronic sequelae in a small minority cases, including Guillain Barre Syndrome and Irritable Bowel Syndrome. MPI should provide further information on their website about these.	Noted. Information on the chronic complications that may arise from campylobacteriosis is included within the MPI annual reports on foodborne disease in New Zealand (ESR, 2006 – 2013).
2		Monetary cost of campylobacteriosis and cost benefit analysis of treating illnesses. The multiplication factors that New Zealand uses to calculate the total number of human *Campylobacter* cases and the total cost estimate of illness should be re-evaluated.	Treating illnesses is the mandate of the medical profession. MPI will take into consideration cost benefit analyses in relation to future work on reducing human foodborne illness.
2		New Zealand has a high relative rate of campylobacteriosis when compared to countries in other parts of the world.	An important consideration when looking at foodborne illness statistics is that it is not possible to compare like with like. Other countries may collect data in different ways, or in other countries, campylobacteriosis may not be a notifiable disease. Problems include comparing country to country health care system, type of data reported.
2 and 5		Focus of paper remains on options within the NMD and should be expanded to look at the whole [poultry production and processing] system.	MPI will take into consideration these points as part of any future work to review the whole system rather than a review of the CPT. This review is one part of the work of the *Campylobacter* Risk Management Strategy[3] which considers other parts of the system.
2		General commentary on the functioning and effectiveness of the current systems.	MPI will take into consideration these points as part of any future work to review the whole system rather than a review of the CPT.

[3] *Campylobacter* Risk Management Strategy 2013-2014 http://www.foodsafety.govt.nz/elibrary/industry/Campylobacter_Risk-Comprehensive_Aimed.pdf

2	Processing: Automated gutting	Poultry carcasses do not normally contain *Campylobacter* bacteria. These are added by dressing failures during processing and should be prevented by using the hazard analysis critical control points (HACCP), required in the company's RMPs. The most frequent and important contamination failure occurs at the automated gutting operation after which it is virtually impossible to wash off or chemically remove all bacteria. Contamination is better controlled by gutting by hand and the lowest contamination rates are often achieved by small very low throughput plants rather than in large standard throughout plants with automated gutting.	Automated gutting is accepted poultry processing practice worldwide and can be carried out in a manner that minimises contamination from the bird's intestinal tract. However some intestinal spillage is inevitable from time to time and is expected to be dealt with by the processor in a timely manner.
5		Further marked improvements is unlikely to come from continued reliance on a programme built upon "end-point" monitoring. According to the set objectives, the programme should have allowed the MPI to compile a body of knowledge of the types and effectiveness of hygiene controls used in poultry processing plants in New Zealand and other countries (e.g. Australia). Rather than continue to rely on end-point monitoring, it would seem more beneficial for MPI to set a single microbiological limit for *Campylobacter* on poultry carcases and implement a regulatory system that monitors compliance to a defined number of controls and associated performance targets positioned strategically through the processing system. Such an approach could be used to drive "self-regulation" and a vast change in the food safety culture within the New Zealand poultry meat industry. This regulatory change would ideally be coupled with a compliance assessment framework that considers behaviours relating to the awareness, provision and commitment to food safety as much as conventional HACCP-based principles.	MPI will take these comments into consideration as part of any future review of the poultry production and processing system. The CPT within the NMD poultry programme is not an end-product limit (i.e. a pass or fail system) but is intended as a monitor tool to verify the operator's *Campylobacter* control measures. A variety of other tools can be used in addition to microbiological testing, e.g. monitoring pH, temperatures, chemical concentrations, etc. through the application of GHP and HACCP.